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Employment outlook: 2008–18

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The Bureau of Labor Statistics began developing long-term employment projections nearly 60 years ago, soon after World War II ended, to provide career information to veterans reentering the civilian workforce. As Kristina J. Bartsch notes in the initial article this month, the customer base for the BLS projections—which are updated every 2 years—has widened substantially. High school and college students, adult jobseekers and career changers, guidance counselors, career development specialists, and others are now routine users of the information. The *Review* serves as the principal vehicle for a detailed look at the various components of the projections, including projected changes in the labor force and the industrial and occupational mix of employment. This issue presents five articles showcasing the newest set of projections, which cover the 2008–18 period.

Ian D. Wyatt and Kathryn J. Byun present an article describing the macroeconomic projections that serve as a key component in the development of the overall set of projections. The use of 2008 as a base for the new projection period is an example of a rare occurrence, as for just the second time in the last 3 decades a year characterized by an economic recession serves as the basis for the BLS projections. The article discusses projected data on output, productivity, personal savings, and other macroeconomic variables. Although the recession has had a notable impact on the current economy, in terms of job loss and unemployment, the long-term horizon is not expected to change drastically because short-term fluctuations tend to smooth out substantially over the long term. As with most recessions, the downturn's impact has been unevenly distributed throughout the economy, with some sectors experiencing large job declines and others being not so severely affected. The authors give examples of how some recessionary effects influence the projections.

Labor force projections serve as a crucial parameter influencing all of the macroeconomic, industry, and occupational projections. As described in the article by Mitra Toossi, slower population growth is expected over the projections period than that which occurred in the years spanning 1998–2008. This will, in part, affect labor force growth, which is projected to slow from its 1.1-percent growth rate for the 1998–2008 period to 0.8 percent for the projection period. A shrinking rate of participation in the labor force also will contribute to slower labor force growth. The aging of the population, as the so-called baby-boom generation (those born between 1946 and 1964) moves into age groups that traditionally have lower labor force participation rates, will be one of the prime contributors to the slowing of labor force growth. The continuation of recent trends showing lower labor force participation rates for the youngest working-age groups also is seen as a contributor.

With the foundation for the macroeconomic and labor force projections laid, BLS develops industry employment and output projections at a detailed level. Rose A.Woods points out that total employment in the United States is expected to increase by 15.3 million over the 2008–18 period, rising to more than 165 million. This represents a 1.0-percent average annual growth rate, one somewhat faster than the 0.7-percent annual rate experienced during the 1998–2008 period. In general, BLS does not foresee large structural changes to the economy. The professional and business services sector and the health care and social assistance sector account for more than half of projected job growth. Construction also is expected to add jobs, whereas manufacturing and agricultural employment is expected to decline, although at more moderate rates than seen historically. With regard to industry employment changes at a more detailed level, the educational services sector is projected to have the most rapid growth in the economy, adding over 800,000 jobs by 2018—an average annual growth rate of 2.4 percent. In terms of output, the information sector, perhaps not surprisingly, is projected to have the fastest growth, increasing by nearly 5.5 percent per year.

The final article in this issue of the *Review*, by Alan Lacey and Benjamin Wright, presents the employment outlook by occupational group, as well as for 750 detailed occupations. It discusses sources of job openings and describes typical education and training for workers in new and existing jobs in the economy. In 2008, the occupational groups with the highest levels of employment were professional and related occupations, and service occupations. Because of their large size, as well as their relatively fast projected growth rates (each over 13 percent, as compared with the 10-percent growth projected for the average of all occupations), these two categories together are expected to add more than 9 million of the 15.3 million new jobs created throughout the economy over the projection period. Both groups also will see their shares of overall employment increase. □

Want more projections?

In addition to the November *Review*, BLS also is issuing a news release providing an overview of the new projections, a special issue of the *Occupational Outlook Quarterly*, and other materials. All of these items are available on the Bureau's Web site (**www.bls.gov**).

Employment outlook: 2008–18

The employment projections for 2008–18

The employment structure of the U.S. economy in 2018 is expected to remain similar to that of 2008, although changes in shares of employment will result from continuing increases or declines among some occupations; in general, goods-producing sectors, excluding agriculture, will lose employment while service-providing sectors will expand

Kristina J. Bartsch

This issue of the *Monthly Labor Review* marks the release of the 2008–18 employment projections of the Bureau of Labor Statistics (BLS). Four sets of projections are presented in separate articles on the labor force, the U.S. macroeconomy, industry output and employment, and occupational employment. These articles outline the assumptions and rationales underlying expected changes in the economy and present detailed results for each set of projections. For just the second time in the last 30 years, the base-year employment and output of the projections reflect an economy in a deep recession.[1] Among the major highlights of the 2008–18 projections are the following:

- Slowdowns in population, labor force, and productivity growth, among other factors, are expected to keep real gross domestic product (GDP) growth at 2.4 percent annually between 2008 and 2018, very close to the 2.5-percent growth seen in the previous decade.
- Annual employment growth of 1.0 percent is projected to add about 15.3 million new jobs to the economy by 2018, with total employment growing from 150.9 million to 166.2 million.
- The professional and business services sector and the health care and social assistance sector are anticipated to grow at more than twice the annual average of 1.0 percent for all industries, adding the most employment, 4.2 million and 4.0 million, respectively.
- Nearly two-thirds of the 30 occupations with the largest expected numerical increase have short-, moderate-, or long-term on-the-job training as their most significant source of education or training.

The BLS started developing long-term employment projections nearly 60 years ago, soon after World War II ended, to provide career information to veterans reentering the civilian workforce. Today, the customer base for the BLS projections has widened considerably and includes high school and college students, adult jobseekers and career changers, career development specialists, guidance counselors, other Federal agencies, and academic and other researchers. State workforce agencies use the BLS national projections as their starting point for preparing State and local area industry and occupational employment projections.

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The time horizon for the projections is 10 years, and the projections are updated every other year.

The first section of this article focuses on how the recession affected the development and results of the 2008–18 projections. Next, a summary of the labor force projections is presented, followed by a brief overview of the macroeconomic projections. The labor force and macroeconomic assumptions and projections provide the foundation and context for the projections of industry output and employment and occupational employment. Finally, the article concludes with some highlights of these projections.

Impact of the recession on the projections

The National Bureau of Economic Research (NBER) declared December 2007 as the peak of a 73-month economic expansion and also the beginning of a recession. Throughout 2008, the Nation's economic activity contracted across most industrial sectors, as evidenced by declines in domestic production and employment; these declines, in turn, affected real income and other economic indicators. The unemployment rate stood at 7.2 percent in December 2008, reflecting a loss of more than 3 million jobs during the previous year. Because 2008 employment is used as the base-year employment in these *Review* articles, questions have naturally arisen among BLS data users about how to interpret the recession's impact on the development of the 2008–18 projections, especially inasmuch as job losses continued as the Agency finalized its projections in mid–2009.

To understand the impact of the recession, it is necessary to understand the basics of the BLS projection process. In developing long-run projections, the focus is on long-run trends, including trends in population, labor force, productivity, and output growth. The population and the labor force have been aging, their growth rates slowing. These long-run trends are expected to continue, regardless of the fluctuations in the economy.

The BLS uses a macroeconomic model of the U.S. economy provided by Macroeconomics Advisers, LLC, to derive measures of output growth. The model solves a system of 543 equations for output through equilibration of supply and demand, with the labor force as the primary constraint on the supply side. The demand side is manifested as the following components of GDP: personal consumption, business investment, government spending, and net foreign trade flows.

The macromodel solves its equations on the basis of long-run behavioral relationships and certain key assumptions. Two assumptions in particular are especially important to the ensuing discussion: that the U.S. economy will return to the long-run trend growth path by 2018 and therefore will be at full employment at that time, and that no other events or "shocks" will occur that would precipitate an economic downturn, or recession. Examples of such shocks are the oil crises of the early 1970s and 1980s, the collapse of the dot-com bubble in the early 2000s, and the severe losses in the financial and real estate markets in the latest recession. Because shocks and recessions are difficult to predict, the default assumption is a labor market in a state of equilibrium, in which labor demand and supply are equal and unemployment is frictional, not a consequence of a recession-induced decrease in demand.

Thus, although the base-year output and employment measures of the current projections are at a low point relative to previous years, the target-year measures are based on a full-employment economy. To illustrate what the projections might have looked like before the recession led to job losses, table 1 includes 2007 data from before the recession, together with the resultant 2007–18 growth rates, compared with the 2008 employment and 2008–18 growth rates, for major industry sectors. Differences are most noticeable in construction, manufacturing, and financial activities—sectors that lost the most jobs relative to their size.

Because the economy is expected to emerge from the recession and return to full employment over the 10-year projection period, the current projections indicate faster growth rates and more numerous openings than might have been expected in several industries had employment not fallen in 2008. It is important to note, however, that the already palpable impacts of the recession compelled BLS staff to account for expected long-range changes to several GDP sectors, as well as revise assumptions regarding some exogenous variables. Some of these changes and assumptions have to do with personal consumption expenditures and government consumption and investment as shares of GDP, and changes in the Federal deficit and the personal savings rate. The revised assumptions and projections affected the final results pertaining to the composition and growth of GDP, which in turn affected the industry and occupational projections. Although these macroeconomic impacts are less palpable than the data in table 1 show, they are, nevertheless, factors in generating the final employment levels.[2]

Overview of the 2008–18 projections

Projection methods. The BLS uses a series of separate, yet interrelated, procedures to develop projections for the labor force, the aggregate economy, industry output and employ-

Table 1. Nonfarm wage and salary employment, by major industry, 2007, 2008, and projected 2018

Industry sector	Employment[1]			Numerical change		Average annual rate of change	
	2007	2008	2018	2007–18	2008–18	2007–18	2008–18
Total	138,352.2	137,814.8	152,443.5	14,091.3	14,628.7	0.9	1.0
Goods producing, excluding agriculture	22,173.2	21,363.1	21,390.4	–782.8	27.3	–.3	.0
Mining	663.9	717.0	613.2	–50.7	–103.8	–.7	–1.6
Construction	7,630.0	7,214.9	8,552.0	922.0	1,337.1	1.0	1.7
Manufacturing	13,879.3	13,431.2	12,225.2	–1,654.1	–1,206.0	–1.1	–.9
Service providing	116,179.0	116,451.7	131,053.1	14,874.1	14,601.4	1.1	1.2
Utilities	553.4	559.5	500.5	–52.9	–59.0	–.9	–1.1
Wholesale trade	6,015.3	5,963.9	6,219.8	204.5	255.9	.3	.4
Retail trade	15,520.1	15,356.4	16,010.4	490.3	654.0	.3	.4
Transportation and warehousing	4,541.0	4,504.9	4,950.4	409.4	445.5	.8	.9
Information	3,031.8	2,996.9	3,115.0	83.2	118.1	.2	.4
Financial activities	8,301.4	8,145.5	8,702.7	401.3	557.2	.4	.7
Professional and business services	17,942.2	17,778.0	21,967.9	4,025.7	4,189.9	1.9	2.1
Educational services	2,941.4	3,036.5	3,842.0	900.6	805.5	2.5	2.4
Health care and social assistance	15,380.3	15,818.7	19,815.6	4,435.3	3,996.9	2.3	2.3
Leisure and hospitality	13,426.7	13,458.7	14,601.1	1,174.4	1,142.4	.8	.8
Other services[2]	6,307.1	6,333.2	7,141.9	834.8	808.7	1.1	1.2
Federal Government	2,734.0	2,764.3	2,859.1	125.1	94.8	.4	.3
State and local government	19,484.3	19,735.2	21,326.7	1,842.4	1,591.5	.8	.8

[1] Includes nonfarm wage and salary data from the Current Employment Statistics survey and data on private households from the Current Population Survey.

[2] Includes data on private households from the Current Population Survey.

ment, and occupational employment.[3] In brief, the labor force projections begin with the Census Bureau's latest population projections by age, sex, race, and ethnic origin. Projected labor force participation rates for 136 combinations of these groups are then developed by analyzing past trends, with some modifications based on expected demographic changes, such as an influx of immigrants with lower median ages. To obtain estimates of the labor force in 2018, projected labor force participation rates are multiplied by the Census Bureau's population projections.

The labor force projections are then used as inputs to the aggregate economic projection process. As already mentioned, the BLS uses the Macroeconomic Advisers econometric model of the U.S. economy to derive estimates of the components of GDP. These estimates are then disaggregated into commodity-level demand, which is then applied to an input-output model to derive output by industry. Next, industry-level employment is determined on the basis of projected industry output and expectations of productivity growth.

Projections of detailed industry employment are then used as part of the process of projecting occupational employment. An industry-occupation matrix—also called the National Employment Matrix—is used to develop detailed occupational employment by industry. The BLS projects changes in occupational shares of industries to account for technological changes, shifts in product mix, and other factors. These new staffing patterns are then applied to projected industry employment to yield estimates of occupational employment in 2018.

Labor force highlights. Mitra Toossi's article, "Labor force projections to 2018: older workers staying more active," presents new labor force projections that form the starting point for the BLS macroeconomic, industry, and occupational projections. Toossi uses Census Bureau projections of the resident U.S. population[4] as the basis for projecting labor force participation rates.

Population growth, which is driven by fertility rates, life expectancy, and net migration, is expected to slow from an annual average growth rate of 1.3 percent in 1998–2008 to 1.0 percent over the next 10 years, despite an expected increase in the number of immigrants in the population. This slower growth will, in part, affect labor force growth, which is expected to slow from its 1.1-percent rate be-

tween 1998 and 2008 to 0.8 percent in the coming decade. A shrinking overall labor force participation rate, falling from 66.0 percent in 2008 to 64.5 percent in 2018, also will contribute to slower labor force growth. Changes in the labor force participation rate will be driven by several factors, including the following:

- the aging of the population, as the large baby-boom generation, born between 1946 and 1964, moves into age groups that have traditionally lower labor force participation rates;
- the relatively small size of the baby-bust cohort (those born between 1965 and 1975), whose members will fall into the 25- to 54-years age group—the group with the traditionally highest labor force participation rates—during 2008–18; and
- the continuation of recent trends showing lower labor force participation rates for the youngest working-age groups.

Sharply increased immigration to the United States is expected to mitigate the projected labor force slowdown caused by the preceding factors, but also will continue to change the racial and ethnic composition of the labor force. Hispanics, accounting for 14.3 percent of the labor force in 2008, are expected to increase their share to 17.6 percent by 2018. Other minority groups—including Blacks and Asians—also will increase their share of the labor force, while White non-Hispanics become an increasingly smaller segment. (See table 2.)

Macroeconomy highlights. The article by Ian Wyatt and Kathryn Byun, "The U.S. economy to 2018: from recession to recovery," examines the 2008–18 macroeconomic projections. The authors describe an economy returning to a path of long-run trend growth, with yearly average GDP growth projected at 2.4 percent. This growth rate represents a slowdown from both 1998–2008, when GDP increased at a 2.5-percent annual rate, and 1988–98, when it rose at a 3.0-percent annual rate. The primary factors constraining faster GDP growth are the expected slowing of both labor force and productivity growth.

Productivity is expected to grow at an annual rate of 1.8 percent between 2008 and 2018, slower than the 2.6-percent growth seen in 1998–2008 and nearer to the growth rates of 1988–98. As reported in the Toossi article, the labor force is expected to increase by 12.6 million, which is 3.4 million less than the increase from 1988 to 1998 and 4.0 million less than that during 1998–2008.

The components of GDP are expected to retain their relative shares until 2018. Personal consumption expenditures account for the largest segment—about 70.5 percent in 2008—of nominal GDP. This share is expected to decrease slightly, to 70.2 percent, in 2018. Gross private domestic investment is the next-largest component, followed by exports, State and local government expenditures and investment, and Federal Government expenditures and investment.

In terms of real dollars, personal consumption expenditures are expected to grow, but at a slower rate than in the past two decades, as easy credit becomes less available than in the past because of growing consumer debt and as many consumers, especially older ones on the verge of or in retirement, develop more risk-averse spending patterns. Demand for nonresidential private investment will drive growth similar to that seen from 1998 to 2008—growth spurred by purchases of computer equipment and software. Residential investment is expected to return to its long-run trend level by 2018 to accommodate changing demographics. Gross private investment, including nonresidential and residential investment, is projected to increase its nominal share of GDP from 14.0 percent in 2008 to 15.7 percent in 2018. Personal consumption expenditures are expected to grow more slowly between 2008 and 2018 than they did between 1998 and 2008, as well as in comparison to some other components of GDP; therefore, their contribution to the percent change in real GDP is expected to fall from 2.1 percent to 1.8 percent over the next decade. Nevertheless, personal consumption expenditures will remain the largest contributor to GDP.

Federal spending is expected to slow down for both defense and nondefense consumption and gross investment. Defense expenditures accounted for the lion's share—more than two-thirds—of all Federal spending in 2008, and this share is expected to increase to nearly 70 percent by 2018 as defense expenditures continue to outpace nondefense expenditures. In total, Federal expenditures accounted for 7.5 percent of nominal GDP in 2008, a share that is anticipated to decrease to 7.0 percent in 2018.

International trade is expected to grow more quickly than GDP as a whole, with import growth outpacing export growth. Indeed, the nominal trade imbalance is expected to almost double from $669 billion in 2008 to $1.2 trillion in 2018.

Industry output and employment. The next article in the projection series is "Industry output and employment

Table 2. Civilian labor force, by age, sex, race, and ethnicity, 1988, 1998, 2008, and projected 2018

[Numbers in thousands]

Group	Level				Change			Percent change			Percent distribution				Annual growth rate [percent]		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18	1988–98	1998–2008	2008–18	1988	1998	2008	2018	1988–98	1998–2008	2008–18
Age, years:																	
16 to 24	22,536	21,894	22,032	21,131	–642	138	–901	–2.8	0.6	–4.1	18.5	15.9	14.3	12.7	–0.3	0.1	–0.4
25 to 54	84,041	98,718	104,396	105,944	14,677	5,678	1,548	17.5	5.8	1.5	69.1	71.7	67.7	63.5	1.6	.6	.1
55 and older	15,092	17,062	27,858	39,836	1,970	10,796	11,978	13.1	63.3	43.0	12.4	12.4	18.1	23.9	1.2	5.0	3.6
Race:																	
White	104,756	115,415	125,635	132,490	10,659	10,220	6,855	10.2	8.9	5.5	86.1	83.8	81.4	79.4	1.0	.9	.5
Black	13,205	15,982	17,740	20,244	2,777	1,758	2,504	21.0	11.0	14.1	10.9	11.6	11.5	12.1	1.9	1.0	1.3
Asian	3,718	6,287	7,202	9,345	2,560	924	2,143	68.9	14.7	29.8	3.1	4.6	4.7	5.6	5.4	1.4	2.6
All other groups[1]	–	–	3,710	4,832	–	–	1,122	–	–	30.2	–	–	2.4	2.9	–	–	2.7
Ethnicity:																	
Hispanic origin	8,982	14,317	22,024	29,304	5,335	7,707	7,280	59.4	53.8	33.1	7.4	10.4	14.3	17.6	4.8	4.4	2.9
Other than Hispanic origin	112,687	123,356	132,263	137,607	10,669	8,907	5,344	9.5	7.2	4.0	92.6	89.6	85.7	82.4	.9	.7	.4
White non-Hispanic	96,141	101,767	105,210	106,834	5,626	3,443	1,624	5.9	3.4	1.5	79.0	73.9	68.2	64.0	.6	.3	.2

[1] 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.

projections to 2018," by Rose Woods. Various macroeconomic assumptions and projections translate into final demand for commodities and total industry production, which together determine industry employment levels. Woods outlines projected output and employment growth and levels at the major industry sector, as well as at the detailed industry level.

The economy comprises 17 major industry sectors, the majority of which provide services. Major industry service sectors include information, financial activities, health care and social assistance, and government, for example. In total, all service sector industries accounted for 84 percent of wage and salary jobs in 2008. The remaining major sectors—mining, construction, manufacturing, and agriculture—produce goods. More than 90 percent of the 151 million jobs in the economy in 2008 were filled by wage and salary workers, with the remainder performed by self-employed or unpaid family workers. Although output is expected to grow in both the goods-producing and the service-providing sectors, only the service sector will see substantial employment gains at the aggregate level.

Output. Total output[5] is expected to increase by 2.8 percent, on average, each year during 2008–18, faster than the 2.1-percent rate posted in the previous decade. In nominal terms, the service-providing sectors accounted for more than two-thirds of total output in 2008. That share is expected to increase to nearly 73 percent by 2018. Growth in the service sector is driven by increasing demand for information, wholesale and retail trade, health care and social assistance, and professional and business services.

The push to keep businesses competitive and profitable will increase demand for services within professional and business services. Management, scientific, and technical consulting services; computer systems design and related services; and employment services are needed to develop and implement new technologies, ensure compliance with government regulations, provide computer security, and develop, improve, and maintain computer networks. The need to accommodate an aging population will spur demand for health care and social assistance. Strong increases in output in offices of health practitioners, home health care services, and other health care and social assistance industries reflect changing demographics and increasing life expectancies.

Output growth—averaging 2.0 percent per year—for goods-producing industries is expected to lag the 3.1-percent growth of service-providing industries. Among the goods-producing industries, construction is expected to have the fastest output growth, an average annual rate of 2.9 percent during 2008–18, spurred primarily by investment in residential construction. The manufacturing share of total nominal output will continue to diminish as demand for services in other sectors strengthens. However, manufacturing still will continue to account for the largest share of output of the goods-producing sector, as well as of the total economy.

Employment. The Nation's employment is expected to increase from 150.9 million to 166.2 million over the coming decade, adding 15.3 million jobs. This average annual growth rate of 1.0 percent is slightly faster than the 0.7 percent seen between 1998 and 2008, largely because 2008 was a recession year during which employment in several sectors that, historically, had been growing actually declined. Nearly all of the 15.3 million job increase will be in the service-providing sector, led by gains in professional and business services and in health care and social assistance, which are projected to contribute a combined 8.2 million new jobs, more than half of all new jobs created in the Nation. State and local government (which includes public hospitals and schools) and leisure and hospitality also will generate numerous jobs. These four sectors are among those exhibiting the fastest job growth.

Employment in the goods-producing sector, by contrast, will add only 27,300 net jobs over the 2008–18 period, with only one sector—construction—expected to expand. Although demand for output in the goods-producing sector continues to grow, many of these industries are affected by labor-saving equipment and processes. Construction is the notable exception and is expected to recover its job losses from the recession and return to its former growth trend, ultimately adding 1.3 million jobs over the 2008–18 period.

The job gains in construction, however, will be largely offset by losses in manufacturing, mining, and agriculture. Manufacturing will continue its long-run decline, but at a slower pace than during 1998–2008. Businesses will continue to realize efficiencies by automating more production processes and streamlining their use of labor. Some industries are expected to decline because more production is taking place overseas and because import competition will reduce demand for many products manufactured in the United States. Among declining industries will be those in the textile, apparel, footwear, and leather and allied product subsectors, whose products are anticipated to face stiff competition from foreign manufacturers.

Occupational employment. Trends in occupational employment are pushed by, among other factors, demand for various products and services and the resultant industry employment change. Employment of many, if not most, occupations is expected to change concomitantly with changes in the industries in which they are concentrated. However, changes in technology, productivity, and business practices, as well as changes in the mix of demand for goods and services, may affect occupational employment disproportionately, causing some occupations to grow or decline faster than their employing industries. One example is data entry keyers, whose employment over the last few decades shrank both in numerical terms and relative to other occupations in the information industry, as the growing use of automated data entry systems obviated the need for these workers. Changing occupational demand, in turn, leads to changes in education and training requirements.

The final article in this issue of the *Review*, "Occupational employment projections to 2018," by Alan Lacey and Benjamin Wright, presents the employment outlook by occupational group, as well as for 750 detailed occupations; discusses sources of job openings other than economic growth; and describes the education and training requirements for new and existing jobs in the economy.

Occupations, like industries, are categorized into groups for analysis and reporting purposes. BLS occupational projections data are categorized into 10 groups based on the Standard Occupational Classification Manual. (See table 3.) In 2008, the occupational groups with the largest employment were professional and related occupations and service occupations. Because of their large size, as well as their relatively fast growth rates—16.8 percent and 13.8 percent, respectively, compared with the 10.1-percent[6] growth for all occupations over the projection decade—professional and related occupations and service occupations together are expected to add 9.3 million of the 15.3 million new jobs created throughout the economy during the next 10 years—and both occupational groups will see their shares of overall employment increase. At the opposite end of the employment spectrum are farming, fishing, and forestry; and production occupations, both of which are expected to lose jobs over the projection decade.

Some of the fastest growing occupations in the service and professional and related groups are found within fast-growing industries: home health aides work in the 4th-

Table 3. Employment, by occupational group, 2008 and projected 2018

[Numbers in thousands]

Occupational group	Employment		Percent distribution		Change, 2008–18	
	2008	2018	2008	2018	Number	Percent
Total, all occupations	150,931.7	166,205.6	100.0	100.0	15,273.9	10.1
Management, business, and financial occupations	15,746.7	17,410.9	10.4	10.5	1,664.2	10.6
Professional and related occupations	31,053.5	36,280.0	20.6	21.8	5,226.5	16.8
Service occupations	29,575.9	33,645.1	19.6	20.2	4,069.2	13.8
Sales and related occupations	15,902.7	16,883.1	10.5	10.2	980.4	6.2
Office and administrative support occupations	24,100.6	25,942.7	16.0	15.6	1,842.1	7.6
Farming, fishing, and forestry occupations	1,035.4	1,026.3	.7	.6	–9.1	–.9
Construction and extraction occupations	7,810.3	8,828.8	5.2	5.3	1,018.6	13.0
Installation, maintenance, and repair occupations	5,798.0.	6,238.2	3.8	3.8	440.2	7.6
Production occupations	10,083.0	9,733.9	6.7	5.9	–349.2	–3.5
Transportation and material-moving occupations	9,825.5	10,216.6	6.5	6.1	391.1	4.0

fastest-growing home health care services industry; physician assistants, physical therapist aides, dental hygienists, dental assistants, medical assistants, and occupational therapist aides are in the 9th-fastest-growing offices of health practitioners; and network systems and data communications analysts and computer software engineers are concentrated in the data processing, hosting, related services, and other information services industry and in the computer systems design industry, both of which are projected to be among the top 10 fastest growing industries. Employment declines in other occupations, such as farmers and ranchers and sewing machine operators, are similarly affected by the direction of employment change in the agriculture and manufacturing industries.

Numerous occupations are projected to grow faster than the 10.1-percent average for all occupations over the 2008–18 decade, adding hundreds of thousands of new jobs by virtue of their large size in 2008. Among these occupations are registered nurses (adding 581,500 jobs), home health aides (460,900 jobs), and personal and home care aides (375,800 jobs). In addition, many occupations with average or slower-than-average growth still will contribute a good number of new jobs because of their employment size: retail salespersons (374,700 jobs), bookkeeping, accounting, and auditing clerks (212,400 jobs), and waiters and waitresses (151,600 jobs).

Thus far, discussions of job opportunities have been limited to those resulting from growth in the economy. However, Lacey and Wright point out that a much larger source of job openings during the coming decade will result from the need to replace workers who retire or move to different occupations. In fact, replacement needs are expected to account for 34.3 million openings, more than twice as many as the 15.3 million due to economic growth. The importance of factoring in replacement openings when calculating employment opportunities can be illustrated by examining cashiers, an occupation that employed nearly 3.6 million in 2008. Job growth among cashiers is projected to be slower than average, generating only 123,200 openings. However, because the workers generally are younger than average and have low attachment to this occupation, the need to replace those who move on to other occupations is anticipated to create an additional 1.6 million openings.

Finally, Lacey and Wright describe the education or training typically needed to qualify for entry into various occupations over the projection period. They show that, among the 30 fastest growing occupations, nearly half belong to the professional and related group and have a bachelor's degree or higher as their most significant source of training. Most of the top 30 occupations with the largest job growth, however, fall into service, office and administrative support, and other major groups that have fewer education or training requirements; short- or moderate-term on-the-job training is sufficient for many of these large occupations. Thus, even though occupations requiring higher education levels are growing quickly, those occupations requiring no postsecondary training will continue to make up the larger part of the workforce.

THE BLS PROJECTS THE EMPLOYMENT STRUCTURE of the U.S. economy in 2018 to remain similar to that in 2008, but several major industry sectors will continue their historical employment increases or declines over the 2008–18 period, leading to changes in the percent distribution of industries. At the aggregate level, goods-producing sectors, excluding agriculture, will lose employment, dropping from 14.2 percent of total employment in 2008 to an expected 12.9 percent in 2018, while service-providing sectors will expand their employment, growing from 77.2 percent of total employment in 2008 to an anticipated 78.8 percent in 2018. Driving this increase is the strong growth of professional and business services, educational services, and health care and social assistance. Construction also will grow, but declines in manufacturing will nearly offset the growth. At the detailed occupation level, changing demographics—particularly the aging population and labor force—and competitive pressures will grow the demand for health care workers, computer specialists, and others. Many of these occupations require high levels of education or training. However, jobs for workers with a variety of skills, education, and training will be available between 2008 and 2018. □

Notes

[1] Although the recessions of 1980 and 1990 also occurred during BLS projection base years, those recessions were considered milder—of shorter duration, with lower drops in gross domestic product (GDP), and with relatively lower unemployment rates—than the recession of 1981–82 and the recession beginning in 2007.

[2] For additional information on how the recession influenced the development of the macroeconomic projections, see Ian D. Wyatt and Kathryn J. Byun, "The U.S. economy to 2018: from recession to recovery," this issue, pp. 11–29.

[3] Detailed descriptions of the projection methodology for each of these stages are found at the BLS Web site, on the Internet at **www.bls.gov/emp/ep_tech_documentation.htm**.

[4] The Census Bureau develops projections of various demographic characteristics of the resident U.S. population, including the institutionalized, those in the Armed Forces, immigrants, and children. The BLS then lowers the Census Bureau's population projections by subtracting people in the Armed Forces, residents of institutions, and all children under the age of 16, to be consistent with the conceptual definition used in other BLS data sets.

[5] Total output is gross duplicated output, which includes intermediate demand. (See Woods, "Industry output and employment projections to 2018," this issue, pp. 52–81.)

[6] Rates of change over the 10-year projection period are used in discussing occupational employment, rather than the annual average rates of change used in discussing industry employment.

Employment outlook: 2008–18

The U.S. economy to 2018: from recession to recovery

Real GDP growth is projected to average 2.4 percent annually over the next decade, near its previous 10-year trend of 2.5 percent, while productivity growth is expected to slow; an increased personal savings rate, slower growth in personal consumption expenditures, rising medical expenses, and the continuation of the trade deficit also will characterize the coming decade

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In the summer of 2009, U.S. payroll employment continued to fall as a result of the recession that began more than a year and a half earlier in December 2007. The recession has been one of the most severe since World War II, with the unemployment rate jumping from 4.7 percent in November 2007 to 10.2 percent in October 2009. However, as with other business cycles, the Bureau of Labor Statistics (BLS) projects that the economy will return to a path of long-run growth over the next decade.

Although the recession has had a short-run impact on the economy, the BLS expects that the accompanying slowdown in the growth of both productivity and the labor force also will have an important long-run impact on the economy over the projection period. During the next decade, the massive baby-boomer generation will be leaving the labor force, moving from the prime working-age years to retirement age. As a result, the BLS projects a 0.8-percent average annual growth of the labor force from 2008 to 2018, 0.3 percentage point lower than the historical rate of 1.1 percent posted from 1998 to 2008. Productivity, as measured by output per hour, is projected to grow at 1.8 percent annually during 2008–18, lower than the exceptionally high 2.6-percent growth from 1998 to 2008, but consistent with average annual growth since 2004 and the 1.7-percent growth rate between 1988 and 1998. These levels of productivity and labor force growth contribute to BLS projections of real growth in the U.S. gross domestic product (GDP) from $11.7 trillion in 2008 to $14.7 trillion in 2018, an annual growth rate of 2.4 percent over the 2008–18 period. [1]

As regards employment prospects in the next decade, household employment is projected to increase by about 13.1 million between 2008 and 2018, less than the increase of 13.9 million across the 1998–2008 decade. This employment projection is accompanied by an assumed unemployment rate of 5.1 percent in 2018, 0.7 percentage point lower than the actual rate in 2008.

International trade—specifically, exports and imports—has increased by about half as a share of nominal GDP over the last 20 years. The BLS projects international trade to continue growing faster than GDP, with 3.9-percent average annual growth in exports, and 4.2-percent growth in imports, over the projection horizon. Personal consumption expenditures are expected to exhibit slower growth—2.5

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percent annually from 2008 to 2018, in comparison to the 3.0-percent average annual growth experienced over the previous two decades. Business spending on equipment and software is anticipated to grow above the trend of the previous decade. Investment in residential construction is expected to return to long-run trend levels. Growing demand for Medicare and Social Security is expected to put mounting stress on the Federal Government's spending, contributing to a projected budget deficit approaching $900 billion in 2018, accounting for 4.3 percent of nominal GDP.

It is important to note that creating complex economic projections requires time and many steps. The projections presented in this article were completed in midsummer 2009, and by the time the results are published, data will exist and events will have occurred that were unknown at the time the projections were prepared.[2]

The article begins with a discussion of the macroeconomic model and the major assumptions underlying the aggregate economic projections. The discussion then moves to projections of GDP from the demand side, including personal consumption expenditures, business investment, foreign trade, and government spending. There then follows an examination of GDP from the income side, after which projections of employment and productivity are discussed. The last section addresses the uncertain factors that may affect the economic projection. A separate box on page 10 considers how the recession that began in December 2007 affected the various parts of the 2008–18 projections.

The macroeconomic model

The projections that follow are based on a macroeconomic model (macromodel) created by Macroeconomic Advisers.[3] The model provides a theoretical framework for the projections, maintaining a balance between different economic variables. 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 to calculate a solution for a given period. Among the exogenous variables, only a relatively small number have a major impact on 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. Critical exogenous variables include monetary and fiscal policy, future energy prices, and demographics (including population growth). The key BLS assumptions are listed in table 1.

Beyond the 201 exogenous variables are the remaining 543 endogenous variables. The values of endogenous variables are calculated within the model, resulting from the 543 descriptive equations. In addition, the projections generally are prepared with some selected variables, such as the unemployment rate, the labor productivity growth rate, and the level and growth of both imports and exports, more carefully evaluated than other variables in the model. Because these selected variables are key components of the model, setting target ranges for them, in consultation with other analysts, helps BLS economists define the parameters around which the aggregate projections are developed.

Major assumptions

Monetary policy assumptions. For the purpose of developing its projections, the BLS assumes that, in the long term, the Federal Reserve Board (hereafter, simply, the Fed) will set monetary policy to fulfill its dual mandate: keeping inflation within a "comfort zone" and achieving and maintaining full employment.[4] As the Federal funds (Fed funds) rate[5] rises over the course of the projection period and returns to more normal levels, the spread between that rate and the 10-year Treasury note yield is projected to return to levels consistent with a strong, low-inflation economy. The spread is projected to be about 1.0 percent in 2018. The rate is projected to average 3.9 percent in 2018, and the yield on the 10-year Treasury note is projected to average 4.9 percent that year.[6]

Over the past several years, the Fed has moved from a conventional monetary policy in which it tightens and loosens interest rates in response to economic growth cycles in the economy to far less conventional policies in response to unstable financial markets. 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 Fed funds rate reached 5.25 percent. In September 2007, because of growing market uncertainty, the Fed cut the target funds rate by half a percentage point, to 4.75 percent, in order to stabilize financial markets. Then, in October 2007, the Fed again lowered the funds rate by a quarter of a percentage point, to 4.5 percent, in hopes of warding off a possible economic slowdown.[7]

Throughout 2008 the Fed cut the funds rate, and by December it reached 0.00–0.25 percent.[8] The last time the rate fell below 1.00 percent was in the 1950s. During most previous recessions, the Fed was concerned that rate cuts could increase inflation considerably. However,

BLS projections and the recession

The recession that began in December 2007 affected the BLS projections in a number of ways. However, because of the long time horizon of the projections and the nature of projecting a full-employment economy, the impact was smaller than some might expect. In creating its projections, the BLS analyzes long-run economic trends and assumes unemployment levels consistent with a full-employment economy. The BLS does *not* attempt to project turning points in the business cycle. The impact of the recession was unevenly distributed throughout the economy, with some sectors experiencing large declines while others remained relatively unscathed. Focusing on three key economic variables—inflation, unemployment, and new home starts—provides some insight into how the recession affected the projections.

The BLS projection of inflation was affected by the recession. In the 2006–16 projections, the average annual rate of change of inflation in the GDP price index was 2.7 percent. In the 2008–18 projections, the average annual rate is 1.9 percent. During the development of the projections, unemployment was well above inflationary levels and was accompanied by low levels of capacity utilization. Given those circumstances, the BLS expected that inflation would be below long-run trends over the first few years of the projection period, before returning to the Federal Reserve's comfort zone of around 2.0 percent. Low levels of inflation in the early years of the coming decade are anticipated to reduce the average level over the entire 10 years.

Over the long run, labor markets normally clear and unemployment returns to levels associated with full employment. The unemployment rate associated with full employment is thought to be around 5.0 percent. In a full-employment economy, the number of jobs is driven primarily by the supply of workers. Although the average unemployment rate over the 2008–18 period is expected to reflect the unemployment rate associated with the recession, the BLS assumes that labor market conditions will be consistent with an economy that is at full employment by 2018. Therefore, the number of jobs projected in 2018 is influenced chiefly by the growth in the labor force.

A good example of how the economy moved off of long-term trends in 2008 because of the recession is seen in new-home starts, which were about 900 thousand in 2008. The BLS projects new-home starts to be 1.7 million in 2018. The resultant fast average annual growth of 6.6 percent for the category seems quite dramatic. In reality, however, the projection of 1.7 million new-home starts is a return to long-run trends and is quite similar to the 1.6 million new-home starts in 1998. In this case, the growth rate over the course of the projections is much higher because of the low level of construction in 2008 and the level of new-home starts is actually quite similar to historical levels.

For all three variables, the levels in 2018 were generally not affected by the recession. However, the growth rates of inflation and home starts over the course of the projection period were altered by the recession.

by late 2008, the Agency thought that there was more of a risk of deflation, not inflation.

With the Fed funds rate at nearly zero percent, the Fed pursued a number of policies to stimulate the economy and add liquidity to the credit markets. These policies included increasing lending to banks,[9] providing funding for the commercial paper market and money market funds,[10] and purchasing mortgage-backed securities.[11] With the funds rate falling to near zero, the spread between 10-year Treasury note yields and the funds rate widened from about 1.0 percent in early 2008[12] to around 3.3 percent by late August 2009.[13] In the long run, the projections assume that the Fed will return to a more conventional monetary policy, returning the funds rate to levels similar to those existing before the recession and exiting asset markets, such as commercial paper and mortgage-backed securities, that the Agency avoided prior to the financial crisis.

Fiscal policy assumptions. Fiscal policy describes two Federal Government actions: spending and tax policy. Assumptions about Government outlays, or spending, cover several areas and are based on current Government policies. The BLS expects real gross defense investments to be affected by two conflicting trends: winding down the war in Iraq will reduce investments, but the need to update aging equipment, replace equipment worn out by the wars in Iraq and Afghanistan, and fight and defend against terrorism will require considerable investment dollars. Also, mostly because of the coming retirement of baby boomers, as well as continued growth in health care costs, rapid growth is assumed in the Federal Government's Medicare and Social Security programs.

The tax-related assumptions, such as the effective marginal tax rate, which measures the tax rate applied to an extra dollar in income, affect Federal Government revenues. The effective marginal personal tax rates on interest and wages is held at the same levels in 2018 as in 2008. The long-term capital-gains tax rate was cut to 15.0 percent in 2003 and is assumed to remain unchanged through 2018. The maxi-

Table 1. Major assumptions affecting aggregate projections, 1988, 1998, 2008, and projected 2018

Exogenous variables	Billions of chained 2000 dollars (unless otherwise noted)				Average annual rate of change		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18
Monetary policy related:							
Federal funds rate (percent)	7.57	5.35	1.93	3.88	–3.4	–9.7	7.2
Excess reserves (billions of current dollars)	1.00	1.50	139.24	3.55	4.1	([1])	–30.7
Ninety–day Treasury bill rate (percent)	6.67	4.78	1.37	3.72	–3.3	–11.8	10.5
Yields on 10–year Treasury notes (percent)	8.85	5.26	3.67	4.90	–5.1	–3.6	2.9
Fiscal policy, tax related:							
Effective Federal marginal tax rate on wages and salaries (percent)	20.6	23.3	21.4	21.4	1.2	–.8	.0
Effective Federal marginal tax rate on interest income (percent)	20.5	25.3	23.0	23.0	2.1	–.9	.0
Effective Federal marginal tax rate on dividend income (percent)	22.9	28.9	22.5	22.5	2.4	–2.5	.0
Effective Federal marginal tax rate on capital gains (percent)	25.7	18.8	15.0	15.0	–3.1	–2.2	.0
Maximum Federal corporate rate (percent)	34.0	35.0	35.0	35.0	.3	.0	.0
Fiscal policy, Government outlays related:							
Defense Intermediate goods and services purchased	158.2	118.6	237.6	303.9	–2.8	7.2	2.5
Defense gross investment	70.3	45.6	88.6	106.3	–4.2	6.9	1.8
Nondefense intermediate goods and services purchased	44.5	61.5	94.7	81.3	3.3	4.4	–1.5
Nondefense gross investment	19.9	31.2	42.7	44.2	4.6	3.2	.4
Federal grants–in–aid, Medicaid and other (billions of current dollars)	91.6	212.8	388.3	595.2	8.8	6.2	4.4
Federal transfer payments, Medicare (billions of current dollars)	86.3	205.8	452.7	822.5	9.1	8.2	6.2
Energy related:							
Refiners' acquisition cost of imported oil (nominal dollars per barrel)	14.62	12.10	92.32	131.66	–1.9	22.5	3.6
Domestic share of U.S. crude-oil acquisitions (as percentage of total acquisitions)	61.4	41.8	33.7	43.8	–3.8	–2.1	2.6
Domestic oil product	36.3	31.5	28.5	25.8	–1.4	–1.0	–1.0
Demographic related:							
Total population including overseas Armed Forces (millions)	244.8	276.2	305.0	335.4	1.2	1.0	1.0
Population aged 16 years and older (millions)	184.6	205.2	233.8	258.9	1.1	1.3	1.0

[1] Data not computable.

SOURCE: Historical data—Federal Reserve Board, Bureau of Economic Analysis, Energy Information Administration, Bureau of Census; projected data—Bureau of Labor Statistics, Energy Information Administration, Census Bureau.

mum 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.

Demographic assumptions. 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 the composition of the population, affects the labor force, the unemployment rate, housing demand, and many categories of spending. BLS projections in these areas are based on the Census Bureau's middle-series population projection, which in turn is based on the mid-level projection for each of the demographic components.[14] The Census Bureau projects the U.S. population expanding at an average rate of 1.0 percent annually between 2008 and 2018, growing from 305.0 million to 335.4 million.

Growth in the older age groups will be strong as the baby boomers age. The 77 million baby boomers, who currently make up a quarter of the Nation's population, will have a variety of effects on the labor force and on labor force participation rates. The BLS prepares labor force and participation rate projections for detailed age, sex, racial, and ethnic groups. Presented elsewhere in this issue,[15]

these detailed projections are aggregated to produce the estimate of the size of the total labor force. Overall, the BLS expects the labor force to grow from 154.3 million in 2008 to 166.9 million in 2018, representing an annual growth rate of 0.8 percent over the projection period.

Unemployment assumptions. Under the assumption of long-term economic stability, the BLS model assumes that during the 2008–18 period the economy will return to levels of employment that existed prior to the recent recession. The unemployment rate is assumed to be 5.1 percent in 2018 in the macroeconomic model.

The civilian unemployment rate fell from 7.5 percent in 1992 to 4.0 percent in 2000, the lowest level in 30 years. Over the 1992–2000 period, nonfarm payroll employment expanded by about 24.2 million (seasonally adjusted). In February 2001, payroll employment peaked at 132.5 million jobs. In March 2001, a business-cycle peak marked the end of an expansion and beginning of a recession; the country then sustained about 3 years of declines in payroll employment. After payroll employment bottomed at 129.9 million jobs in 2003, it began to grow again and reached 138.2 million jobs in December 2007. Then, when the recession began at that time, payrolls declined sharply, dropping to 131.3 million jobs in August 2009. Since the December 2007 beginning of the recession, the unemployment rate has risen from 4.9 percent to 10.2 percent in October 2009—the highest rate since the early 1980s. On the basis of the labor force projections and a target GDP growth rate, the economy is expected to be at full employment with the earlier mentioned assumed unemployment rate of 5.1 percent in 2018.

Inflation assumptions. Inflation was fairly low from the late 1990s until mid-2004, after which it increased, partly in response to rising housing, health care, and commodity costs. In 2008, inflation slowed again as the U.S. economic slowdown became global. Over the long run, as mentioned earlier, the BLS assumes that the Fed intends to keep inflation within a target range. As measured by the chain-weighted GDP price index, inflation averaged 2.4 percent over the 1998–2008 period. With low inflationary expectations over the near term, the inflation rate, as measured by the GDP price index, is expected to pick up moderately later in the 2008–18 projection period, to reach an overall average annual growth rate of 1.9 percent over the period.

Energy assumptions. Oil price projections in the macromodel come from the Department of Energy's Energy Information Administration's projections.[16] Given no major supply shocks, continued growth in global demand, and higher production costs associated with unconventional liquid fuels, oil prices are projected to increase to around $132 per barrel in nominal dollars in 2018.

Since the recent economic downturn became global in scope, both the demand for oil and the price of oil have fallen. The average monthly price of a barrel of oil peaked at $133.88 in June 2008, bottomed at $39.09 in February 2009, and recovered to $75.72 in October 2009.[17] Although, obviously, prices are quite volatile in the short term, as evidenced by the February 2009 price being less than one-third the June 2008 price, long-run trends in the consumption and production of oil drive long-run price changes.

Global economic growth, particularly in large emerging markets, is expected to increase global oil demand. Over the long term, the Energy Information Administration projects global oil consumption to rise at an annual rate of 1.4 percent.

The production of unconventional liquid fuels[18] is expected to be an increasing share of global oil production, thereby increasing price projections because unconventional liquid fuels normally are more expensive to produce than conventional liquid fuels.[19] The level of unconventional liquid fuel production depends upon technological advances and how competitive the price of the fuel is with the price of conventional liquid fuels.[20]

GDP from the demand side

The U.S. economy will face some important challenges over the 2008–18 period, including the Nation's aging population, growing demand for medical care, and lingering effects of the recession. After a major fall in the stock market and the bursting of the housing market bubble between 2007 and 2009, consumers are expected to be more risk averse from 2008 to 2018, saving more and increasing their spending at a slower pace than in 1998–2008. Recovery in the housing market is projected to be an important driver in GDP growth over the coming decade. The BLS also expects continued expansion of both imports and exports, although at a slower rate than that exhibited over the past 10 years. Import growth is anticipated to outpace export growth, resulting in a continued trade deficit. Government expenditures, projected to slow somewhat as recession-related spending trails off, will face challenges in controlling the growth of medical and Social Security costs.

In sum, GDP is projected to grow by 2.4 percent per year between 2008 and 2018, only a slight decline from

the 2.5-percent annual growth from 1998 to 2008, but slower than the 3.0-percent annual growth exhibited from 1988 to 1998. (See table 2.) GDP per capita provides an alternative measure for assessing economic performance. Whereas GDP indicates the total output of the economy, GDP per capita measures the per-person output. The BLS expects growth in GDP per capita also to slow slightly, from 1.5 percent annually, on average, from 1998 to 2008 to 1.4 percent from 2008 to 2018.

Personal consumption expenditures. Personal consumption expenditures—which account for more than two-thirds of GDP—posted impressive gains over the past two decades. Growth in consumer expenditures in the earlier years of this period mirrored growth in the overall economy, while increases in the latter years were related to the bubble in the housing market. The steady decline in the savings rate over these two decades also contributed to growth. The BLS expects that the recent decline in home prices, substantial swings in the stock market over the previous decade, and the impact of the recession will all contribute to a slowing of growth in consumer spending from 3.0 percent annually over 1988–2008 to 2.5 percent per year from 2008 to 2018. Although spending on services is expected to maintain its growth rate from the previous decade, purchases of goods are anticipated to slow considerably.

One way to study consumer spending patterns is to examine their contribution to the percentage change in GDP. Consumer purchases accounted for 2.0 percent of the 3.0 percent of GDP growth from 1988 to 1998, or 68.0 percent of the expansion during that period. During the next decade, from 1998 to 2008, consumption accounted for 2.1 percent of the 2.5-percent annual GDP growth, or 83.8 percent of the economic advancement. Over the projection horizon, consumers are anticipated to change their purchases in proportion to gains in real disposable income, rather than relying upon increases in the value of their assets, such as home equity and stock market wealth. Therefore, increases in consumer expenditures are expected to contribute 1.8 percent of the 2.4-percent GDP growth, or 74.3 percent of economic expansion, from 2008 to 2018.

From the mid-1960s through 1980, personal consumption expenditures accounted for between 61.0 percent and 63.1 percent of nominal GDP. Over the years

Table 2. Real gross domestic product, by major demand category, 1988, 1998, 2008, and projected 2018

Category	Billions of chained 2000 dollars				Average annual rate of change			Contribution to percent change in real GDP		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18	1988–98	1998–2008	2008–18
Gross domestic product	$6,742.7	$9,066.9	$11,652.0	$14,741.4	3.0	2.5	2.4	3.0	2.5	2.4
Personal consumption expenditures	4,547.0	6,125.9	8,272.1	10,577.3	3.0	3.0	2.5	2.0	2.1	1.8
Gross private domestic investment	890.5	1,524.1	1,689.1	2,474.5	5.5	1.0	3.9	.9	.2	.6
Exports	454.6	966.5	1,514.1	2,213.3	7.8	4.6	3.9	.8	.5	.5
Imports[1]	561.4	1,170.3	1,904.3	2,866.1	7.6	5.0	4.2	–.9	–.7	–.7
Federal defense consumption expenditures and gross investment	482.0	365.3	538.1	644.0	–2.7	3.9	1.8	–.2	.2	.1
Federal nondefense consumption expenditures and gross investment	152.3	196.0	259.5	282.6	2.6	2.8	.9	.1	.1	.0
State and local consumption expenditures and gross investment	806.6	1,063.0	1,273.0	1,456.5	2.8	1.8	1.4	.3	.2	.2
Residual[2]	–28.9	–3.6	10.3	–40.6	…	…	…	…	…	…
Addendum										
GDP per capita, chained 2000 dollars	27,544	32,821	38,209	43,952	1.8	1.5	1.4	…	…	…

[1] Imports are subtracted from the other components of GDP because imports are not produced in the United States.

[2] 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.

that followed, consumers tapered off their savings rate from around 10 percent in the early 1980s to less than 1 percent from 2005 to 2007. Consequently, consumer purchases rose steadily, from 65.7 percent of GDP in 1988, to 67.2 percent of GDP in 1998, and to 70.5 percent in 2008. (See table 3.) Slower growth in consumer purchases is projected to end this trend over the coming decade, with consumer expenditures edging downward to 70.2 percent of GDP in 2018.

Consumption expenditures are divided into three major categories: services, nondurable goods, and durable goods. Services, the largest category, grew 2.7 percent annually from 1998 to 2008 and are projected to maintain this growth rate from 2008 to 2018. (See table 4.) Medical services have been growing faster than other service categories. As baby boomers reach retirement age and technological advances persist, demand and costs for health care are expected to continue their rapid ascent. A number of factors, however, are expected to limit this growth, including budgetary constraints by Federal, State, and local governments, an increase in outpatient care and home health services, integrated delivery of care, and the elimination of unnecessary procedures. Therefore, the BLS projects that medical expenditures will grow 3.6 percent

Table 3. Nominal gross domestic product, by major demand category, 1988, 1998, 2008, and projected 2018

Category	Billions of current dollars				Percent distribution			
	1988	1998	2008	2018	1988	1998	2008	2018
Gross domestic product	$5,103.8	$8,747.0	$14,264.6	$21,786.0	100.0	100.0	100.0	100.0
Personal consumption expenditures	3,353.6	5,879.5	10,057.9	15,293.5	65.7	67.2	70.5	70.2
Gross private domestic investment	821.6	1,509.1	1,993.5	3,431.2	16.1	17.3	14.0	15.7
Exports	444.1	955.9	1,859.4	3,037.0	8.7	10.9	13.0	13.9
Imports[1]	554.5	1,115.9	2,528.6	4,250.1	10.9	12.8	17.7	19.5
Federal defense consumption expenditures and gross investment	354.9	345.7	734.9	1,067.5	7.0	4.0	5.2	4.9
Federal nondefense consumption expenditures and gross investment	107.4	184.7	337.0	468.3	2.1	2.1	2.4	2.1
State and local consumption expenditures and gross investment	576.7	987.8	1,810.4	2,738.6	11.3	11.3	12.7	12.6

[1] Imports are subtracted from the other components of GDP because imports are not produced in the United States.

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

Table 4. Personal consumption expenditures, 1988, 1998, 2008, and projected 2018

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18
Personal consumption expenditures	$4,547.0	$6,125.9	$8,272.1	$10,577.3	3.0	3.0	2.5
Durable goods	445.0	720.3	1,188.5	1,858.8	4.9	5.1	4.6
Motor vehicles and parts	260.4	338.9	387.2	561.3	2.7	1.3	3.8
Other durable goods	198.4	381.6	828.5	1,335.0	6.8	8.1	4.9
Nondurable goods	1,421.8	1,794.4	2,378.4	2,775.0	2.4	2.9	1.6
Services	2,691.4	3,614.9	4,714.2	6,137.2	3.0	2.7	2.7
Housing services	763.1	948.9	1,182.5	1,427.5	2.2	2.2	1.9
Medical services	739.5	970.6	1,374.8	1,950.0	2.8	3.5	3.6
Other services	1,190.4	1,695.9	2,156.1	2,751.3	3.6	2.4	2.5
Residual[1]	–26.5	–4.5	–35.3	–222.7	…	…	…

[1] The residual is the difference of the first line and the sum of the most detailed lines for each first-level subcategory.

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

annually from 2008 to 2018, nearly equivalent to the 3.5-percent annual growth from 1998 to 2008.

Nondurable goods include products with a life expectancy of less than 3 years, such as food, clothing, and gasoline. Demand for these types of goods tends to be less sensitive to income changes than demand for durable goods. As consumers' disposable income grew, purchases of nondurable goods increased by 2.4 percent annually from 1988 to 1998 and by 2.9 percent annually from 1998 to 2008, much more slowly than growth in demand for durable goods. Expecting consumers to trim their spending over the coming decade, the BLS projects that growth in demand for nondurable goods will slow to 1.6 percent annually between 2008 and 2018.

The macromodel breaks out purchases of durable goods into purchases of motor vehicles and purchases of other durable goods. The latter category has grown faster than any other consumption category over the past two decades, increasing 6.8 percent annually, on average, from 1988 to 1998 and 8.1 percent per year from 1998 to 2008. These goods, which include such big-ticket items as appliances, computers, video and audio goods, and furniture, need to be replaced less frequently than nondurable goods. Historically, this sector has exhibited large swings around the business cycle, indicating that purchases of durable goods may be more flexible than other consumption categories. Therefore, the BLS anticipates that the projected slowdown in overall consumer spending growth will affect this category, resulting in substantially slower growth of 4.9 percent annually over the 2008–18 period.

Sales of cars and light trucks first reached 16 million in 1986, but did not return to that level again for 13 years. In order to increase sales, the motor vehicle industry offered unprecedented sales incentives. Buyers responded, and purchases reached a record 17.3 million units in 2000. Continued incentives and the easing of credit allowed sales to stay above 16 million through 2007. The subsequent downturn in economic conditions, along with stricter lending standards, contributed to sales declining to 13.1 million units in 2008, the lowest level since 1992. The BLS expects that technological improvements in motor vehicles, coupled with increased savings by consumers, will lead to individuals holding onto their vehicles for a longer time. Sales are therefore projected to pick up to 14.4 million units in 2018, but are not anticipated to reach the levels exhibited in the previous decade.

Nonresidential investment. As theory holds, nonresidential investment was a lagging indicator of the 2008 recession. Demand for nonresidential investment at first appeared somewhat resilient, but then slowed considerably from mid-2008 through mid-2009. As the recession comes to an end, demand is expected to return to the long-term-trend level. Investment in computers and software is anticipated to contribute substantially to this growth, while demand for nonresidential construction is expected to slow. In total, the BLS anticipates that nonresidential investment will grow by 3.0 percent per year from 2008 to 2018, about the same as the 3.1-percent annual growth exhibited from 1998 to 2008. (See table 5.)

Within nonresidential investment, demand for equipment and software has grown more quickly in recent history than demand for structures. From 1988 to 1998, equipment and software posted an 8.5-percent annual growth rate. Despite the bursting of the "dot-com" bubble and the resulting 2001 recession, business investment in equipment and software maintained an overall healthy average annual growth rate of 3.5 percent from 1998 to 2008. The sector is projected to grow at 4.3 percent annually from 2008 through 2018, slightly faster than it grew the previous decade. Demand for computers and software is expected to contribute the majority of this growth as the category expands at 8.0 percent annually over 2008–18. A number of factors are anticipated to contribute to this continuation of growth, including increasing development of Internet and intranet sites, the adoption of e-prescribing and electronic health records, the need for computer security, and growing demand for compatibility with mobile technologies.

The "dot-com" bubble and tax incentives of the late 1990s led to an excess supply of office buildings, dampening demand for nonresidential structures for some time. The housing boom during the early to mid-2000s may have contributed further to pulling construction projects toward the more profitable residential sector. After housing starts peaked in 2005, nonresidential construction posted increases, even during the recession year of 2008. The BLS projects that investment in nonresidential structures will decline slightly, to 0.7-percent annual growth from 2008 to 2018, from a growth rate of 1.4 percent annually the previous decade. As the market for residential construction returns to its historical growth pattern, demand for nonresidential structures is anticipated to slow slightly. However, continued demand for nursing homes, medical treatment facilities, and educational structures is expected to facilitate some growth.

Residential investment. Many economic trends contributed to the formation of a bubble in the housing market in the early to mid-2000s, including the securitizing of

Table 5. Gross private domestic investment, 1988, 1998, 2008, and projected 2018

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18
Gross private domestic investment	$890.5	$1,524.1	$1,689.1	$2,474.5	5.5	1.0	3.9
Fixed nonresidential	560.9	1,037.8	1,405.4	1,887.5	6.3	3.1	3.0
Equipment and software	330.7	745.6	1,047.0	1,599.7	8.5	3.5	4.3
Computers and software	24.9	186.1	464.0	1,002.7	22.3	9.6	8.0
Other equipment	356.4	561.4	615.7	766.9	4.6	.9	2.2
Structures	265.9	294.5	338.8	363.6	1.0	1.4	.7
Fixed residential structures	337.4	418.3	359.5	592.9	2.2	–1.5	5.1
Single family	174.7	218.1	136.0	281.4	2.2	–4.6	7.5
Multifamily	30.8	26.7	31.6	48.7	–1.4	1.7	4.4
Other	131.6	173.4	195.2	266.3	2.8	1.2	3.2
Change in business inventories	20.3	72.6	–29.0	46.1	13.6	([1])	([1])
Residual[2]	–114.1	–8.7	–63.1	–301.2	…	…	…

[1] Data not computable.

[2] The residual is the difference of the first line and the sum of the most detailed lines for each first-level subcategory.

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

mortgages (which helped sustain a large amount of available credit), record low mortgage rates, and lenient lending requirements, resulting in an upsurge in subprime mortgages. As prices reached unsustainable levels, the bubble started to show the first signs of weakening in 2006, when private housing starts declined by 12.6 percent. Soon thereafter, a severe decline in the stock market, tighter lending requirements, and general fear due to the recession put additional stress on home sales and prices.

In 2008, investment in residential construction fell to $359.5 billion, the lowest level since 1995. Sales plunged by nearly 40 percent from their 2005 peak of $595.4 billion. Moreover, in 2008 private housing starts fell to 900,000, the lowest level since at least 1966. Consequently, demand for fixed residential structures declined by 1.5 percent annually, on average, from 1998 to 2008. [21]

Investment in the housing market generally is driven by changing demographics. In the bubble years, however, the demand stemmed from other sources, including rapid price appreciation and an easing of credit requirements. Therefore, the BLS expects that, as excess supply from the bubble period clears and consumer confidence in the housing market returns, investment in residential construction will return to the long-run-trend level by 2018. In order to account for the low starting point in 2008, investment in residential structures is projected to grow by 5.1 percent annually between 2008 and 2018 and reach $592.9 billion, not quite the peak exhibited in 2005. Private housing starts are anticipated to recover to 1.7 million in 2018, near the 2002 level.

Within residential construction, single-family structures were the most affected by the housing bubble. In 2008, investment in single-family homes fell to their lowest point since 1991, resulting in an average annual decline of 4.6 percent from 1998 to 2008. Construction of single-family homes is projected to grow by an average of 7.5 percent annually from 2008 to 2018. Demand in 2018, however, is anticipated to be roughly equal to the 2003 level, 13.7 percent lower than the peak in 2005.

Gross private domestic investment, in its entirety, including nonresidential and residential investment, is anticipated to account for 15.7 percent of overall nominal GDP in 2018, an increase from 14.0 percent in 2008, but lower than the category's 17.3-percent contribution in 1998. (See table 3.) BLS projections indicate that real business investment will grow at 3.9 percent annually over the 2008–18 period, much faster than during 1998–2008, when it increased by only 1.0 percent annually. Business investment is expected to be an important factor in economic growth over the next decade, contributing an anticipated 0.6 percentage point, on average, to the 2.4-percent GDP growth, or one-quarter of the expansion.

Much of the progress is expected to be attributable to a resumption of growth in residential construction as the housing market rebounds.

Foreign trade in goods and services and the current account. The BLS projects that the United States will become increasingly integrated with the rest of the world in the trade of goods and services over the projection period. Increased savings and a slowdown in consumption expenditures are anticipated to continue to support slower, but still relatively strong, import growth. Global demand for U.S. exports is expected to grow over the projection period, although at a slower pace than in the previous two decades. The BLS expects that, in order to minimize the impact of the recession and aid in the recovery, the Nation will continue to import more than it exports, relying upon foreign support to fund this debt.

Because exports have not grown as much as imports, the U.S. trade balance has been in a deficit for quite some time now. In real 2000 dollars, the United States has maintained a negative trade balance every year since at least the mid-1960s, except for 1980 and 1981. Even in nominal terms, the trade balance has been negative every year since 1976. In nominal terms, the deficit grew steadily from $27.5 billion dollars in 1991 to $757.3 billion in 2006. With the onset of the recession, it receded to $669.2 billion in 2008. The BLS projects that the trade deficit will reach $1.2 trillion in 2018. The deficit also has been increasing steadily in real dollars since 1991, except for a small decline in 2005 and more substantial declines in 2007 and 2008. In real dollars, the trade deficit is expected to reach $652.8 billion in 2018, about $37 billion higher than its peak in 2006.

As a share of GDP, nominal exports increased from 8.7 percent in 1988 to 10.9 percent in 1998 and 13.0 percent in 2008. Meanwhile, imports also grew as a share of GDP, from 10.9 percent in 1988, to 12.8 percent in 1998, to 17.7 percent in 2008. (See table 3.) Over the projection period, the BLS expects the world to continue along a path of increased trade. Both imports and exports are projected to grow as a proportion of GDP, but at a slower pace than their growth during the past two decades. The BLS projects that exports will amount to 13.9 percent of GDP, and imports will make up 19.5 percent, in 2018.

Exports expanded from $966.5 billion (in real 2000 dollars) in 1998 to $1.5 trillion by 2008, exhibiting 4.6-percent average annual growth. (See table 6.) Demand for exports is projected to slow to 3.9 percent annually from 2008 to 2018, with the level of exports reaching $2.2 trillion by 2018. Over this time, exports of services are expected to grow considerably faster than exports of goods, which are anticipated to slow from 4.5 percent annually between 1998 and 2008 to an annual rate of 3.2 percent from 2008 to 2018. Service exports are projected to pick up their pace from 4.7-percent annual growth during the past 10 years to 5.3 percent over the projection period.

Imports grew by an average of 5.0 percent a year over the last decade, from $1.2 trillion in 1998 to $1.9 trillion in 2008. Imports of goods supported the majority of this increase, with a 5.1-percent annual growth rate, while services posted 4.3-percent annual growth. The BLS projects that import growth as a whole will slow to 4.2 percent annually from 2008 to 2018, with import goods declining to a 4.4-percent annual growth rate and services falling to a 3.4-percent rate. Since the early 2000s, rising oil prices have been a major contributor to the rapid growth of U.S. imports. Higher prices and an increasing reliance on alternative fuels are expected to slow the growth of U.S. petroleum imports from 1.4 percent per year during 1998–2008 to 1.1 percent annually over 2008–18.

The growing trade deficit and a corresponding increase in foreign investment in the United States have caused the current-account deficit (the excess of imports and income flows to foreigners over exports and foreign income of Americans) to increase dramatically since the 1990s. Economic prosperity made the Nation an attractive destination for foreign investors, thereby enabling the current-account deficit to inflate from 2.1 percent of GDP in 1998 to 5.9 percent in 2006. Then, as the stock market slipped and the United States entered a recession, the current-account deficit fell to 4.6 percent of GDP in 2008. The BLS projects the current-account deficit to be 5.1 percent of GDP by 2018, reflecting an expectation of continued foreign investor confidence in the U.S. economy.[22]

Federal Government. As society ages and medical technologies advance, the cost of Medicare, Medicaid, and Social Security programs is expected to take up a growing share of the Federal Government's budget. Replacing military equipment worn down from the wars in Iraq and Afghanistan and maintaining current troop levels are together anticipated to require substantial defense expenditures. In sum, the BLS expects that the current budget deficit will continue—and even increase—by 2018 as the Federal Government faces both growing demand for social programs by an aging society and the continued cost of national security.

The primary budgetary challenge the Federal Government is expected to face over the projection period is limiting spending on Social Security and Medicare programs.

Table 6. Exports and imports of goods and services, 1988, 1998, 2008, and projected 2018

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18
Exports of goods and services	$454.6	$966.5	$1,514.1	$2,213.3	7.8	4.6	3.9
Goods	302.5	679.3	1,058.4	1,445.4	8.4	4.5	3.2
Nonagricultural	265.3	630.8	995.9	1,353.7	9.0	4.7	3.1
Agricultural	36.3	48.4	65.4	95.1	2.9	3.1	3.8
Services	154.8	287.2	455.1	760.9	6.4	4.7	5.3
Residual[1]	–1.8	.1	–2.3	3.5	…	…	…
Imports of goods and services	561.4	1,170.3	1,904.3	2,866.1	7.6	5.0	4.2
Goods	437.5	974.5	1,608.2	2,462.3	8.3	5.1	4.4
Nonpetroleum	375.6	868.7	1,499.6	2,399.6	8.7	5.6	4.8
Petroleum	75.8	112.9	130.0	145.6	4.1	1.4	1.1
Services	127.8	195.6	297.0	414.4	4.4	4.3	3.4
Residual[2]	–17.9	–6.9	–22.3	–93.5	…	…	…
Trade surplus/deficit	–106.8	–203.8	–390.2	–652.8	6.7	6.7	5.3

[1] The residual following the detailed categories for exports is the difference of the aggregate of "exports of goods and services" and the sum of the most detailed lines for each first-level subcategory of "exports of goods and services."

[2] The residual following the detailed categories for imports is the difference of the aggregate of "imports of goods and services" and the sum of the most detailed lines for each first-level subcategory of "imports of goods and services."

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

The oldest baby boomers reached age 62 in 2008 and qualified for partial Social Security retirement benefits. In 2011, they will be eligible to receive full Medicare benefits. In addition, new technology is expected to further increase medical costs at a pace much faster than the rest of the economy grows.[23] Social Security and Medicare grew from 27.5 percent of nominal Government expenditures in 1988 to 33.1 percent in 1998 and 34.2 percent in 2008. This trend is expected to continue, with these two programs together making up 35.1 percent of Government expenditures by 2018.[24]

As mentioned a couple of paragraphs ago, the need to replace worndown equipment is anticipated to require a considerable amount of funding. Also, on the basis of Department of Defense estimates, the BLS assumes that military force levels will remain fixed at 1.4 million troops throughout the coming decade. The cost of maintaining current troop levels and replacing worndown equipment is expected to lead to a rise in real defense spending from a 40-year record high of $538.1 billion in 2008 to a yet-higher $644 billion in 2018, an annual growth rate of 1.8 percent, in comparison to 3.9 percent per year between 1998 and 2008.[25] (See table 7.) Defense expenditures are expected to account for 4.9 percent of nominal GDP in 2018, a slight decline from 5.2 percent in 2008, but substantially higher than the 4.0-percent figure registered in 1998. (See table 3.) Nondefense expenditures also are projected to fall, from 2.4 percent of nominal GDP in 2008 to 2.1 percent in 2018.

As mentioned earlier, the Federal Government has run nominal annual budget deficits for most of the past 40 years. The deficit started to abate in 1993 and continued to decline for almost 10 years, culminating in 4 years of surplus from 1998 to 2001. The bursting of the "dot-com" bubble, along with costs related to the terrorist attacks of September 11, 2001, the wars in Iraq and Afghanistan, and tax cuts, pushed the budget back into larger and larger deficits since that time. The crisis in the housing and financial markets in 2008 put additional stress on the Government's balance sheet.[26] The deficit more than doubled from 2007 to 2008, from $229 billion and 1.7 percent of GDP to $525 billion and 3.7 percent of GDP. Taking into account mounting financial responsibilities to care for an aging society and continued growth in defense spending, the BLS projects a budget deficit of almost $900 billion—4.1 percent of nominal GDP—in 2018.[27] (See table 8.)

As the recession ends, individual and corporate tax revenues are projected to pick up from their low levels

Table 7. Government consumption expenditures and gross investment, 1988, 1998, 2008, and projected 2018

Category	Billions of chained 2000 dollars				Average annual rate of change		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18
Government consumption expenditures and gross investment	$1,445.1	$1,624.4	$2,070.2	$2,384.1	1.2	2.5	1.4
Federal Government consumption and investment	636.1	561.3	798.2	928.2	–1.2	3.6	1.5
Defense consumption and investment	482.0	365.3	538.1	644.0	–2.7	3.9	1.8
Consumption expenditures	410.6	319.8	452.6	541.5	–2.5	3.5	1.8
Compensation, military	124.8	90.2	101.5	105.6	–3.2	1.2	.4
Compensation, civilian	75.6	53.1	53.3	67.5	–3.5	.1	2.4
Consumption of fixed capital	57.7	61.3	69.2	79.8	.6	1.2	1.4
Intermediate goods and services purchased	158.2	118.6	237.6	303.9	–2.8	7.2	2.5
Less own-account investment	1.8	1.5	1.4	1.4	–1.9	–.9	.1
Less sales to other sectors	1.9	1.8	2.2	1.7	–.5	2.1	–2.7
Gross investment	70.3	45.6	88.6	106.3	–4.2	6.9	1.8
Own-account investment	1.8	1.5	1.4	1.4	–1.9	–.9	.1
Other investment	68.4	44.1	87.6	105.4	–4.3	7.1	1.9
Nondefense consumption and investment	152.3	196.0	259.5	282.6	2.6	2.8	.9
Consumption expenditures	133.3	164.7	217.9	238.8	2.1	2.8	.9
Compensation	93.9	91.8	101.9	127.3	–.2	1.1	2.2
Consumption of fixed capital	12.1	18.8	27.9	34.0	4.5	4.0	2.0
Intermediate goods and services purchased:							
Commodity credit corporation purchases	–6.7	.2	.5	.0	([1])	9.9	–100.0
Other	51.3	61.4	94.3	81.3	1.8	4.4	–1.5
Less own-account investment	2.9	2.9	1.9	1.7	.2	–4.1	–1.4
Less sales to other sectors	7.0	4.4	3.8	4.2	–4.5	–1.5	1.0
Gross investment	19.9	31.2	42.7	44.2	4.6	3.2	.4
Own-account investment	2.9	2.9	1.9	1.7	.2	–4.1	–1.4
Other investment	17.2	28.4	41.0	42.9	5.1	3.7	.5
State and local government consumption and investment	806.6	1,063.0	1,273.0	1,456.5	2.8	1.8	1.4
Consumption expenditures	671.8	866.5	1,021.2	1,125.5	2.6	1.7	1.0
Compensation	548.1	648.7	723.7	768.7	1.7	1.1	.6
Consumption of fixed capital	50.4	77.1	109.2	145.5	4.3	3.5	2.9
Intermediate goods and services purchased	232.0	358.9	460.0	525.4	4.5	2.5	1.3
Less own-account investment	9.7	13.5	17.1	20.6	3.4	2.4	1.9
Less sales to other sectors	146.4	205.0	253.6	291.5	3.4	2.1	1.4
Gross investment	135.9	196.7	251.6	332.1	3.8	2.5	2.8
Own-account investment	9.7	13.5	17.1	20.6	3.4	2.4	1.9
Other investment	126.1	183.2	234.5	311.4	3.8	2.5	2.9
Residual[2]	85.2	91.7	89.8	110.0	…	…	…

[1] Data not computable.

[2] The residual is the difference of the first line and the sum of the most detailed lines for each first-level subcategory.

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

in 2008. Federal Government receipts are anticipated to increase by 5.4 percent annually over 2008–18, faster than the 3.8-percent annual growth exhibited over the 1998–2008 period. Although the cost of the medical and Social Security programs is anticipated to grow rapidly during the next decade, the cost of the stimulus packages during the 2008 recession is projected to end. Federal expenditures are expected to slow in nominal terms from 6.0-percent annual growth over the 1998–2008 period to 5.4 percent per year between 2008 and 2018. The BLS projects that transfer payments by the Federal Government will decline from 58.4 percent of total Government spending in 2008 to 54.3 percent in 2018. Interest payments to persons, businesses, and the rest of the world are

Table 8. Federal Government receipts and expenditures, 1988, 1998, 2008, and projected 2018

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1988	1998	2008	2018	1988	1998	2008	2018	1988–98	1998–2008	2008–18
Receipts	$958.3	$1,773.8	$2,569.3	$4,340.4	100.0	100.0	100.0	100.0	6.4	3.8	5.4
Tax receipts	566.7	1,116.8	1,526.8	2,652.8	59.1	63.0	59.4	61.1	7.0	3.2	5.7
Personal taxes	402.9	825.8	1,123.9	2,065.3	42.0	46.6	43.7	47.6	7.4	3.1	6.3
Corporate income taxes	111.2	204.3	291.1	422.8	11.6	11.5	11.3	9.7	6.3	3.6	3.8
Taxes on production and imports	50.3	81.1	96.2	140.0	5.2	4.6	3.7	3.2	4.9	1.7	3.8
Taxes from the rest of the world	2.3	5.7	15.4	24.8	.2	.3	.6	.6	9.3	10.5	4.9
Contributions for social insurance	353.1	613.8	971.9	1,580.5	36.8	34.6	37.8	36.4	5.7	4.7	5.0
Income receipts on assets	30.0	21.5	31.8	46.0	3.1	1.2	1.2	1.1	–3.3	4.0	3.8
Interest receipts	28.0	17.7	22.2	28.7	2.9	1.0	.9	.7	–4.5	2.3	2.6
Rents and royalties	2.0	3.8	9.6	17.4	.2	.2	.4	.4	6.6	9.7	6.1
Transfer receipts	10.8	21.6	39.4	61.1	1.1	1.2	1.5	1.4	7.2	6.2	4.5
From businesses	8.0	12.9	21.4	33.8	.8	.7	.8	.8	4.9	5.1	4.7
From persons	2.8	8.6	18.0	27.4	.3	.5	.7	.6	11.9	7.6	4.3
Surplus of government enterprises	–2.3	.1	–.5	.0	–.2	.0	.0	.0	([1])	([1])	([1])
Expenditures	1,092.7	1,734.9	3,094.3	5,240.1	100.0	100.0	100.0	100.0	4.7	6.0	5.4
Consumption expenditures	382.5	454.6	932.0	1,375.2	35.0	26.2	30.1	26.2	1.7	7.4	4.0
Transfer payments	481.9	946.5	1,806.4	2,845.6	44.1	54.6	58.4	54.3	7.0	6.7	4.6
Government social benefits	379.1	719.2	1,382.3	2,202.1	34.7	41.5	44.7	42.0	6.6	6.8	4.8
Social Security benefits	213.9	369.2	605.6	1,017.2	19.6	21.3	19.6	19.4	5.6	5.1	5.3
Medicare benefits	86.3	205.8	452.7	822.5	7.9	11.9	14.6	15.7	9.1	8.2	6.2
Unemployment benefits	13.2	19.5	52.3	49.9	1.2	1.1	1.7	1.0	4.0	10.4	–.5
Other benefits to persons	64.1	122.3	268.0	306.9	5.9	7.0	8.7	5.9	6.7	8.2	1.4
Benefits to the rest of the world	1.6	2.3	3.8	5.6	.1	.1	.1	.1	3.7	5.0	4.1
Other transfer payments	102.8	227.4	424.2	643.5	9.4	13.1	13.7	12.3	8.3	6.4	4.3
Grants–in–aid:											
To State and local government	91.6	212.8	388.3	595.2	8.4	12.3	12.5	11.4	8.8	6.2	4.4
To the rest of the world	11.2	14.6	35.9	48.2	1.0	.8	1.2	.9	2.7	9.4	3.0
Interest payments	199.3	298.9	308.2	965.3	18.2	17.2	10.0	18.4	4.1	.3	12.1
To persons and businesses	167.6	219.6	141.2	362.1	15.3	12.7	4.6	6.9	2.7	–4.3	9.9
To the rest of the world	31.7	79.3	167.0	603.2	2.9	4.6	5.4	11.5	9.6	7.7	13.7
Subsidies	29.0	35.0	47.7	54.0	2.7	2.0	1.5	1.0	1.9	3.2	1.2
Less wage accruals less disbursements	.0	.0	.0	.0	…	…	…	…	([1])	([1])	([1])
Net Federal Government saving	–134.4	38.8	–525.0	–899.7	…	…	…	…	([1])	([1])	5.5
Surplus or deficit as percent of gross domestic product	–2.6	.4	–3.7	–4.1	…	…	…	…	([1])	([1])	1.2

[1] Data not computable.

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

anticipated to rise from 10 percent of spending in 2008 to 18.4 percent in 2018.

State and local governments. State and local governments will face increasing fiscal challenges in the coming decade that, in many ways, echo the problems that will confront the Federal Government. Funding for Medicaid will account for a growing share of States' budgets as demand continues to grow and the Federal Government offers less money in grants-in-aid to fund State programs. Most States have some form of balanced-budget requirement allowing only short-term minimal deficits. Therefore, any failure on their part to contain costs in the medical sector would constrain spending in other categories of State and local expenditures.[28]

Current receipts of State and local governments are projected to grow at 4.7 percent annually from 2008 to 2018, slightly more slowly than the increase of 5.2 percent

per year from 1998 to 2008. (See table 9.) In particular, grants-in-aid from the Federal Government for Medicaid and other programs are expected to decelerate to an annual growth rate of 4.4 percent between 2008 and 2018. Grants-in-aid have been declining from 8.8-percent annual growth between 1988 and 1998 to 6.2 percent between 1998 and 2008. A continued slowdown is expected as the Federal Government struggles to meet growing demands for health care while limiting the budget deficit.

As growth in receipts slow, so will expenditures by State and local government. Expenditures are expected to increase by 4.2 percent annually over the 2008–18 period, a much slower pace than the 6.1-percent annual growth between 1998 and 2008. By 2018, State and local government expenditures on Medicaid alone are projected to outgrow the Federal grants-in-aid received. The BLS projects that declining Federal funds will force State and local governments to slow the growth rates for all spending categories. The only anticipated exception is interest payments, which make up a small part of their budgets.

Consumption and gross investment by State and local governments increased by 1.8 percent annually from 1998 to 2008. (See table 7.) The BLS projects that these categories will grow slightly more slowly, at 1.4 percent annually, from 2008 to 2018. Consumption by State and local governments is anticipated to represent 12.6 percent of nominal GDP in 2018, nearly equivalent to the 12.7-percent figure registered in 2008. (See table 3.) In sum, the BLS projects that the States will run a small nominal surplus of $8.8 billion in 2018. (See table 9.)

Table 9. State and local government receipts and expenditures, 1988, 1998, 2008, and projected 2018

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1988	1998	2008	2018	1988	1998	2008	2018	1988–98	1998–2008	2008–18
Receipts	$635.6	$1,163.2	$1,935.1	$3,049.9	100.0	100.0	100.0	100.0	6.2	5.2	4.7
Tax receipts	452.8	794.9	1,318.6	2,081.1	71.2	68.3	68.1	68.2	5.8	5.2	4.7
Personal taxes	102.1	201.2	333.4	531.4	16.1	17.3	17.2	17.4	7.0	5.2	4.8
Corporate income taxes	26.0	34.9	47.6	75.7	4.1	3.0	2.5	2.5	3.0	3.1	4.7
Taxes on production and imports	324.6	558.8	937.6	1,474.0	51.1	48.0	48.5	48.3	5.6	5.3	4.6
Sales taxes and other	188.1	327.8	533.0	787.7	29.6	28.2	27.5	25.8	5.7	5.0	4.0
Property taxes	136.5	231.0	404.5	686.3	21.5	19.9	20.9	22.5	5.4	5.8	5.4
Contributions for social insurance	8.4	10.4	23.8	37.1	1.3	.9	1.2	1.2	2.1	8.7	4.6
Income receipts on assets	60.5	80.9	103.8	173.2	9.5	7.0	5.4	5.7	2.9	2.5	5.3
Interest receipts	55.9	74.6	87.7	146.7	8.8	6.4	4.5	4.8	2.9	1.6	5.3
Dividends	.2	1.7	3.0	4.7	.0	.1	.2	.2	23.7	5.9	4.6
Rents and royalties	4.4	4.6	13.1	21.9	.7	.4	.7	.7	.4	11.0	5.3
Transfer receipts	109.0	266.7	496.8	759.2	17.2	22.9	25.7	24.9	9.4	6.4	4.3
Federal grants-in-aid	91.6	212.8	388.3	595.2	14.4	18.3	20.1	19.5	8.8	6.2	4.4
From businesses (net)	5.4	22.0	42.0	66.5	.8	1.9	2.2	2.2	15.2	6.6	4.7
From persons	12.0	31.9	66.5	97.4	1.9	2.7	3.4	3.2	10.3	7.6	3.9
Surplus of government enterprises	4.8	10.3	−7.6	−.7	.8	.9	−.4	.0	7.8	([1])	−21.8
Expenditures	617.7	1,111.2	2,015.2	3,041.1	100.0	100.0	100.0	100.0	6.0	6.1	4.2
Consumption expenditures	470.4	801.3	1,454.4	2,118.6	76.2	72.1	72.2	69.7	5.5	6.1	3.8
Government social benefit payments to persons	98.5	235.8	455.8	757.5	15.9	21.2	22.6	24.9	9.1	6.8	5.2
Medicaid	56.8	175.3	357.0	605.8	9.2	15.8	17.7	19.9	11.9	7.4	5.4
Other	41.7	60.5	98.8	151.6	6.8	5.4	4.9	5.0	3.8	5.0	4.4
Interest payments	48.4	73.6	102.0	162.1	7.8	6.6	5.1	5.3	4.3	3.3	4.7
Subsidies	.4	.4	3.0	2.9	.1	.0	.1	.1	2.5	20.9	−.4
Less wage accruals less disbursements	.0	.0	.0	.0	.0	.0	.0	.0	([1])	([1])	([1])
Net State and local government saving	17.9	52.0	−80.1	8.8	…	…	…	…	11.3	([1])	([1])

[1] Data not computable.

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

GDP from the income side

The compensation of employees, or labor income, has declined as a share of total personal income over the past 20 years, accounting for 69.8 percent of personal income in 1988, 67.6 percent in 1998, and 66.5 percent in 2008. Similarly, wage and salary disbursements, the largest segment of labor income, also have shown a decline in share, from 57.7 percent in 1988 to 54.1 percent in 2008. Wage and salary disbursements have declined more than compensation as the percentage of income received in benefits has risen. Employer contributions for insurance and retirement programs have risen from 7.1 percent of income in 1998 to 8.5 percent in 2008. The BLS anticipates that, over the next 10 years, labor income's share will continue to decline slightly, reaching 64.8 percent of total income in 2018, accompanied by a 52.5-percent share for wage and salary disbursements (see table 10) and little change to employer insurance and retirement contributions, at 8.7 percent of income in 2018.

Another major component of personal income—business-related personal income, which includes proprietors' income, rental income, and personal income on assets—has remained steady over the past 20 years, at a 27.1-percent

Table 10. Personal income, 1988, 1998, 2008, and projected 2018

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1988	1998	2008	2018	1988	1998	2008	2018	1988–98	1998–2008	2008–18
Sources											
Personal income	$4,253.7	$7,423.0	$12,100.7	$19,129.6	100.0	100.0	100.0	100.0	5.7	5.0	4.7
Compensation of employees	2,967.2	5,020.1	8,052.8	12,404.8	69.8	67.6	66.5	64.8	5.4	4.8	4.4
Wage and salary disbursements	2,452.9	4,183.4	6,548.0	10,043.1	57.7	56.4	54.1	52.5	5.5	4.6	4.4
Supplements to wages and salary	514.3	836.7	1,504.8	2,361.8	12.1	11.3	12.4	12.3	5.0	6.0	4.6
Proprietors' income	341.6	627.8	1,072.4	1,647.7	8.0	8.5	8.9	8.6	6.3	5.5	4.4
Rental income	40.6	137.5	64.4	146.2	1.0	1.9	.5	.8	13.0	–7.3	8.5
Personal income on assets	769.3	1,283.2	2,037.6	3,543.3	18.1	17.3	16.8	18.5	5.3	4.7	5.7
Personal interest income	639.5	933.3	1,208.5	2,194.9	15.0	12.6	10.0	11.5	3.9	2.6	6.1
Personal dividend income	129.7	350.0	829.1	1,348.3	3.0	4.7	6.9	7.0	10.4	9.0	5.0
Personal current transfer receipts	496.6	978.6	1,869.1	3,005.2	11.7	13.2	15.4	15.7	7.0	6.7	4.9
Federal social benefits	377.5	716.8	1,378.6	2,196.5	8.9	9.7	11.4	11.5	6.6	6.8	4.8
State and local social benefits	98.5	235.8	455.8	757.5	2.3	3.2	3.8	4.0	9.1	6.8	5.2
Other, from businesses (net)	20.6	26.0	34.7	51.2	.5	.3	.3	.3	2.3	2.9	4.0
Less social insurance contribution	361.5	624.2	995.7	1,617.6	8.5	8.4	8.2	8.5	5.6	4.8	5.0
Use											
Personal income	4,253.7	7,423.0	12,100.7	19,129.6	100.0	100.0	100.0	100.0	5.7	5.0	4.7
Personal consumption	3,353.6	5,879.5	10,057.9	15,293.5	78.8	79.2	83.1	79.9	5.8	5.5	4.3
Personal taxes	505.0	1,027.1	1,457.3	2,596.6	11.9	13.8	12.0	13.6	7.4	3.6	5.9
Personal interest payments	96.8	174.5	248.2	375.9	2.3	2.4	2.1	2.0	6.1	3.6	4.2
Personal transfer payments	25.4	65.2	144.6	212.8	.6	.9	1.2	1.1	9.9	8.3	3.9
To government	14.8	40.5	84.5	124.8	.3	.5	.7	.7	10.6	7.6	4.0
Federal	2.8	8.6	18.0	27.4	.1	.1	.1	.1	11.9	7.6	4.3
State and local	12.0	31.9	66.5	97.4	.3	.4	.5	.5	10.3	7.6	3.9
To the rest of the world (net)	10.6	24.6	60.1	88.1	.2	.3	.5	.5	8.8	9.3	3.9
Personal savings	272.9	276.8	192.6	650.9	6.4	3.7	1.6	3.4	.1	–3.6	12.9
Addenda											
Disposable personal income	3,748.7	6,396.0	10,643.3	16,532.9	…	…	…	…	5.5	5.2	4.5
Disposable personal income, chained 2000 dollars	5,082.7	6,664.0	8,753.4	11,434.5	…	…	…	…	2.7	2.8	2.7
Per capita disposable income	15,314	23,153	34,902	49,293	…	…	…	…	4.2	4.2	3.5
Per capita disposable income, chained 2000 dollars	20,763	24,123	28,704	34,092	…	…	…	…	1.5	1.8	1.7
Savings rate (percent)	7.3	4.3	1.8	3.9	…	…	…	…	–5.1	–8.4	8.1

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

share of personal income in 1988, 27.6 percent in 1998, and 26.2 percent in 2008. The BLS projects that the share for this type of income will be a similar 27.9 percent in 2018.

By contrast, 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 11.7 percent in 1988, to 13.2 percent in 1998, to 15.4 percent in 2008. The BLS projects that this category of income receipts will account for 15.7 percent of personal income in 2018.

The use of income can be broken up into the following categories: consumption, taxation, interest payments, and savings. Consumption (also called personal consumption) is by far the major use of income, accounting for 83.1 percent of personal income in 2008, when the personal savings rate was 1.8 percent. Over the past few years, the personal savings rate has dipped below historical levels. During the peak of the housing bubble, 2005–07, as households saw their net worth rise rapidly because of growing home values, the savings rate declined.[29] As the housing bubble burst and the value of homes declined, households began to feel more of a need to save: from the latter half of 2008 into the first half of 2009, the savings rate rose, staying above 4.0 percent in the second quarter of 2009.[30] The BLS anticipates that personal consumption will ease over the projection period and settle down to a 79.9-percent share of total personal income in 2018, compared with an 83.1-percent share in 2008. The savings rate is projected to be 3.9 percent in 2018, above the 1.8-percent rate posted in 2008.

Per capita real disposable personal income is projected to increase at an average annual rate of 1.7 percent from 2008 to 2018, reaching a level of around $34,100 in 2018, a gain of about $5,400 over the projection span. Another way of interpreting this growth is that, measured on the basis of growth of disposable personal income, standards of living will rise at about 1.7 percent per year over the projection period, 0.1 percentage point lower than the rate of growth between 1998 and 2008. Thus, the BLS expects its projections to be characterized by long-term stable growth in the real standard of living.

Employment

The expectation of slower increases in the labor force over the projection period indicates more moderate long-run employment growth in the future. Total civilian household employment is projected to rise by 0.9 percent per year from 2008 to 2018, resulting in an increase of about 13.1 million workers over the 10-year projection period, slightly below the increase of 13.9 million during the 1998–2008 span. Nonfarm payroll employment is projected to grow at an annualized rate of 1.0 percent between 2008 and 2018, rising from 137.0 million to 151.6 million, an increase of 14.6 million jobs.[31]

Productivity

Increases in productivity are an important driver of the long-term growth of GDP. In this article, labor productivity is measured as output per hour in the private nonfarm business sector. Rising productivity is a critical part of improving living standards. Growth in labor productivity allows companies to increase the salaries and benefits of workers on the basis of their greater efficiency, rather than passing salary increases through to consumers in the form of higher prices.

BLS expects that productivity will grow at 1.8 percent per year over the 2008–18 period, a slower rate than the strong 2.6-percent average annual growth achieved over the 1998–2008 period, but in line with growth since 2004 and the 1.7-percent rate posted during the 1988–98 decade. (See table 11.) The anticipated productivity growth stems in part from the healthy growth of capital stocks resulting from projected rates of business investment.[32]

Uncertainty of the economic projections

Any look at the future is uncertain. Although the use of the macroeconomic model to prepare the aggregate economic projections is a scientific approach, different assumptions would naturally lead to different economic projection paths. For instance, in the macromodel, the population 16 years and older influences real GDP. Principally, the demographic characteristics of this population, along with certain other variables, are used to determine the size of the labor force in the BLS macroeconomic projections. Accordingly, because the labor force itself is the most important element in determining the economy's ability to supply output within the macroeconomic model, the demographics of the 16-years-and-older population has a substantial effect on output and, hence, GDP.

Besides affecting the supply of output, an increase in the population influences various components of demand. For example, an increase in the number of 35- to 50-year-olds would result in a larger home-buying population, which in turn would lead to more housing starts, along with a greater demand for residential construction.

A large change in oil prices also could change the projection. Because the United States imports a large amount of oil, changes in oil prices can alter the balance of trade.

Table 11. Labor supply and factors affecting productivity, 1988, 1998, 2008, and projected 2018

Category	Level				Average annual rate of change		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18
Labor supply (in millions, unless noted):							
Total population	244.8	276.2	305.0	335.4	1.2	1.0	1.0
Population aged 16 years and older	184.6	205.2	233.8	258.9	1.1	1.3	1.0
Civilian labor force	121.7	137.7	154.3	166.9	1.2	1.1	.8
Civilian household employment	115.0	131.5	145.4	158.4	1.4	1.0	.9
Nonfarm payroll employment	105.3	125.9	137.0	151.6	1.8	.9	1.0
Unemployment rate (percent)	5.5	4.5	5.8	5.1	–2.0	2.6	–1.3
Productivity:							
Private nonfarm business output per hour (billions of chained 2000 dollars)	31.0	36.8	47.5	56.8	1.7	2.6	1.8

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

In addition, higher oil prices encourage the domestic production of oil, can change whether consumers buy cars or light trucks, and affect the rate of inflation. As mentioned earlier in connection with interest rates and the Fed's policy, a change in the inflation rate could cause the Fed to change the funds rate. A shift in the funds rate in turn alters the cost of borrowing for consumers and businesses and may alter their decisions when they are contemplating buying a house or building a new factory.

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 2018 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

[1] All figures in this article, except growth rates and dollar values, are real values using year-2000 dollars.

[2] The model used for this year's projections reflects the National Income and Product Accounts (NIPA) data published in July 2009, including GDP data and other data for the first quarter of 2009. Revisions to GDP data released after that time are not included in the BLS projections. However, it is important to remember that those projections are long-run projections based upon long-run trend analysis. The major NIPA revision, if incorporated, would have a limited impact on the BLS projections.

[3] 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.

[4] Until the recent release of Federal Open Market Committee notes, the levels of unemployment and inflation that the Fed targeted were frequently debated. According to the minutes from the January 2009 meeting, the Fed's targets are to keep core personal consumption expenditure price index inflation at 1.7 percent to 2.0 percent, unemployment at 4.8 percent to 5.0 percent, and GDP growth at 2.5 percent to 2.7 percent. In the Macroeconomic Advisers' model, the BLS assumes that the Fed will adjust interest rates to push the economy toward the stated goals for inflation, unemployment, and GDP growth. For a discussion of the Fed's recent stances toward targeting inflation, see "Real Time Economics: Inflation Targeting Makes Fed Comeback," *Wall Street Journal* Blogs, Nov. 3, 2009, on the Internet at **blogs.wsj.com/economics/2009/01/08/inflation-targeting-makes-fed-comeback** (visited Nov. 18, 2009).

[5] The Fed funds rate is the Fed's target for the rate banks charge other banks for overnight loans. More information on the rate can be found in "Open Market Operations" (Federal Reserve Board, Dec. 16, 2008), on the Internet at the Fed's Web site, **www.federalreserve.gov/fomc/fundsrate.htm** (visited Nov. 18, 2009).

[6] The BLS follows the commonly held belief that 10-year Treasury yields reflect the market's forecast of future short-term interest rates. Because short-term rates cannot be cut below zero, it is logical to expect the spread between the Fed funds rate and the 10-year Treasury note yield to widen because future rates cannot be cut further, but must only stay flat or increase. Under a more normal interest rate environment, the spread would be narrower, as the market would be pricing in the possibility of both future rate decreases and increases, instead of simply pricing in increases.

[7] Recently, much has happened in financial markets. Problems in the subprime lending market spread to other credit markets. At its August 2007 meeting, the Fed maintained the funds rate target at 5.25 percent, but turned quickly to concerns about the liquidity of short-term credit markets. Initially, the Fed intervened to increase liquidity through open-market operations. Then, on August 17, 2007, 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 a cut to 4.5 percent in October.

[8] See "Historical Changes of the Target Federal Funds and Discount Rates"

(Federal Reserve Bank of New York, Dec. 22, 2008), on the Internet at **www.newyorkfed.org/markets/statistics/dlyrates/fedrate.html** (visited Nov. 18, 2009).

[9] See "Credit and Liquidity Programs and the Balance Sheet" (Board of Governors of the Federal Reserve System, Aug. 21, 2009), on the Internet at **www.federalreserve.gov/monetarypolicy/bst_lendingdepository.htm** (visited Nov. 18, 2009).

[10] *Ibid*.

[11] See "Credit and Liquidity Programs and the Balance Sheet" (Board of Governors of the Federal Reserve System, Mar. 26, 2009), on the Internet at **www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm** (visited Nov. 18, 2009).

[12] See "Interest Rate Statistics: Daily Treasury Yield Curve Rates," on the Internet at **www.ustreas.gov/offices/domestic-finance/debt-management/interest-rate/yield_historical_2008.shtml** (visited Nov. 18, 2009).

[13] See "Federal Reserve Statistical Release: Selected Interest Rates" (Federal Reserve Board, Aug. 31, 2009), on the Internet at **www.federalreserve.gov/Releases/H15/20090831** (visited Nov. 18, 2009).

[14] For a further discussion of population and labor force projections, see Mitra Toossi, "Labor force projections to 2018: older workers staying more active," this issue, pp. 30–51.

[15] *Ibid*.

[16] The Energy Information Administration produces the *Annual Energy Outlook*. More information can be found on the Internet at the Agency's Web site, **www.eia.doe.gov/oiaf/aeo/index.html** (visited Nov. 18, 2009).

[17] See "Petroleum Navigator: Monthly Cushing, OK WTI Spot Price FOB" (Energy Information Administration, Nov. 4, 2009), on the Internet at **tonto.eia.doe.gov/dnav/pet/hist/rwtcM.htm** (visited Nov. 18, 2009).

[18] Unconventional liquid fuels include gas-to-liquid biofuels (natural gas converted to gasoline or diesel fuel) and coal-to-liquid biofuels (coal converted to gasoline or diesel fuel), such as ethanol, as well as oil refined from extraheavy oil or oil sands.

[19] See "Issues in Focus," in *Annual Energy Outlook 2009* (Energy Information Administration, 2009), pp. 28–55, especially p. 31, on the Internet at **www.eia.doe.gov/oiaf/aeo/pdf/issues.pdf** (visited Nov. 18, 2009).

[20] See Appendix G, "Projections of Liquid Fuels and Other Petroleum Production in Five Cases: Reference; High Price; Low Price; High Economic Growth; Low Economic Growth," in *Annual Energy Outlook 2009*, pp. 225–44, on the Internet at **www.eia.doe.gov/oiaf/ieo/pdf/ieopol.pdf** (visited Nov. 18, 2009).

[21] The Federal Government instituted several measures aimed at stimulating demand. The central bank brought down the Fed funds rate to less than 1 percent in late 2008. Although mortgage rates then fell, this stimulus was not enough to lure buyers back into the market. Also in 2008, the Government offered home buyers up to a $7,500 tax credit. Buyers were required to pay back the credit over the next 15 years, but no interest was charged. This allowance, too, did little to persuade buyers back into the market. Finally, in 2009, the Government offered a true tax credit of up to $8,000 for first-time home buyers. This program has been effective at increasing demand and has since been extended through mid-2010 on somewhat modified terms.

[22] On the basis of 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 the resulting sum 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.

[23] It is important to note that the macromodel assumes that current health care policy will remain in place over the projection period. Recently, there has been much discussion regarding health care reform that, if implemented, could affect the projection significantly. There are bills in both the Senate and the House proposing radical changes to the current health care system. The Congressional Budget Office estimates that a similar plan would increase Government spending on health care, further contributing to the upcoming problems in this sector of the economy.

[24] The Congressional Budget Office estimates that, left in their current situation, the Medicare, Medicaid, and Social Security programs alone would entirely crowd out all discretionary spending, including defense, education, and homeland security, by 2040. (See *Overview of the President's 2009 Budget* (Government Printing Office, no date), especially p. 7.), on the Internet at **www.gpoaccess.gov/usbudget/fy09/pdf/budget/overview.pdf** (visited Nov. 12, 2009).

[25] For a discussion of defense spending and estimates of military force levels, see *National Defense Budget Estimates for FY 2009* (Office of the Under Secretary of Defense, September 2008); and *Fiscal 2010 Department of Defense Budget Release* (Department of Defense, May 7, 2009).

[26] In order to restore confidence in the financial sector, the Treasury Department was given the authority to purchase $700 billion of "toxic" assets through the Troubled Assets Relief Program (TARP). The Congressional Budget Office estimates that TARP injected roughly $247 billion into the economy in 2008. By June 6, 2009, approximately $432.7 billion had been distributed through TARP, including $85 billion to the auto industry and $69.8 billion to American International Group (AIG). Most of the remaining funds went to stabilize banks. (See *TARP Transactions Report* (U.S. Department of the Treasury, June 6, 2009); *Tranche Report to Congress* (U.S. Department of the Treasury, January 2009); and *The Troubled Assets Relief Program: Report on Transactions through December 31, 2008* (Congressional Budget Office, January 2009), on the Internet at **www.cbo.gov/ftpdocs/99xx/doc9961/01-16-TARP.pdf** (visited Nov. 12, 2009).)

[27] The BLS projection of nearly $900 billion for the Federal budget deficit in 2018 is slightly lower than the Congressional Budget Office's March 2009 forecast of $1 trillion. (See *A Preliminary Analysis of the President's Budget and an Update of CBO's Budget and Economic Outlook* (Congressional Budget Office, March 2009), on the Internet at **www.cbo.gov/ftpdocs/100xx/doc10014/03-20-PresidentBudget.pdf** (visited Nov. 12, 2009).) In August 2009, however, the Office revised its forecast to $622 billion. (See *The Budget and Economic Outlook, An Update* (Congressional Budget Office, August 2009), on the Internet at **www.cbo.gov/ftpdocs/105xx/doc10521/08-25-BudgetUpdate.pdf** (visited Nov. 12, 2009).) The Office of Management and Budget expects the deficit to be $688 billion in 2018. (See *Updated Summary Tables, May 2009: Budget of the U.S. Government, Fiscal Year 2010* (Office of Management and Budget, May 2009), on the Internet at **www.whitehouse.gov/omb/budget/fy2010/assets/summary.pdf** (visited Nov. 12, 2009).)

[28] For further discussion on upcoming challenges to State and local governments, see *State and Local Governments: Growing Fiscal Challenges Will Emerge during the Next 10 Years (*U.S. Government Accountability Office, January 2008), on the Internet at **www.gao.gov/new.items/d08317.pdf** (visited Nov. 12, 2009).

[29] See C. Alan Garner, *A Perspective on the Low U.S. Saving Rate* (Kansas City, MO, Federal Reserve Bank of Kansas City, Kansas and Missouri Forums, spring 2006), on the Internet at **www.kansascityfed.org/SpeechBio/GarnerKSForum03-06.pdf** (visited Nov. 18, 2009).

[30] See "Personal Savings Rate" (U.S. Department of Commerce, Bureau of Economic Analysis, Oct. 29, 2009), on the Internet at **www.bea.gov/briefrm/saving.htm** (visited Nov. 12, 2009).

[31] 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 differences have arisen. For further information on these two employment measures and on employment growth differences, see Mary K. Bowler and Teresa L. Morisi, "Understanding the employment meas-

ures 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** (visited Nov. 12, 2009). The BLS maintains a monthly update on CES and CPS employment trends on the Internet at **www.bls.gov/web/ces_cps_trends.pdf** (visited Nov. 12, 2009).

[32] For more detailed information on labor productivity and employment, see Rose Woods, "Industry output and employment projections to 2018," this issue, pp. 52–81. 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.

Data in table 7 (page 50) were corrected online December 29, 2010. See Errata online at **www.bls.gov/opub/mlr/2010/12/errata.pdf**.

Employment outlook: 2008–18

Labor force projections to 2018: older workers staying more active

As the baby-boom generation ages, the share of workers in the 55-years-and-older age group will increase dramatically; the participation rates of older workers in the labor force are expected to increase, but will remain significantly lower than those for the prime age group, and, as a result, the participation rate and overall labor force growth rate will decline

Mitra Toossi

The U.S. labor force is undergoing a gradual but significant change. Beginning in the latter part of the 20th century, three major demographic trends—slowing growth, aging, and increasing diversity—led to changes that have had a considerable impact on the profile of the labor force in the United States and are projected to affect the workforce in the foreseeable future.

Slowdown in the growth of the labor force. The high growth rate of the labor force from the 1970s to the 1990s has been replaced by a much slower growth since 2000. The slow growth rate of the labor force is expected to continue over the next decade.

Aging of the labor force. With the aging of the baby-boom generation, defined as persons born between 1946 and 1964, the older age cohorts are expected to make up a much larger share of the labor force. In 2008, the baby-boom cohort was 44 to 62 years of age. By 2018, almost all the baby boomers will be in the 55-years-and-older age group. Age is a major factor in labor market behavior, and the aging of the labor force will dramatically lower the overall labor force participation rate and the growth of the labor force.

Changes in the racial and ethnic composition of the labor force. As a result of higher population growth—stemming from an increased number of births and increased immigration—and high labor force participation rates by Hispanics and Asians, the share of the workforce held by minorities is expected to increase significantly.

In addition to exploring these trends, this article describes the labor force projections by the Bureau of Labor Statistics (BLS) for the 2008–18 timeframe, for 136 demographic groups broken down by age, sex, race, and Hispanic origin. The dynamic factors that have led to changes in the composition of the workforce resulting from persons entering, leaving, or staying in the labor force also are highlighted. Finally, the article discusses the median age of the labor force for the different groups, along with the economic dependency ratio in the labor force.[1]

The U.S. labor force is projected to increase by 12.6 million over the 2008–18 period, reaching nearly 167 million in 2018.[2] (See

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chart 1.) During each of the last two decades (1988 to 1998 and 1998 to 2008) the labor force grew by more than 16 million. The projected 8.2-percentage-point increase is less than both the 12.1-percentage-point increase over the previous decade and the 13.2-percentage-point growth over the 1988–98 timeframe. The BLS projects that nearly 12 million of the 12.6 million additional workers in the labor force over the next 10 years will be in the 55-and-older age group. This group is expected to be nearly 40 million in 2018, an increase of 43 percentage points. As a result, this age cohort will compose nearly a quarter of the labor force in 2018. (See table 1.)

The prime age group, composed of 25- to 54-year-olds, is projected to increase by 1.6 million and make up 63.5 percent of the total labor force in the target year. The youth labor force, composed of 16- to 24-year-olds, is expected to decline from the 2008 level, but will remain over 21 million in 2018. The share of youths in the overall labor force is estimated to be 12.7 percent in 2018, roughly half of that for the older age group.

The annual rate of growth for women in the labor force is expected to slow to 0.9 percent over the 2008–18 timeframe, still a faster growth rate than that of men. As a result, women are projected to increase their share of the labor force slightly from 46.5 percent in 2008 to 46.9 percent in 2018. The number of men in the labor force is projected to grow by an annual rate of 0.7 percent during 2008–18, a much slower rate than the 1.1-percent rate during the 1998–2008 period.

With an anticipated increase in the number of immigrants, the U.S. population is expected to increase its size and composition. As a result of different fertility rates and major differences in their immigration patterns, the various race and ethnic groups are projected to continue to show different trends in population and labor force growth. The Hispanic labor force is expected to increase rapidly. By 2018, Hispanics are expected to reach more than 29 million in number, composing 17.6 percent of the labor force as a result of an annual growth rate of 2.9 percent over the projected timeframe. Although the share of Asians in both the population and labor force is relatively small, the number of Asians has been growing rapidly in the past two decades. The BLS projects that Asians will grow at an annual rate of 2.6 percent, reaching more than 9 million workers by 2018. The black labor force is projected to continue to have a steady growth of 1.3 percent over the next decade and is anticipated to surpass 20 million in 2018.

Chart 1. Civilian noninstitutional population and labor force, 1988, 1998, 2008, and projected 2018

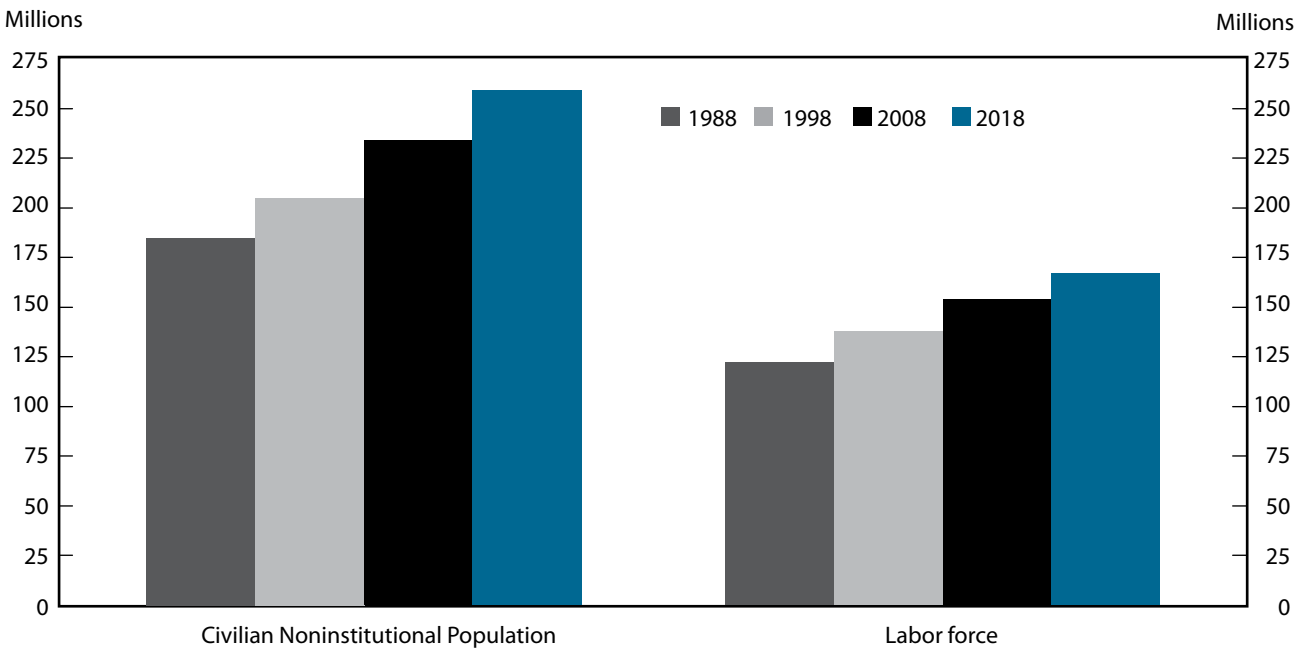


Table 1. Civilian labor force, by age, sex, race, and ethnicity, 1988, 1998, 2008, and projected 2018

[Numbers in thousands]

Group	Level				Change			Percent change			Percent distribution				Annual growth rate (percent)		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18	1988–98	1998–2008	2008–18	1988	1998	2008	2018	1988–98	1998–2008	2008–18
Total, 16 years and older	121,669	137,673	154,287	166,911	16,004	16,614	12,624	13.2	12.1	8.2	100.0	100.0	100.0	100.0	1.2	1.1	0.8
Age, years																	
16 to 24	22,536	21,894	22,032	21,131	–642	138	–901	-2.8	.6	–4.1	18.5	15.9	14.3	12.7	–.3	.1	–.4
25 to 54	84,041	98,718	104,396	105,944	14,677	5,678	1,548	17.5	5.8	1.5	69.1	71.7	67.7	63.5	1.6	.6	.1
55 and older	15,092	17,061	27,857	39,836	1,969	10,796	11,979	13.0	63.3	43.0	12.4	12.4	18.1	23.9	1.2	5.0	3.6
Sex:																	
Men	66,927	73,959	82,520	88,682	7,032	8,561	6,162	10.5	11.6	7.5	55.0	53.7	53.5	53.1	1.0	1.1	.7
Women	54,742	63,714	71,767	78,229	8,972	8,053	6,462	16.4	12.6	9.0	45.0	46.3	46.5	46.9	1.5	1.2	.9
Race:																	
White	104,756	115,415	125,635	132,490	10,659	10,220	6,855	10.2	8.9	5.5	86.1	83.8	81.4	79.4	1.0	.9	.5
Black	13,205	15,982	17,740	20,244	2,777	1,758	2,504	21.0	11.0	14.1	10.9	11.6	11.5	12.1	1.9	1.0	1.3
Asian	3,718	6,278	7,202	9,345	2,560	924	2,143	68.9	14.7	29.8	3.1	4.6	4.7	5.6	5.4	1.4	2.6
All other groups[1]	–	–	3,710	4,832	–	–	1,122	–	–	30.2	–	–	2.4	2.9	–	–	2.7
Ethnicity:																	
Hispanic origin	8,982	14,317	22,024	29,304	5,335	7,707	7,280	59.4	53.8	33.1	7.4	10.4	14.3	17.6	4.8	4.4	2.9
Other than Hispanic origin	112,687	123,356	132,263	137,607	10,669	8,907	5,344	9.5	7.2	4.0	92.6	89.6	85.7	82.4	.9	.7	.4
White non-Hispanic	96,141	101,767	105,210	106,834	5,626	3,443	1,624	5.9	3.4	1.5	79.0	73.9	68.2	64.0	.6	.3	.2
Age of baby boomers	24 to 42	34 to 52	44 to 62	54 to 72	–	–	–		–	–	–	–	–	–	–	–	–

[1] 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. Details may not sum to totals because of rounding.

The labor force projections are a product of two factors: population growth and participation rate changes. The Census Bureau provides projections of population by age, sex, race, and ethnicity, while the BLS develops future trends of the labor force participation rates for various age, sex, race, and ethnic groups. The next two sections discuss these two components in turn.

Population

In the past century, a number of unique birth patterns have substantially affected the future size and composition of the U.S. population and labor force. These influential birth patterns are

- the birth dearth cohorts, born in the late 1920s and early 1930s
- the baby-boom generation, born between 1946 and 1964
- the baby bust cohort, born between 1965 and 1975
- the baby-boom echo, also known as Generation Y or the millennial generation, born between 1976 and 2001.[3]

In addition to birth patterns, immigration patterns af-

fect the growth and composition of the U.S. population and labor force.

The BLS labor force projections are based on Census Bureau projections of the resident population of the United States. These projections in turn are based on alternative assumptions having to do with the three factors that affect population growth: fertility, life expectancy, and net international migration. The BLS uses the Census Bureau's published "middle series" population projections, based on the mid-level assumption for each of the preceding factors. The "middle series" population projections are considered the most likely path of future population change. The most recent of the resident population projections were provided to the BLS in November 2008.[4]

The BLS converts the resident population concept of the Census Bureau population projections to the civilian noninstitutional population concept of the Current Population Survey (CPS). The conversion takes place in four steps. First, the population of children under age 16 is subtracted from the total resident population. Second, the population of the Armed Forces, broken down into different age, sex, race, and ethnic categories, is subtracted. Third, the institutional population is subtracted from the civilian population for all the different categories. [5] Finally, the Census Bureau's long-term population projections are benchmarked to CPS data.[6]

Of the three factors affecting population growth, immigration is of paramount importance to the future size and composition of the U.S. population. Immigration, however, is the greatest uncertainty in population projections. A significant number of immigrants to the United States, both legal and illegal, are of Hispanic ethnicity. According to the Census Bureau's most recent projections, net immigration to the United States is projected to add 1.5 million persons annually to the U.S. resident population. This is a sharp increase over the roughly 800,000 immigrants per year projected by the Census Bureau's previous long-term projections of the resident population. As the projected number of immigrants to the United States nearly doubles, a substantial change will occur in both the size and composition of the population.

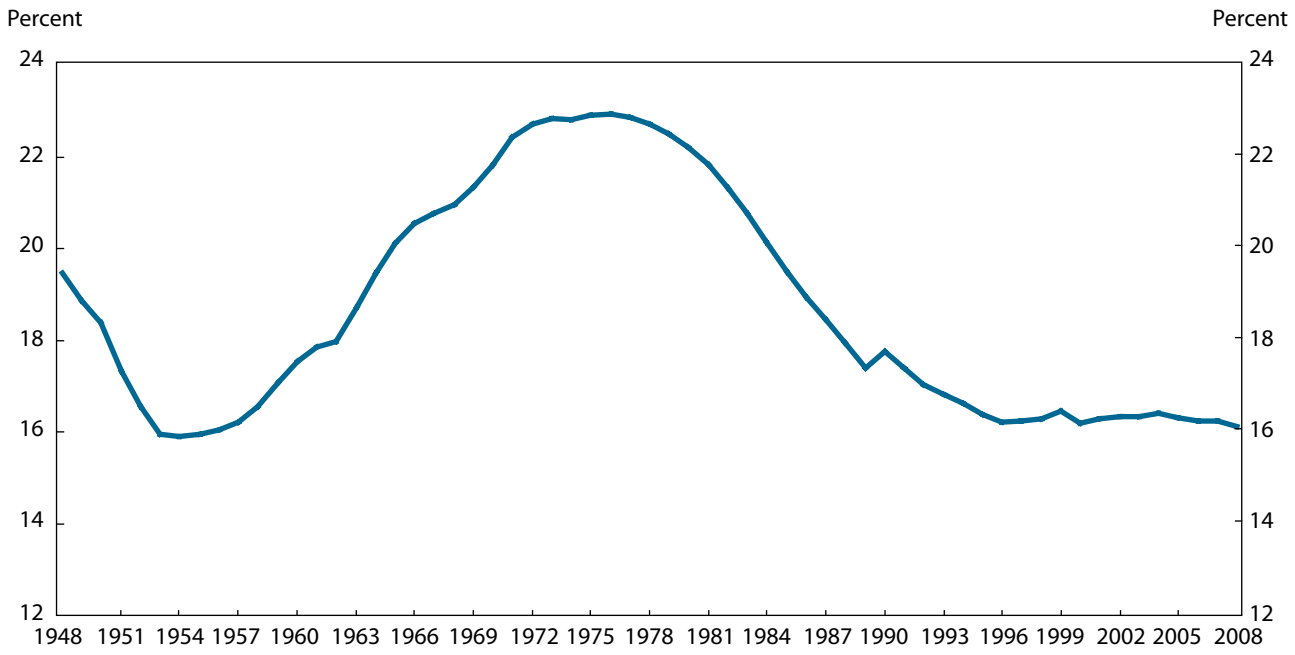
Table 2 provides four snapshots of the civilian noninstitutional population at 10-year intervals over the 1988–2008 period and as projected over the 2008–18 period. The civilian noninstitutional population is expected to continue to increase by an annual rate of 1.0 percent over the 2008–18 period. This projected rate of growth is slower than that of the 1998–2008 period, when it was 1.3 percent.

The share of youths in the population peaked in 1976 at 22.9 percent. The group's share dropped to 17.9 percent in 1988 and to 16.2 percent in 1998. In 2008, the share of youths in the civilian noninstitutional population declined to 16.0 percent. The BLS projects that their share will further decrease to 15 percent of the total civilian noninstitutional population in 2018, continuing a declining trend. (See chart 2.) The number of youths is anticipated to increase by 1.3 million, reaching 38.8 million in 2018. The 25-to-54-year-old group is expected to increase by 2.8 million over the 2008–18 period, considerably less than both the 16.1 million figure the group posted during the 1988–98 period and the 8.2 million it registered over the 1998–2008 timeframe. The 55-and-older age group increased by 4.3 million from 1988 to 1998 and then by more than 16 million—four times that amount—in the 1998–2008 period. During the 2008–18 timeframe, the civilian noninstitutional population aged 55 years and older is projected to increase by nearly 21 million, to reach a total of 91.6 million. The older group's share of the civilian noninstitutional population in 2018 is expected to be 35.4 percent, an increase from 26.6 percent in 1998 and 30.2 percent in 2008.

In addition to its role in affecting the size of the population, immigration also influences the composition of the population by age distribution. For example, persons age 25 to 34 years numbered 38.8 million in 1998 and 40.0 million in 2008. The only way this cohort could have increased by that much is through net immigration. Because the main reason for immigration is the opportunity to work, the composition of the population and the labor force at younger age groups are most affected by immigration.

As a result of more immigrants entering the country and their significantly higher fertility rates, the rapid diversification of the population is projected to continue. Immigration of different race and ethnic groups to the United States changes the racial and ethnic composition of the U.S. population over time. Although growth rates of Hispanics and Asians are expected to be lower than they were in previous decades, the projected growth rates for these two groups are nevertheless much higher than for the other groups. Hispanics and Asians are projected to have about 3.0 percent annual growth over the 2008–18 timeframe. Blacks are expected to experience an annual growth rate of 1.4 percent, greater than the growth rate of the overall labor force. By contrast, the white non-Hispanic group is projected to grow more slowly, at a rate of 0.3 percent.

Chart 2. **Percentage of 16- to 24-year-olds in the total civilian noninstitutional population, 1948–2008**



Labor force participation rates

Because some Government agencies adopt different assumptions in projecting the overall labor force participation, their projections often differ. However, there is a general consensus that the overall participation rate will be inching downward for the foreseeable future.[7] This trend is primarily a result of the baby-boom generation's entry into the 55-and-older age group.[8]

As the historical trends in table 3 indicate, the labor force participation rate of youths aged 16 to 24 years has decreased significantly since 1988. The major factor in this continual decrease has been an increase in school attendance at all levels, especially secondary school and college. This decreasing trend in participation among youths is projected to continue in the future. The prime age group also has experienced declining participation rates—since 2000—from a period of relatively flat participation in the 1990s. This group's declining trend in participation is projected to continue into the future.

The older age group is the only group that has significantly increased its labor force participation rate in 2008 and that is projected to exhibit further increases in the future. As previous literature on this subject has noted, a number of factors are responsible for the increase in the participation rates of older workers since the late 1980s. First, people are living longer and healthier lives, so older people are working more years to earn additional income. In addition, the high cost of health insurance has forced many older workers to remain in the labor force in order to keep their employer-based health insurance or to return to work in order to obtain health insurance through their employer.[9]

In addition, changes in Social Security laws since 2000 have raised the normal retirement age for certain birth dates and decreased the benefits for early retirement. The modified laws were intended to discourage workers from early retirement and encourage increased participation of older workers in the labor market. The changes also established credits for delayed retirements, and that has encouraged older workers to delay their retirement and benefit from higher income for each additional year of work.

The changing structure of pension plans from *defined benefit* to *defined contribution* has affected the activity

Table 2. Civilian noninstitutional population, by age, sex, race, and ethnicity, 1988, 1998, 2008, and projected 2018

[Numbers in thousands]

Group	Level				Change			Annual growth rate (percent)			Percent distribution			
	1988	1998	2008	2018	1988–98	1998–2008	2008–18	1988–98	1998–2008	2008–18	1988	1998	2008	2018
Total, 16 years and older	184,613	205,220	233,788	258,906	20,607	28,568	25,118	1.1	1.3	1.0	100.0	100.0	100.0	100.0
16 to 24	32,960	33,237	37,484	38,768	277	4,247	1,284	.1	1.2	.3	17.9	16.2	16.0	15.0
16 to 19	14,527	15,644	17,075	17,358	1,117	1,431	283	.7	.9	.2	7.9	7.6	7.3	6.7
20 to 24	18,434	17,593	20,409	21,409	–841	2,816	1,000	–.5	1.5	.5	10.0	8.6	8.7	8.3
25 to 54	101,398	117,450	125,652	128,492	16,052	8,202	2,840	1.5	.7	.2	54.9	57.2	53.7	49.6
25 to 34	42,611	38,778	39,993	44,685	–3,833	1,215	4,692	–.9	.3	1.1	23.1	18.9	17.1	17.3
35 to 44	34,784	44,299	41,699	41,791	9,515	–2,600	92	2.4	–.6	.0	18.8	21.6	17.8	16.1
45 to 54	24,004	34,373	43,960	42,017	10,369	9,587	-1,943	3.7	2.5	–.5	13.0	16.7	18.8	16.2
55 and older	50,253	54,533	70,652	91,646	4,280	16,119	20,994	.8	2.6	2.6	27.2	26.6	30.2	35.4
55 to 64	21,641	22,296	33,491	42,192	655	11,195	8,701	.3	4.2	2.3	11.7	10.9	14.3	16.3
65 to 74	17,515	17,947	19,881	29,668	432	1,934	9,787	.2	1.0	4.1	9.5	8.7	8.5	11.5
75 and older	11,097	14,290	17,281	19,786	3,193	2,991	2,505	2.6	1.9	1.4	6.0	7.0	7.4	7.6
Men, 16 years and older	87,857	98,758	113,113	125,695	10,901	14,355	12,582	1.2	1.4	1.1	47.6	48.1	48.4	48.5
16 to 24	16,233	16,772	18,909	19,515	539	2,137	606	.3	1.2	.3	8.8	8.2	8.1	7.5
16 to 19	7,304	7,968	8,660	8,795	664	692	135	.9	.8	.2	4.0	3.9	3.7	3.4
20 to 24	8,931	8,804	10,249	10,720	–127	1,445	471	–.1	1.5	.5	4.8	4.3	4.4	4.1
25 to 54	49,570	57,724	62,078	63,733	8,154	4,354	1,655	1.5	.7	.3	26.9	28.1	26.6	24.6
25 to 34	20,937	19,094	19,999	22,258	–1,843	905	2,259	–.9	.5	1.1	11.3	9.3	8.6	8.6
35 to 44	17,008	21,857	20,567	20,766	4,849	–1,290	199	2.5	–.6	.1	9.2	10.7	8.8	8.0
45 to 54	11,625	16,773	21,512	20,709	5,148	4,739	–803	3.7	2.5	–.4	6.3	8.2	9.2	8.0
55 and older	22,052	24,262	32,125	42,447	2,210	7,863	10,322	1.0	2.8	2.8	11.9	11.8	13.7	16.4
55 to 64	10,193	10,649	16,123	20,325	456	5,474	4,202	.4	4.2	2.3	5.5	5.2	6.9	7.9
65 to 74	7,773	8,074	9,158	13,825	301	1,084	4,667	.4	1.3	4.2	4.2	3.9	3.9	5.3
75 and older	4,086	5,539	6,844	8,297	1,453	1,305	1,453	3.1	2.1	1.9	2.2	2.7	2.9	3.2
Women, 16 years and older	96,756	106,462	120,675	133,210	9,706	14,213	12,535	1.0	1.3	1.0	52.4	51.9	51.6	51.5
16 to 24	16,727	16,466	18,575	19,252	–261	2,109	677	–.2	1.2	.4	9.1	8.0	7.9	7.4
16 to 19	7,224	7,676	8,415	8,563	452	739	148	.6	.9	.2	3.9	3.7	3.6	3.3
20 to 24	9,503	8,790	10,160	10,689	–713	1,370	529	–.8	1.5	.5	5.1	4.3	4.3	4.1
25 to 54	51,828	59,725	63,574	64,759	7,897	3,849	1,185	1.4	.6	.2	28.1	29.1	27.2	25.0
25 to 34	21,674	19,683	19,994	22,426	–1,991	311	2,432	–1.0	.2	1.2	11.7	9.6	8.6	8.7
35 to 44	17,776	22,442	21,132	21,024	4,666	–1,310	–108	2.4	–.6	–.1	9.6	10.9	9.0	8.1
45 to 54	12,378	17,600	22,448	21,308	5,222	4,848	–1,140	3.6	2.5	–.5	6.7	8.6	9.6	8.2
55 and older	28,201	30,271	38,527	49,199	2,070	8,256	10,672	.7	2.4	2.5	15.3	14.8	16.5	19.0
55 to 64	11,448	11,646	17,367	21,868	198	5,721	4,501	.2	4.1	2.3	6.2	5.7	7.4	8.4
65 to 74	9,742	9,873	10,723	15,842	131	850	5,119	.1	0.8	4.0	5.3	4.8	4.6	6.1
75 and older	7,010	8,752	10,437	11,489	1,742	1,685	1,052	2.2	1.8	1.0	3.8	4.3	4.5	4.4
White, 16 years and older	158,194	171,178	189,540	205,278	12,984	18,362	15,738	.8	1.0	.8	85.7	83.4	81.1	79.3
Men	75,855	83,352	92,725	100,948	7,497	9,373	8,223	.9	1.1	.9	41.1	40.6	39.7	39.0
Women	82,340	88,126	96,814	104,331	5,786	8,688	7,517	.7	.9	.8	44.6	42.9	41.4	40.3
Black, 16 years and older	20,692	24,373	27,843	31,991	3,681	3,470	4,148	1.7	1.3	1.4	11.2	11.9	11.9	12.4
Men	9,289	10,927	12,516	14,576	1,638	1,589	2,060	1.6	1.4	1.5	5.0	5.3	5.4	5.6
Women	11,402	13,446	15,328	17,415	2,044	1,882	2,087	1.7	1.3	1.3	6.2	6.6	6.6	6.7
Asian, 16 years and older	5,725	9,369	10,751	14,383	3,644	1,382	3,632	5.0	1.4	3.0	3.1	4.6	4.6	5.6
Men	2,714	4,479	5,112	6,637	1,765	633	1,525	5.1	1.3	2.6	1.5	2.2	2.2	2.6
Women	3,011	4,890	5,639	7,746	1,879	749	2,107	5.0	1.4	3.2	1.6	2.4	2.4	3.0

Table 2. Continued—Civilian noninstitutional population, by age, sex, race, and ethnicity, 1988, 1998, 2008, and projected 2018

[Numbers in thousands]

Group	Level				Change			Annual growth rate (percent)			Percent distribution			
	1988	1998	2008	2018	1988–98	1998–2008	2008–18	1988–98	1998–2008	2008–18	1988	1998	2008	2018
All other groups[1]	–	–	5,654	7,253	–	–	1,599	–	–	2.5	–	–	2.4	2.8
Men	–	–	2,760	3,534	–	–	774	–	–	2.5	–	–	1.2	1.4
Women	–	–	2,894	3,719	–	–	825	–	–	2.5	–	–	1.2	1.4
Hispanic origin, 16 years and older	13,325	21,070	32,141	43,525	7,745	11,071	11,384	4.7	4.3	3.1	7.2	10.3	13.7	16.8
Men	6,604	10,734	16,524	21,803	4,130	5,790	5,279	5.0	4.4	2.8	3.6	5.2	7.1	8.4
Women	6,721	10,335	15,616	21,722	3,614	5,281	6,106	4.4	4.2	3.4	3.6	5.0	6.7	8.4
Other than Hispanic origin, 16 years and older	171,288	184,150	201,647	215,381	12,862	17,497	13,734	.7	.9	.7	92.8	89.7	86.3	83.2
Men	81,253	88,024	96,589	103,892	6,771	8,565	7,303	.8	.9	.7	44.0	42.9	41.3	40.1
Women	90,035	96,127	105,059	111,488	6,092	8,932	6,429	.7	.9	.6	48.8	46.8	44.9	43.1
White non-Hispanic, 16 years and older	145,346	151,406	159,674	165,015	6,060	8,268	5,341	.4	.5	.3	78.7	73.8	68.3	63.7
Men	69,521	73,100	77,317	80,713	3,579	4,217	3,396	.5	.6	.4	37.7	35.6	33.1	31.2
Women	75,825	78,305	82,357	84,302	2,480	4,052	1,945	.3	.5	.2	41.1	38.2	35.2	32.6
Age of baby boomers	24 to 42	34 to 52	44 to 62	54 to 72	–	–	–	–	–	–	–	–	–	–

[1] 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.

rate of the older workers, influencing them to stay in the labor market for longer intervals. On the one hand, defined-benefit plans encourage retirement at an early age, before the plan's standard retirement age. On the other hand, defined-contribution pension plans are based on an individual's contribution, the employer's contribution, and the investment returns on those contributions. The structure of defined-contribution plans is such that the plans are age neutral and are indifferent to retirement age. However, under defined-contribution plans, the benefits increase with additional years of work. In 2008, more workers were covered by defined-contribution plans than defined-benefit plans.

In addition, the Age Discrimination in Employment Act was amended in 1986 to eliminate any mandatory retirement age. Also, today's older individuals are more educated than their counterparts in the past. In general, those with more years of higher education have higher participation rates in the labor market than those who are less educated. Finally, the current financial crisis has hit the retirement savings of all workers, including older workers, so these older workers may decide to stay in the labor market longer in order to replenish their retirement assets as markets recover. As a result, the labor force participation rate of older workers is expected to increase in the future.

Factors in the decreasing participation rate. After 60 years of steady increase, the overall labor force participation rate reached an all-time high of 67.1 percent between 1997 and 2000. Since 2001, however, the overall participation rate has been on a gradual decline, reaching 66.0 percent in 2008, the latest year for which CPS data are available. A number of factors are responsible for this recent downward pressure on the overall labor force participation rate:

- As the baby-boom generation has aged and moved from the prime age group to the older age group, the overall labor force participation rate has declined and will continue to do so in the future. In 2008,

Table 3. Civilian labor force participation rates by age, sex, race, and ethnicity, 1988, 1998, 2008, and projected 2018

[In percent]

Group	Participation rate				Percentage-point change			Annual growth rate		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18	1988–98	1998–2008	2008–18
Total, 16 years and older	65.9	67.1	66.0	64.5	1.2	–1.1	–1.5	0.2	–0.2	–0.2
16 to 24	68.4	65.9	58.8	54.5	–2.5	–7.1	–4.3	–.4	—1.1	–.8
16 to 19	55.3	52.8	40.2	33.8	–2.5	–12.6	–6.4	–.5	–2.7	–1.7
20 to 24	78.7	77.5	74.4	71.3	–1.2	–3.1	–3.1	–.2	–.4	–.4
25 to 54	82.9	84.1	83.1	82.5	1.2	–1.0	–.6	.1	–.1	–.1
25 to 34	83.3	84.6	83.3	82.4	1.3	–1.3	–.9	.2	–.2	–.1
35 to 44	84.6	84.7	84.1	83.2	.1	–.6	–.9	.0	–.1	–.1
45 to 54	79.6	82.5	81.9	81.7	2.9	–.6	–.2	.4	–.1	.0
55 and older	30.0	31.3	39.4	43.5	1.3	8.1	4.1	.4	2.3	1.0
55 to 64	54.6	59.3	64.5	68.1	4.7	5.2	3.6	.8	.8	.5
55 to 59	65.7	69.5	73.1	75.9	3.8	3.6	2.8	.6	.5	.4
60 to 64	43.4	46.8	54.1	59.7	3.4	7.3	5.6	.8	1.5	1.0
60 to 61	53.6	56.5	62.0	66.8	2.9	5.5	4.8	.5	.9	.7
62 to 64	36.3	39.9	47.2	54.7	3.6	7.3	7.5	1.0	1.7	1.5
65 and older	11.5	11.9	16.8	22.4	.4	4.9	5.6	.3	3.5	2.9
65 to 74	16.1	17.7	25.1	30.5	1.6	7.4	5.4	1.0	3.6	2.0
65 to 69	20.1	22.5	30.7	36.9	2.4	8.2	6.2	1.1	3.2	1.9
70 to 74	10.9	12.5	17.8	22.0	1.6	5.3	4.2	1.4	3.6	2.1
75 and older	4.2	4.7	7.3	10.3	.5	2.6	3.0	1.1	4.5	3.5
75 to 79	6.1	6.6	10.3	14.3	.5	3.7	4.0	.8	4.6	3.3
Men, 16 years and older	76.2	74.9	73.0	70.6	–1.3	–1.9	–2.4	–.2	–.3	–.3
16 to 24	72.4	68.4	61.0	56.3	–4.0	–7.4	–4.7	–.6	–1.1	–.8
16 to 19	56.9	53.3	40.1	33.2	–3.6	–13.2	–6.9	–.7	–2.8	–1.9
20 to 24	85.0	82.0	78.7	75.2	–3.0	–3.3	-3.5	–.4	–.4	–.5
25 to 54	93.6	91.8	90.5	89.9	–1.8	–1.3	–.6	–.2	–.1	–.1
25 to 34	94.3	93.2	91.5	90.6	–1.1	–1.7	–.9	–.1	–.2	–.1
35 to 44	94.5	92.6	92.2	92.0	–1.9	–.4	–.2	–.2	.0	.0
45 to 54	90.9	89.2	88.0	87.1	–1.7	–1.2	–.9	–.2	–.1	–.1
55 and older	39.9	39.1	46.0	48.0	–.8	6.9	2.0	–.2	1.6	.4
55 to 64	67.0	68.1	70.4	71.2	1.1	2.3	.8	.2	.3	.1
55 to 59	79.3	78.4	78.8	78.6	–.9	.4	–.2	–.1	.1	.0
60 to 64	54.4	55.4	59.9	63.1	1.0	4.5	3.2	.2	.8	.5
60 to 61	67.1	67.0	67.9	68.9	–.1	.9	1.0	.0	.1	.1
62 to 64	45.4	47.3	53.0	58.8	1.9	5.7	5.8	.4	1.1	1.0
65 and older	16.5	16.5	21.5	26.7	.0	5.0	5.2	.0	2.7	2.2
65 to 74	21.3	22.6	29.7	34.4	1.3	7.1	4.7	.6	2.8	1.5
65 to 69	25.8	28.0	35.6	40.3	2.2	7.6	4.7	.8	2.4	1.2
70 to 74	15.2	16.5	21.9	26.4	1.3	5.4	4.5	.8	2.9	1.9
75 and older	7.4	7.5	10.4	13.9	.1	2.9	3.5	.1	3.3	2.9
75 to 79	9.6	9.9	13.5	17.6	.3	3.6	4.1	.3	3.2	2.7
Women, 16 years and older	56.6	59.8	59.5	58.7	3.2	–.3	–.8	.6	–.1	–.1
16 to 24	64.5	63.3	56.5	52.7	–1.2	–6.8	–3.8	–.2	–1.1	–.7
16 to 19	53.6	52.3	40.2	34.4	–1.3	–12.1	–5.8	–.2	–2.6	–1.5
20 to 24	72.7	73.0	70.0	67.3	.3	–3.0	–2.7	.0	–.4	–.4
25 to 54	72.7	76.5	75.8	75.1	3.8	–.7	–.7	.5	–.1	–.1
25 to 34	72.7	76.3	75.2	74.2	3.6	–1.1	–1.0	.5	–.1	–.1
35 to 44	75.2	77.1	76.1	74.6	1.9	–1.0	–1.5	.2	–.1	–.2
45 to 54	69.0	76.2	76.1	76.6	7.2	–.1	.5	1.0	.0	.1
55 and older	22.3	25.0	33.9	39.5	2.7	8.9	5.6	1.1	3.1	1.5
55 to 64	43.5	51.2	59.1	65.3	7.7	7.9	6.2	1.6	1.4	1.0
55 to 59	53.3	61.3	67.7	73.3	8.0	6.4	5.6	1.4	1.0	.8
60 to 64	33.8	39.1	48.7	56.6	5.3	9.6	7.9	1.5	2.2	1.5
60 to 61	41.7	47.3	56.5	64.8	5.6	9.2	8.3	1.3	1.8	1.4
62 to 64	28.5	33.3	42.0	50.9	4.8	8.7	8.9	1.6	2.3	1.9
65 and older	7.9	8.6	13.3	18.9	.7	4.7	5.6	.9	4.5	3.6
65 to 74	11.9	13.7	21.1	27.1	1.8	7.4	6.0	1.4	4.4	2.5
65 to 69	15.4	17.8	26.4	33.9	2.4	8.6	7.5	1.5	4.0	2.5
70 to 74	7.5	9.3	14.3	18.3	1.8	5.0	4.0	2.2	4.4	2.5
75 and older	2.4	2.9	5.2	7.7	.5	2.3	2.5	1.9	6.0	4.0
75 to 79	3.8	4.2	7.9	11.7	.4	3.7	3.8	1.0	6.5	4.0

Table 3. Continued—Civilian labor force participation rates, by age, sex, race, and ethnicity, 1988, 1998, 2008, and projected 2018

[In percent]

Group	Participation rate				Percentage-point change			Annual growth rate		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18	1988–98	1998–2008	2008–18
Race:										
White	66.2	67.3	66.3	64.5	1.1	–1.0	–1.8	0.2	–0.1	–0.3
Men	76.9	75.6	73.7	71.1	–1.3	–1.9	–2.6	–.2	–.3	–.4
Women	56.4	59.4	59.2	58.2	3.0	–.2	–1.0	.5	.0	–.2
Black	63.8	65.6	63.7	63.3	1.8	–1.9	–.4	.3	–.3	–.1
Men	71.0	69.0	66.7	65.7	–2.0	–2.3	–1.0	–.3	–.3	–.1
Women	58.0	62.8	61.3	61.2	4.8	–1.5	–.1	.8	–.2	.0
Asian	65.0	67.0	67.0	65.0	2.0	.0	–2.0	.3	.0	–.3
Men	74.4	75.5	75.3	73.8	1.1	–.2	–1.5	.1	.0	–.2
Women	56.5	59.2	59.4	57.4	2.7	.2	–2.0	.5	.0	–.3
All other groups[1]	–	–	65.6	66.6	–	–	1.0	–	–	.2
Men	–	–	71.4	70.1	–	–	–1.3	–	–	–.2
Women	–	–	60.1	63.3	–	–	3.2	–	–	.5
Ethnicity:										
Hispanic origin	67.4	68.0	68.5	67.3	.6	.5	–1.2	.1	.1	–.2
Men	81.9	79.8	80.2	78.2	–2.1	.4	–2.0	–.3	.1	–.3
Women	53.2	55.6	56.2	56.4	2.4	.6	.2	.4	.1	.0
Other than Hispanic origin	65.8	67.0	65.6	63.9	1.2	–1.4	–1.7	.2	–.2	–.3
Men	75.7	74.3	71.7	68.9	-1.4	–2.6	–2.8	–.2	–.4	–.4
Women	56.8	60.3	60.0	59.2	3.5	–.3	–.8	.6	–.1	–.1
White non-Hispanic	66.1	67.2	65.9	64.7	1.1	–1.3	–1.2	.2	–.2	–.2
Men	76.4	75.0	72.4	70.7	–1.4	–2.6	–1.7	–.2	–.4	–.2
Women	56.7	59.9	59.8	59.0	3.2	–.1	–.8	.6	.0	–.1

[1] 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.

the baby-boom cohort was 44 to 62 years of age. In 2018, they will be 54 to 72 years old. In 2008, the participation rate of 25- to 54-year-olds was 83.1 percent, whereas the participation rate of those 55 years and older was 39.4 percent, less than half that for the prime age group. The movement of roughly 77 million baby boomers from participation rates above 80 percent to the significantly lower (less than 40 percent) participation rates of older age groups will significantly dampen the overall participation rate.

- The labor force participation of women seems to have peaked in 1999 and has been decreasing in the past 2 years. It is not expected to rebound to higher rates in the near future.

- The labor force participation rate of men has been steadily declining since its peak at the end of the 1940s. The increased availability of disability and Social Security benefits has been one factor. In addition, the structure of benefits and defined-benefit pension plans has been responsible for the early retirement of men in the past two decades. The downward trend of the men's participation rate is projected to continue in the future.

- The labor force participation rate of youths decreases in recessions and has declined considerably since the 2001 recession. With increasing school enrollments, more young people than ever are continuing their education in hopes of pursuing better paying careers and becoming more marketable.[10] As a result, the participation rate of youths is not projected to increase in the coming years.

In contrast to the factors producing decreasing trends of participation in the aforementioned groups, a number of factors have been responsible for an upward pressure on the overall labor force participation rate. However,

the strength of two factors has not been able to keep the overall rate from falling even further:

- The labor force participation rate of the 55-years-and-older age group has increased significantly since the mid-1990s. (See chart 3.) The participation rate of this group were relatively flat during the 1970s and 1980s. By 1988, the group's rate was 30.0 percent. In 1998, the rate increased again to 31.3 percent. A decade later, in 2008, the rate had risen significantly, to 39.4 percent. All the subgroups of the older age group, including 65- to 74-year-olds and those older than 75, experienced significant growth in their participation rates. (See chart 4.) In addition, chart 5 highlights the monthly participation rates of the 55-years-and-older group from January 2007 to August 2009, the last month for which data were available at the time this article was written.[11]

- The labor force participation rate of Hispanics and Asians has been increasing steadily in the past several decades. Compared with other groups, Hispanic and Asian men have very strong attachments to the labor market.

Labor force participation peaks between the ages of 25 and 54. In 2008, the participation rate of this age group was 83.1 percent. The BLS projects that this group's participation rate in 2018 will be 82.5 percent, a decline of 0.6 percentage point. The participation rate of the 55-and-older age group in 2008 was 39.4 percent, less than half of the activity rate of the prime age group. In 2018, the baby boomers will be between 54 and 72, and they will be past their strongest years of attachment to the labor market. Thus, the main factor in reducing the overall labor force participation rate in the next decade will be the aging of the baby-boom generation and its movement into the 55-and-older age group.

Over the next 10 years, decreases in participation rates are projected to be mainly in the young and prime age groups, together comprising those from 16 to 54 years of age. However, all the subgroups in the 55-and-older age group are projected to increase their participation rates. The strong growth of the older group's participation rates is a continuation of the trends of the last two decades. The BLS projects that the labor force participation rate of the 55-and-older age group will continue its strong growth and reach 43.5 percent by 2018. In particular, two subgroups of the older group—those 62 to 64 years and those 65 to 74 years—are projected to show strong growth in their participation rates. Chart 6 shows the labor force participation rates of youths, the prime age group, and older people in 1988–2008 and projected 2018 figures. Note that the increase in the labor force participation rates of older workers will not be able to compensate for the decreasing participation rates of the other age groups and, as a result, the overall labor force participation rate is projected to decrease by 1.5 percentage points between 2008 and 2018, dropping to 64.5 percent.

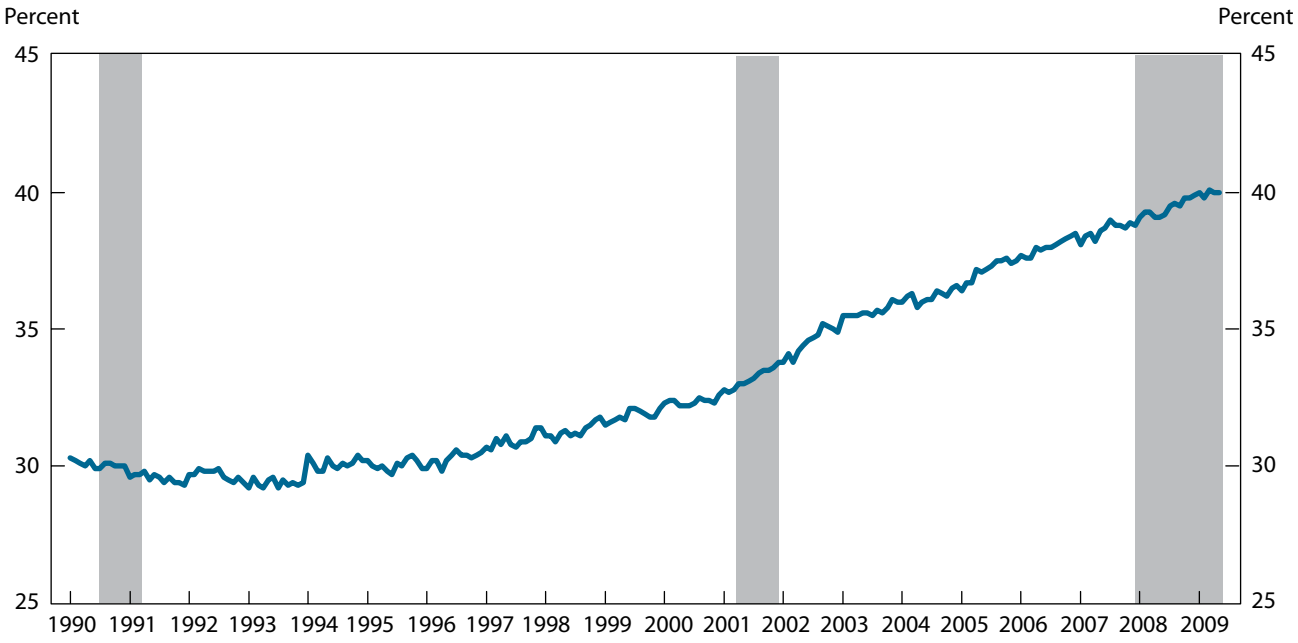
Demographic Patterns. Labor force participation rates follow different, but consistent, patterns over time across specific age groups, between the sexes, and among race and ethnic groups.

Age. Labor force participation is low for youths because some are still enrolled in school. Labor force participation increases during the prime working years (ages 25 to 54) and then declines sharply after age 55, as workers retire. For example, the participation rate was 58.8 percent in 2008 for persons aged 16 to 24 years, 83.1 percent for the prime age group, and 39.4 percent for the 55-and-older age groups.

Sex. Historically, the men's participation rate has exhibited a downward trend since at least the 1950s, while the women's rate has been steadily increasing. The long-term declines in the labor force participation rates of men in all age groups are expected to continue for a variety of reasons. With an increase in school attendance at all levels, especially the secondary school and college levels, labor force participation rates of the younger age groups—for both men and women—have decreased drastically. The increased availability of pensions and Social Security disability benefits beginning in the 1980s has resulted in a decrease in the activity rates of older men and encouraged their early retirement from the workforce. The slower-than-average labor market recovery since 2000 and the serious economic downturn and financial crisis of the most recent recession has contributed to a lower participation rate of men in the labor market, and this outcome is expected to continue to affect the labor market in the foreseeable future.

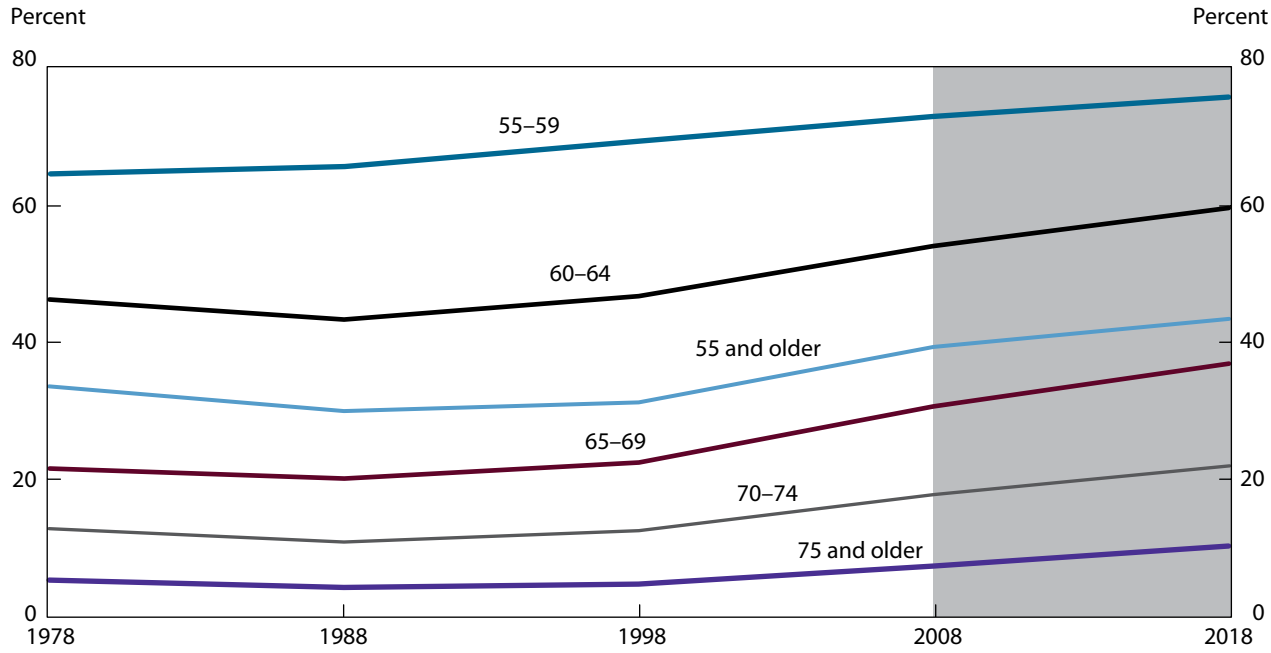
In addition, men are employed predominantly in the construction and manufacturing industries, both of which have been hit hard by the current economic slowdown. In 2008, men represented nearly 93 percent of employed workers in the construction industry and 72 percent in the manufacturing industries[12]. In contrast, women are

Chart 3. **Labor force participation rate of individuals 55 years and over**



NOTE: Shaded areas represent recessions.

Chart 4. **Labor force participation rates of older workers, 1978, 1988, 2008, and projected 2018**



NOTE: Shaded area represents projection.

Chart 5. **Monthly labor force participation rate, 55 years and older, January 2007 to August 2009**

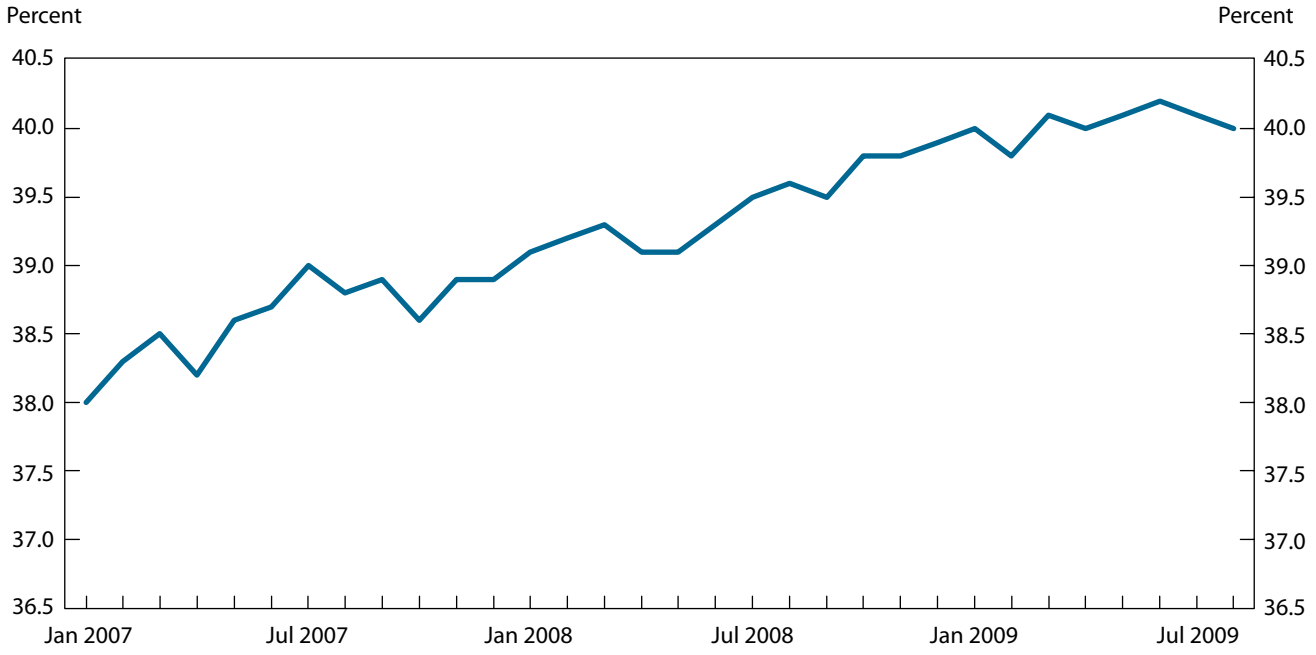
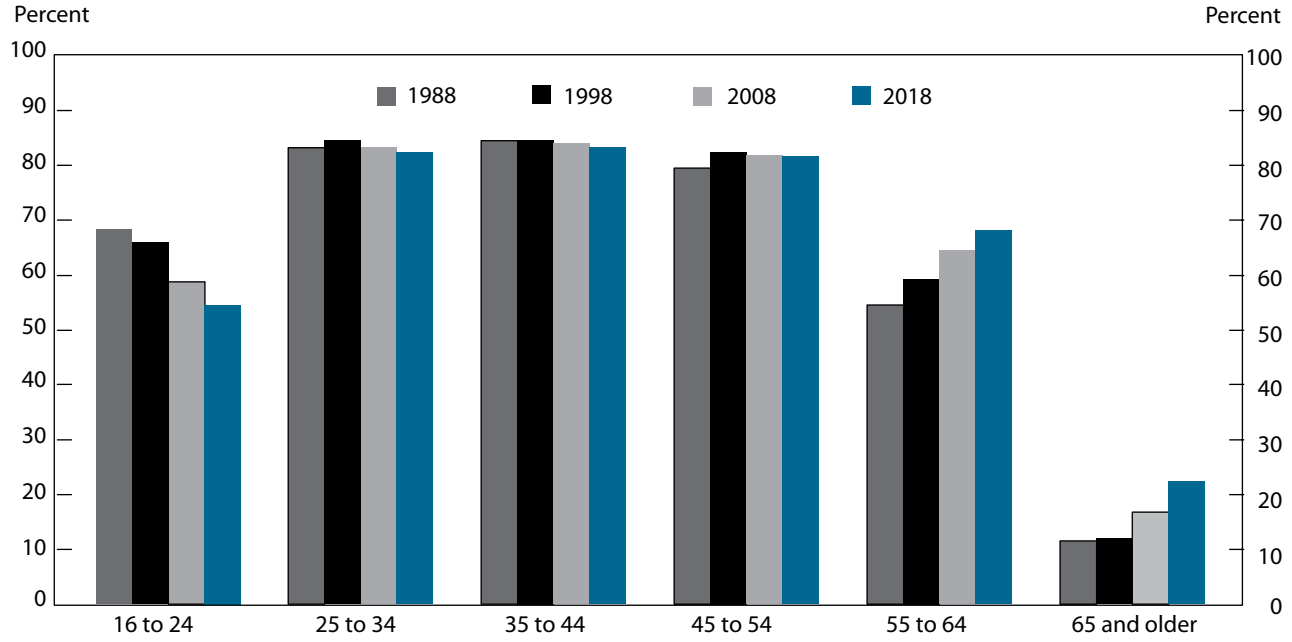


Chart 6. **Labor force participation rates by age, 1988, 1998, 2008, and projected 2018**



employed predominantly in the service sector, which has done relatively better during this recession. Moreover, women are more likely to work part time and without any benefits. During recessions, the probability of employees losing their jobs is less for workers in part-time jobs that do not offer benefits than for workers in full-time jobs with full benefits. Women, therefore, have had the ability to hold on to their part-time jobs.

Historically, men's participation rates, both in the aggregate and for the various age groups, have been higher than women's participation rates. This trend, however, has changed since 2006, when the labor force participation rates of 16-to-19-year-old women caught up with their male counterparts, at 43.7 percent. The participation rate for both teen groups will decline by 2018, but the women's participation will continue to be higher than that of men. The difference in rates by sex holds across race and Hispanic origin groups. (See table 3.)

1. *Men.* The decrease in the labor force participation rate of men is expected to continue over the next decade. The overall labor force participation rate of men is projected to drop by another 2.4 percentage points between 2008 and 2018 and is expected to reach 70.6 percent in 2018. Men in the 16-to-24 age group are projected to decrease their participation in the labor market from a rate of 61 percent in 2008 to 56.3 percent in 2018. The 25-to-54-year age cohort of men also is projected to decrease its participation rate to 89.9 percent by 2018, a decline of 0.6 percentage point from 2008. In contrast, the 55-and-older age group of men is projected to increase its participation rate by 2.0 percentage points from 46 percent in 2008 to 48 percent in 2018. Those in the 60-to-64-years age group also are anticipated to increase their participation rate—by 3.2 percentage points—and are expected to reach 63.1 percent in 2018. Even the older age group of 65- to 74-year-olds is expected to show an increase of 4.7 percentage points in its participation, reaching 34.4 percent in 2018.

2. *Women.* The labor force participation rate of women, which had displayed a pattern of steady increases in the past and peaked in 1999, is projected to decrease in the future. From its 2008 value of 59.5 percent the participation rate of women is projected to decline to 58.7 percent in 2018. Young women aged 16 to 24 years are expected to decrease their participation in the labor force from a rate of 56.5 percent in 2008 to 52.7 percent in 2018. Similarly, 25- to 54-year-old women are projected to decrease their participation rate to 75.1 percent in 2018, a loss of 0.7 percentage point from the 2008 rate. In contrast to the younger age groups, the 55-years-and-older age group of women is projected to have a significant increase of 5.6 percentage points, reaching 39.5 percent in 2018. Likewise, those in the 60-to-64-years group are anticipated to experience a significant increase—7.9 percentage points—in participation, attaining a rate of 56.6 percent in 2018. Even the older age group of 65- to 74-year-olds are expected to show an increase of 6.0 percent in their participation rates, reaching 27.1 percent in 2018.

Race and ethnic origin. Although the labor force participation rates of the various racial and ethnic categories are different, the differences usually are not as great as those observed for the different age and sex groups. Both participation rate changes and population growth for the various racial and ethnic categories result in substantial differences in their future labor force growth.

The data shown in the lower part of table 3 are duplicated in the following box, which shows the variation in, and ranking of, the various labor force participation rates by race in 2008 (the groups are ranked from 1, which signifies the highest labor force participation rates in 2008, to 4, the lowest).

Total	*Men*	*Women*	*Rank*
Hispanic	Hispanic	Black	1
Asian	Asian	White non-Hispanic	2
White non-Hispanic	White non-Hispanic	Asian	3
Black	Black	Hispanic	4

As the table indicates, the rankings of labor force participation rates by race and by sex are different. The overall Hispanic labor force participation rate and the rate for Hispanic men are the highest relative to men's rates in other racial and ethnic categories. Hispanic women, by contrast, have the lowest participation of all women in the workforce. The Hispanic population is younger relative to other race and ethnic groups and has a greater proportion

of workers at the ages with higher participation rates. The overall Asian participation rate and the rate of Asian men ranked second among the rates of all the race and ethnic groups. Asian women rank third among all women. Black women have the highest labor force participation rate among all race and ethnic groups of women, while both the overall black participation rate and the rate of black men were the lowest among all race and ethnic groups. The overall white non-Hispanic participation rate and the rate of non-Hispanic men were third among the race and ethnic groups, while white non-Hispanic women had the second-highest ranking among women. Interestingly, as a general pattern, the women's rankings were the reverse of both the men's rankings and the overall rankings.

These preceding examples, based on 2008 data, indicate that age, sex, and race are important in describing the complexities inherent in the future scenario of labor force participation. Although the overall labor force participation rates for men and women are projected to change during the next 10 years, the changes are not expected to alter the current ranking of the different racial and ethnic categories.

Significantly higher participation in the labor force by Hispanic men and Asians are expected to increase their shares of the labor force over the next 10 years, continuing the trend of even more racial and ethnic diversity in the labor force.

Labor force growth

Labor force growth has always been a significant factor in the growth of the U.S. economy. Over the 2008–18 period, the U.S. population is expected to grow at a slower rate than it did in the previous decade, and the labor force participation rate is projected to decrease from its 2008 value. Both factors indicate a slowdown of labor force growth during the next decade. The annual labor force growth over the 1988–98 period was 1.2 percent. The next decade saw labor force growth decline even further, to 1.1 percent. It is projected that, over the 2008–18 decade, the annual growth rate of the labor force will be a much lower 0.8 percent. The labor force grew by more than 16 million during each of the 1988–98 and 1998–2008 periods; it is expected to grow by a lesser 12.6 million over the next 10 years. (See table 4.)

Age. The rapid growth of the labor force during the 1988–98 period was brought about largely by the baby boomers' entrance into the prime working-age years. Another significant factor was the earlier mentioned increase in the labor force participation of women during that timeframe.

The youth labor force, which was about 22 million in 2008, is projected to be around 21 million in 2018, a decrease of more than 900,000 workers. The prime-age labor force is projected to increase its numbers by about 1.5 million over the 2008–18 timeframe. In this age group, the subgroup of workers aged 25 to 34 years is expected to increase by 3.5 million. Because 35- to 44-year-olds and 44- to 54-year-olds, members of the baby bust generation, are each projected to have a reduction in their labor force numbers, the overall prime age group will grow by just 0.1 percent annually.

The older workers' labor force, which has experienced the fastest rates of population growth and the greatest increases in labor force participation, is expected to grow by nearly 12 million in the next decade. Within that group, 55- to 64-year-olds are expected to add more than 7 million to their 2008 numbers, and 65- to 74-year-olds are projected to increase their numbers by more than 4 million. The labor force cohort of those 75 years and older is projected to grow by nearly 800,000. As a result of the rising shares of the older age groups in the labor force, the 55-years-and-older labor force is anticipated to increase its share to nearly 24 percent of the total labor force. Similarly, the share held by 55- to 64-year-olds is projected to increase to about 17 percent, while that of 65- to 74-year-olds is expected to grow to 5.4 percent. Even the 75-years-and-older labor force is projected to increase its share to 1.2 percent of the total labor force.

Sex. The men's labor force grew by 10.5 percentage points in the 1988–98 timeframe. The growth rate then increased to 11.6 percentage points between 1998 and 2008. As women's labor force participation rates rose significantly during the 1988–98 period, the women's labor force increased by more than 16 percentage points. The growth rate was still an impressive 12.6 percentage points during the 1998–2008 period.

Labor force growth for men was less than that for women in the past two decades. Following the trends of the past 20 years, the labor force growth rates of both men and women are projected to slow, with the men's labor force projected to grow more slowly than the women's. The slowing labor force growth rates result from more gradual population growth and decreasing participation rates for both groups. The men's labor force is projected to have a 0.7-percent annual growth rate, while the women's is expected to grow by 0.9 percent. The women's share of the labor force is projected to increase from 46.5 percent to 46.9 percent, and the men's share is projected to de-

Table 4. Civilian labor force, by age, sex, race, and ethnicity, 1988, 1998, 2008, and projected 2018

[Numbers in thousands]

Group	Level				Change			Percent change			Percent distribution				Annual growth rate (percent)		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18	1988–98	1998–2008	2008–18	1988	1998	2008	2018	1988-98	1998-2008	2008-18
Total, 16 years and older	121,669	137,673	154,287	166,911	16,004	16,614	12,624	13.2	12.1	8.2	100.0	100.0	100.0	100.0	1.2	1.1	0.8
16 to 24	22,536	21,894	22,032	21,131	–642	138	–901	–2.8	.6	–4.1	18.5	15.9	14.3	12.7	–.3	.1	–.4
16 to 19	8,031	8,256	6,858	5,868	225	–1,398	–990	2.8	–16.9	–14.4	6.6	6.0	4.4	3.5	.3	–1.8	–1.5
20 to 24	14,505	13,638	15,174	15,263	–867	1,536	89	–6.0	11.3	.6	11.9	9.9	9.8	9.1	–.6	1.1	.1
25 to 54	84,041	98,718	104,396	105,944	14,677	5,678	1,548	17.5	5.8	1.5	69.1	71.7	67.7	63.5	1.6	.6	.1
25 to 34	35,503	32,813	33,332	36,814	–2,690	519	3,482	–7.6	1.6	10.4	29.2	23.8	21.6	22.1	–.8	.2	1.0
35 to 44	29,435	37,536	35,061	34,787	8,101	–2,475	–274	27.5	–6.6	–.8	24.2	27.3	22.7	20.8	2.5	–.7	–.1
45 to 54	19,104	28,368	36,003	34,343	9,264	7,635	–1,660	48.5	26.9	–4.6	15.7	20.6	23.3	20.6	4.0	2.4	–.5
55 and older	15,092	17,062	27,858	39,836	1,970	10,796	11,978	13.1	63.3	43.0	12.4	12.4	18.1	23.9	1.2	5.0	3.6
55 to 64	11,808	13,215	21,615	28,754	1,407	8,400	7,139	11.9	63.6	33.0	9.7	9.6	14.0	17.2	1.1	5.0	2.9
65 to 74	2,814	3,179	4,985	9,045	365	1,806	4,060	13.0	56.8	81.4	2.3	2.3	3.2	5.4	1.2	4.6	6.1
75 and older	471	668	1,258	2,037	197	590	779	41.8	88.3	61.9	.4	.5	.8	1.2	3.6	6.5	4.9
Men, 16 years and older	66,927	73,959	82,520	88,682	7,032	8,561	6,162	10.5	11.6	7.5	55.0	53.7	53.5	53.1	1.0	1.1	.7
16 to 24	11,752	11,464	11,538	10,987	–288	74	–551	–2.5	.6	–4.8	9.7	8.3	7.5	6.6	–.2	.1	–.5
16 to 19	4,159	4,244	3,472	2,923	85	–772	–549	2.0	–18.2	–15.8	3.4	3.1	2.3	1.8	.2	–.0	–1.7
20 to 24	7,594	7,221	8,065	8,064	–373	844	–1	–4.9	11.7	.0	6.2	5.2	5.2	4.8	–.5	1.1	.0
25 to 54	46,382	53,002	56,202	57,309	6,620	3,200	1,107	14.3	6.0	2.0	38.1	38.5	36.4	34.3	1.3	.6	.2
25 to 34	19,742	17,796	18,302	20,173	–1,946	506	1,871	–9.9	2.8	10.2	16.2	12.9	11.9	12.1	–1.0	.3	1.0
35 to 44	16,074	20,242	18,972	19,109	4,168	–1,270	137	25.9	–6.3	0.7	13.2	14.7	12.3	11.4	2.3	–.6	.1
45 to 54	10,566	14,963	18,928	18,027	4,397	3,965	–901	41.6	26.5	-4.8	8.7	10.9	12.3	10.8	3.5	2.4	–.5
55 and older	8,793	9,493	14,780	20,386	700	5,287	5,606	8.0	55.7	37.9	7.2	6.9	9.6	12.2	.8	4.5	3.3
55 to 64	6,831	7,253	11,345	14,479	422	4,092	3,134	6.2	56.4	27.6	5.6	5.3	7.4	8.7	.6	4.6	2.5
65 to 74	1,657	1,826	2,724	4,753	169	898	2,029	10.2	49.2	74.5	1.4	1.3	1.8	2.8	1.0	4.1	5.7
75 and older	304	413	711	1,154	109	298	443	35.9	72.2	62.3	.2	.3	.5	.7	3.1	5.6	5.0
Women, 16 years and older	54,742	63,714	71,767	78,229	8,972	8,053	6,462	16.4	12.6	9.0	45.0	46.3	46.5	46.9	1.5	1.2	.9
16 to 24	10,783	10,430	10,494	10,144	–353	64	–350	–3.3	.6	–3.3	8.9	7.6	6.8	6.1	–.3	.1	–.3
16 to 19	3,872	4,012	3,385	2,946	140	–627	–439	3.6	–15.6	–13.0	3.2	2.9	2.2	1.8	.4	–1.7	–1.4
20 to 24	6,910	6,418	7,109	7,198	–492	691	89	–7.1	10.8	1.3	5.7	4.7	4.6	4.3	–.7	1.0	.1
25 to 54	37,659	45,716	48,195	48,635	8,057	2,479	440	21.4	5.4	.9	31.0	33.2	31.2	29.1	2.0	.5	.1
25 to 34	15,761	15,017	15,030	16,641	–744	13	1,611	–4.7	.1	10.7	13.0	10.9	9.7	10.0	–.5	.0	1.0
35 to 44	13,361	17,294	16,089	15,678	3,933	–1,205	–411	29.4	–7.0	–2.6	11.0	12.6	10.4	9.4	2.6	–.7	–.3
45 to 54	8,537	13,405	17,075	16,316	4,868	3,670	–759	57.0	27.4	–4.4	7.0	9.7	11.1	9.8	4.6	2.4	–.5
55 and older	6,301	7,569	13,078	19,449	1,268	5,509	6,371	20.1	72.8	48.7	5.2	5.5	8.5	11.7	1.9	5.6	4.0
55 to 64	4,977	5,962	10,270	14,275	985	4,308	4,005	19.8	72.3	39.0	4.1	4.3	6.7	8.6	1.8	5.6	3.3
65 to 74	1,157	1,352	2,261	4,291	195	909	2,030	16.9	67.2	89.8	1.0	1.0	1.5	2.6	1.6	5.3	6.6
75 and older	167	255	547	883	88	292	336	52.7	114.5	61.4	.1	.2	.4	.5	4.3	7.9	4.9
White	104,756	115,415	125,635	132,490	10,659	10,220	6,855	10.2	8.9	5.5	86.1	83.8	81.4	79.4	1.0	.9	.5
Men	58,317	63,034	68,351	71,731	4,717	5,317	3,380	8.1	8.4	4.9	47.9	45.8	44.3	43.0	.8	.8	.5
Women	46,439	52,380	57,284	60,759	5,941	4,904	3,475	12.8	9.4	6.1	38.2	38.0	37.1	36.4	1.2	.9	.6
Black	13,205	15,982	17,740	20,244	2,777	1,758	2,504	21.0	11.0	14.1	10.9	11.6	11.5	12.1	1.9	1.0	1.3
Men	6,596	7,542	8,347	9,579	946	805	1,232	14.3	10.7	14.8	5.4	5.5	5.4	5.7	1.3	1.0	1.4
Women	6,609	8,441	9,393	10,665	1,832	952	1,272	27.7	11.3	13.5	5.4	6.1	6.1	6.4	2.5	1.1	1.3
Asian	3,718	6,278	7,202	9,345	2,560	924	2,143	68.9	14.7	29.8	3.1	4.6	4.7	5.6	5.4	1.4	2.6
Men	2,017	3,383	3,852	4,895	1,366	469	1,043	67.7	13.9	27.1	1.7	2.5	2.5	2.9	5.3	1.3	2.4
Women	1,701	2,895	3,350	4,450	1,194	455	1,100	70.2	15.7	32.8	1.4	2.1	2.2	2.7	5.5	1.5	2.9

Table 4. Continued—Civilian labor force, by age, sex, race, and ethnicity, 1988, 1998, 2008, and projected 2018

[Numbers in thousands]

Group	Level				Change			Percent change			Percent distribution				Annual growth rate (percent)		
	1988	1998	2008	2018	1988–98	1998–2008	2008–18	1988–98	1998–2008	2008–18	1988	1998	2008	2018	1988–98	1998–2008	2008–18
All other groups[1]	–	–	3,710	4,832	–	–	1,122	–	–	30.2	–	–	2.4	2.9	–	–	2.7
Men	–	–	1,970	2,477	–	–	507	–	–	25.7	–	–	1.3	1.5	–	–	2.3
Women	–	–	1,740	2,355	–	–	615	–	–	35.3	–	–	1.1	1.4	–	–	3.1
Hispanic origin	8,982	14,317	22,024	29,304	5,335	7,707	7,280	59.4	53.8	33.1	7.4	10.4	14.3	17.6	4.8	4.4	2.9
Men	5,409	8,571	13,255	17,051	3,162	4,684	3,796	58.5	54.6	28.6	4.4	6.2	8.6	10.2	4.7	4.5	2.6
Women	3,573	5,746	8,769	12,253	2,173	3,023	3,484	60.8	52.6	39.7	2.9	4.2	5.7	7.3	4.9	4.3	3.4
Other than Hispanic origin	112,687	123,356	132,263	137,607	10,669	8,907	5,344	9.5	7.2	4.0	92.6	89.6	85.7	82.4	.9	.7	.4
Men	61,518	65,388	69,265	71,631	3,870	3,877	2,366	6.3	5.9	3.4	50.6	47.5	44.9	42.9	.6	.6	.3
Women	51,169	57,968	62,998	65,976	6,799	5,030	2,978	13.3	8.7	4.7	42.1	42.1	40.8	39.5	1.3	.8	.5
White non-Hispanic	96,141	101,767	105,210	106,834	5,626	3,443	1,624	5.9	3.4	1.5	79.0	73.9	68.2	64.0	.6	.3	.2
Men	53,122	54,833	55,971	57,075	1,711	1,138	1,104	3.2	2.1	2.0	43.7	39.8	36.3	34.2	.3	.2	.2
Women	43,018	46,935	49,238	49,759	3,917	2,303	521	9.1	4.9	1.1	35.4	34.1	31.9	29.8	.9	.5	.1

[1] 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. Details may not sum to totals because of rounding.

crease from 53.5 percent to 53.1 percent, during the next decade.

In contrast to both prime age workers and the older labor force, the labor force of 16-to-24-year-old men had an annual decrease of 0.2 percent, and women of the same age group had an annual decrease of 0.3 percent, over the 1988–98 period. Both groups had a negligible positive growth rate of 0.1 percent the next decade. From 2008 to 2018, the growth rate is projected to become negative for both once again: an annual decrease of 0.5 percent for men and a 0.3-percent annual decline for women. As regards the prime age group, men had a growth rate of 1.3 percent and women experienced a growth rate of 2.0 percent between 1988 and 1998. In the next decade, the men's and women's growth rates converged at around 0.6 percent and 0.5 percent, respectively. The BLS expects that the growth rate of the prime age group of men and women will increase by negligible amounts during 2008–18.

The men's 55-years-and-older labor force had a growth rate of 0.8 percent in 1988–98 and a much stronger growth of 4.5 percent in 1998–2008. The BLS projects that over the 2008–18 period, the growth rate of the older men's labor force will be about 3.3 percent. Women in the 55-and-older age group had a stronger growth rate—1.9 percent—than their male counterparts over the 1988–98 timeframe and then experienced an even stronger growth rate of 5.6 percent from 1998 to 2008. The BLS expects that, over the next 10 years, older women's labor force participation will grow by 4.0 percent.

Race and Hispanic origin. White non-Hispanics were the largest group in the labor force in 1988, accounting for 79 percent of the total. However, this group had the lowest growth rate of all race and ethnic groups—0.6 percent—in 1988–98 and then fell to half of that rate—0.3 percent—in 1998–2008. The BLS projects that, in the next decade, the growth rate of this group will continue to decline, to 0.2 percent. The slower growth rate of the white non-Hispanic labor force, which has led the group to an increasingly smaller share in the total labor force over the last several decades, is a reflection of a variety of factors. First, the white non-Hispanic share of immigrants to the United States has declined considerably during the past two decades. Second, white non-Hispanic birthrates have been on the decline compared with those of other popula-

tion groups. Finally, white non-Hispanic men make up a significant share of the aging and retiring labor force each year. As a result of all three of the preceding factors, the white non-Hispanic share of the labor force decreased to 73.9 percent in 1998 and to 68.2 percent in 2008.

Asians, who make up the smallest share of the labor force, increased their share from 3.1 percent to 4.6 percent from 1988 to 1998 and then to 4.7 percent in 2008. The Asian labor force, which is projected to reach more than 9 million in 2018, will remain the smallest group in the labor force. Still, it is expected that Asians will have the second-highest annual rate of labor force growth of all the race and ethnic groups, 2.6 percent, increasing their share to 5.6 percent of the labor force. The highest labor force growth rate over the 2008–18 period will be that of Hispanics, projected at 2.9 percent annually. Hispanics increased their share of the total labor force from 7.4 percent to 10.4 percent over the 1988–98 period, and then to an even greater 14.3 percent in 2008. The BLS projects that the Hispanic share will increase yet further, to 17.6 percent of the total labor force by 2018. Blacks increased their share from 10.9 percent in 1988 to 11.6 percent in 1998 and to 11.5 percent over the next decade. The black labor force is projected to total more than 20 million and compose 12.1 percent of the labor force in 2018.

By 2018, because of Hispanics' younger population, higher fertility rates, and increased immigration, the Hispanic labor force is expected to reach 29 million. As a result of their divergent rates of growth of both population and labor force participation over the past several decades, the racial and ethnic groups that make up the U.S. labor force are projected to continue to show widely varying rates of growth.

Dynamic changes in the labor force

The labor force is projected to increase by 12.6 million during the 2008–18 timeframe. This growth is based on the dynamic changes that underlie the movement of workers into and out of the labor force. (See table 5.) From 2008–2018, changes are projected to emerge from three dynamic groups:

- Entrants—those who were not in the labor force in 2008, but will enter during the 2008–18 period and continue to be part of the labor force in 2018.
- Leavers—those who were in the labor force in 2008, but will leave during the 2008–18 period and will not be in the labor force in 2018.
- Stayers—those who were in the labor force in 2008 and will remain in it through 2018.[13]

The 2018 labor force will be different from today's labor force to the extent that the demographic composition of labor force entrants between 2008 and 2018 is different from the composition of those now in the labor force. During the 2008–18 period, the labor force will be affected by the demographic composition of those leaving, those entering, and those staying in the labor force.

The BLS projects that, between 2008 and 2018, 37.6 million workers will enter the labor force and 25 million will leave. (See chart 7.) These figures compare with 36 million entrants and 19.4 million leavers over the 1998–2008 period. The number of entrants into the labor force is anticipated to be around 1.6 million more than in the previous decade. However, 5.6 million more people are expected to leave the labor force, mainly as a result of aging and retirement. (See chart 8.) Continuing the trends of the previous decade, the entrants are projected to be mostly men. During the 2008–18 timeframe, more than 20 million men are expected to enter the labor force, compared with 17 million women. The leavers also are more likely to be men because the male labor force—especially white non-Hispanic men—has greater number of older workers than the women's labor force. According to BLS projections, 14.3 million men are projected to leave the labor force by 2018, resulting in a labor force of 88.7 million men. Similarly, 10.7 million women are projected to leave the workforce by 2018. Because relatively fewer women are expected to leave the labor force in 2008–18, the share of women in the overall labor force is projected to increase to 46.9 percent in 2018.

Race and Hispanic origin. The BLS projects that there will be nearly 28 million white entrants to the labor force between 2008 and 2018. The largest share is expected to be from the white non-Hispanic group, with 20.8 million entrants. However, the white non-Hispanic share of entrants is much smaller than the group's share of the labor force, reflecting the group's lower population growth, as a result of both lower birthrates and very little migration of white non-Hispanics into the United States. The result is relatively fewer labor force entrants and relatively more labor force leavers, a reflection of the aging of the white non-Hispanic men in the labor force. About 19 million white non-Hispanic workers are projected to leave over the 2008–18 period, resulting in the share of white non-Hispanics in the labor force falling to 64 percent in 2018—a drop of 4.2 percentage points from the 2008 share and

Table 5. Civilian labor force, entrants, leavers, and stayers, 1998, 2008, and projected 2018

[Numbers in thousands]

Group	1998	1998–2008			2008	2008–18			2018
		Entrants	Leavers	Stayers		Entrants	Leavers	Stayers	
Number,16 years and older									
Total	137,673	36,036	19,422	118,251	154,287	37,632	25,008	129,279	166,911
Men	73,959	19,551	10,990	62,969	82,520	20,429	14,267	68,253	88,682
Women	63,714	16,485	8,432	55,282	71,767	17,203	10,741	61,026	78,229
White	115,414	27,211	16,990	98,424	125,635	27,990	21,135	104,500	132,490
Men	63,034	15,100	9,783	53,251	68,351	15,554	12,174	56,177	71,731
Women	52,380	12,111	7,207	45,173	57,284	12,436	8,961	48,323	60,759
Black	15,983	4,347	2,590	13,393	17,740	5,403	2,899	14,841	20,244
Men	7,542	2,125	1,320	6,222	8,347	2,673	1,441	6,906	9,579
Women	8,441	2,222	1,270	7,171	9,393	2,730	1,458	7,935	10,665
Asian	6,278	1,908	984	5,294	7,202	2,837	694	6,508	9,345
Men	3,383	1,033	564	2,819	3,852	1,493	450	3,402	4,895
Women	2,895	875	420	2,475	3,350	1,344	244	3,106	4,450
All other groups	–	–	–	–	3,710	1,402	280	3,430	4,832
Men	–	–	–		1,970	709	202	1,768	2,477
Women	–	–	–	–	1,740	693	78	1,662	2,355
Hispanic origin	14,317	8,743	1,036	13,281	22,024	9,237	1,957	20,067	29,304
Men	8,571	5,274	590	7,981	13,255	5,078	1,282	11,973	17,051
Women	5,746	3,469	446	5,300	8,769	4,159	675	8,094	12,253
Other than Hispanic	123,356	27,293	18,386	104,970	132,263	28,395	23,051	109,212	137,607
Men	65,388	14,277	10,400	54,988	69,265	15,351	12,985	56,280	71,631
Women	57,968	13,016	7,986	49,982	62,998	13,044	10,066	52,932	65,976
White Non-Hispanic	101,768	19,598	16,157	85,611	105,209	20,847	19,222	85,987	106,834
Men	54,833	10,361	9,223	45,610	55,971	11,907	10,803	45,168	57,075
Women	46,935	9,237	6,934	40,001	49,238	8,940	8,419	40,819	49,759
Share (percent),16 years and older									
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Men	53.7	54.3	56.6	53.3	53.5	54.3	57.0	52.8	53.1
Women	46.3	45.7	43.4	46.7	46.5	45.7	43.0	47.2	46.9
White	83.8	75.5	87.5	83.2	81.4	74.4	84.5	80.8	79.4
Men	45.8	41.9	50.4	45.0	44.3	41.3	48.7	43.5	43.0
Women	38.0	33.6	37.1	38.2	37.1	33.0	35.8	37.4	36.4
Black	11.6	12.1	13.3	11.3	11.5	14.4	11.6	11.5	12.1
Men	5.5	5.9	6.8	5.3	5.4	7.1	5.8	5.3	5.7
Women	6.1	6.2	6.5	6.1	6.1	7.3	5.8	6.1	6.4
Asian	4.6	5.3	5.1	4.5	4.7	7.5	2.8	5.0	5.6
Men	2.5	2.9	2.9	2.4	2.5	4.0	1.8	2.6	2.9
Women	2.1	2.4	2.2	2.1	2.2	3.6	1.0	2.4	2.7
All other groups	–	–	–	–	2.4	3.7	1.1	2.7	2.9
Men	–	–	–	–	1.3	1.9	0.8	1.4	1.5
Women	–	–	–	–	1.1	1.8	0.3	1.3	1.4
Hispanic origin	10.4	24.3	5.3	11.2	14.3	24.5	7.8	15.5	17.6
Men	6.2	14.6	3.0	6.7	8.6	13.5	5.1	9.3	10.2
Women	4.2	9.6	2.3	4.5	5.7	11.1	2.7	6.3	7.3
Other than Hispanic	89.6	75.7	94.7	88.8	85.7	75.5	92.2	84.5	82.4
Men	47.5	39.6	53.5	46.5	44.9	40.8	51.9	43.5	42.9
Women	42.1	36.1	41.1	42.3	40.8	34.7	40.3	40.9	39.5
White Non-Hispanic	73.9	54.4	83.2	72.4	68.2	55.4	76.9	66.5	64.0
Men	39.8	28.8	47.5	38.6	36.3	31.6	43.2	34.9	34.2
Women	34.1	25.6	35.7	33.8	31.9	23.8	33.7	31.6	29.8

NOTE: 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. Details may not sum to totals because of rounding.

Chart 7. **Labor force entrants, 1998–2008 and projected 2008–18**

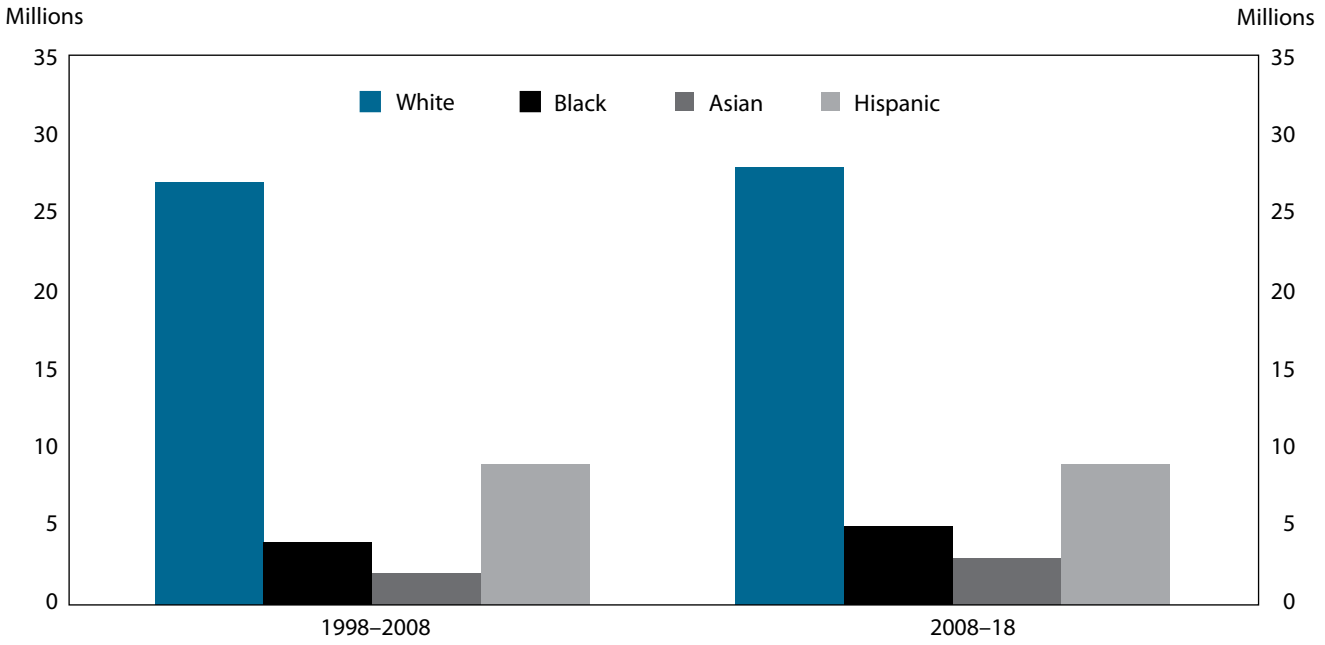
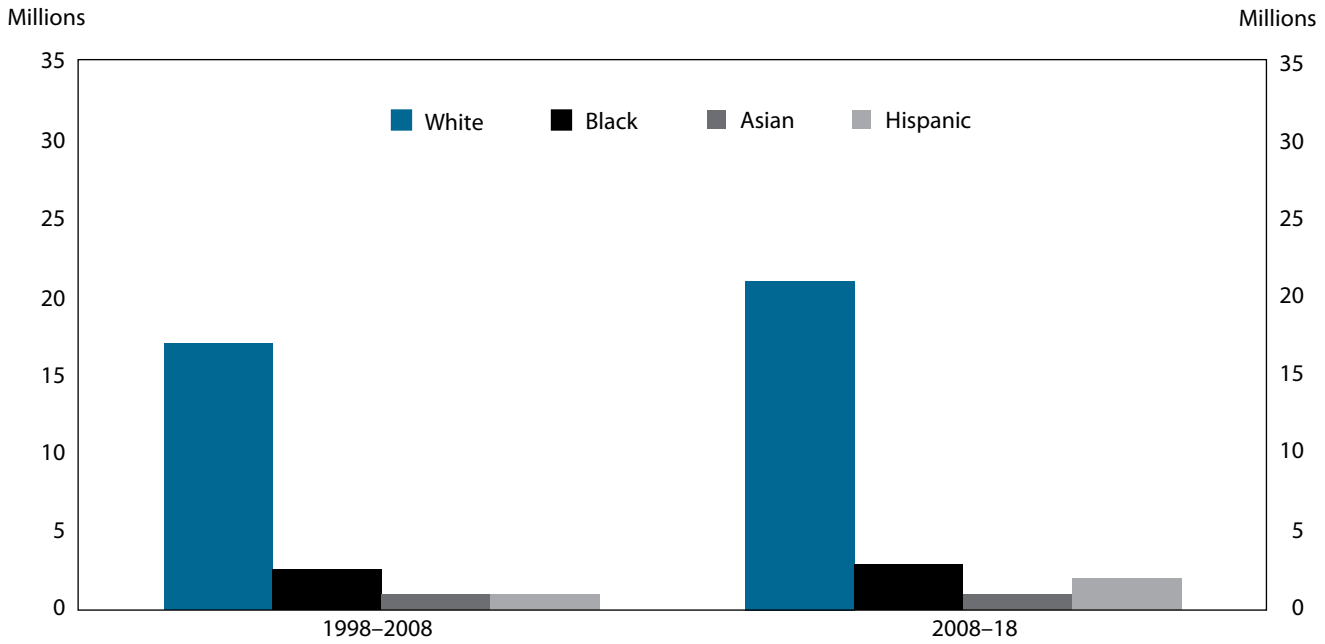


Chart 8. **Labor force leavers, 1998–2008 and projected 2008–18**



nearly 10 percentage points from the group's 1998 share. In the 1998–2008 period, white non-Hispanic men also had supplied the most entrants: 28.8 percent of all entrants. White non-Hispanic men made up 47.5 percent of job leavers.

Blacks are projected to add 2.5 million workers to the labor force between 2008 and 2018. The BLS expects that among new entrants during this period, 14.4 percent will be black, compared to 12.1 percent of the entrants during the 1998–2008 period. The black labor force is projected to grow slightly faster than the overall labor force because of higher-than-average birthrates and immigration.

In 1998, the Hispanics labor force made up 10.4 percent of the total labor force, with 14.3 million participants. Because of higher levels of immigration, some 8.7 million Hispanics entered the labor force during the 1998–2008 period. Over the same time span, just slightly more than one million Hispanics left the labor force, reflecting their group's relatively young age composition. By 2008, the Hispanic labor force numbered 22 million, making up 14.3 percent of the labor force. The Hispanic labor force is projected to grow by 7.3 million, increasing to a workforce of 29 million in 2018. Significantly more Hispanic labor force entrants, 9.2 million, and relatively fewer Hispanic labor force leavers, nearly 2 million, are projected during the 2008–18 timeframe. The Hispanic share of the labor force is expected to increase more than that of any other demographic group, because of both overall population growth—from higher births and increased immigration—and significantly higher labor force participation rates.

Currently, Asians have the least numbers of all the race and ethnic groups in the labor force. During the 2008–18 period, about 3 million Asians are projected to enter the labor force and about 694,000 are projected to leave. As a result, the share of Asians in the 2018 labor force is projected to be 5.6 percent. Increases in the number of Asians in the labor force reflect their continued high immigration and very high labor force participation rates.

The aging labor force

Gary Becker has called the increase in life expectancy over the last hundred years the "20th century's greatest gift."[14] As a result of increases in life expectancy, declines in birthrates, and trends toward longer and healthier lives, the U.S. population is getting older. There are different methods for analyzing the age structure of the population and labor force. One way is to compare the relative shares of younger workers (those in the 16-to-24-years age group) with the shares of older workers in the 55-and-older groups in the labor force. Alternatively, the 16-to-64 age group can be compared with the 65-and-older age groups. When the labor force share of the 65-and-older group increases or when the share of those less than 25 years of age decreases, the labor force becomes older. The third method is to calculate the median ages of the population and the labor force. The median age is an index that summarizes the age distribution of the labor force; it is the age such that half of the labor force is above it and half below. All these metrics point to the rapid aging of the U.S. population. This aging has a considerable effect on labor market behavior and its measures, such as the participation rate and unemployment.[15] As the baby-boom generation entered the labor force, the median age of the labor force decreased steadily until 1980. Since then, as the baby boomers have aged, so has the labor force. As a result, the median age of the labor force has been increasing. In 1962, it was 40.5 years, the highest level attained before the baby boomers entered the labor force. After that event, it dropped steadily until 1980, and it has been rising steadily since then, all in tandem with the aging of the baby boomers. With the population projected to continue aging as rapidly as in the past, the median age of the labor force in 2018 is expected to exceed the level reached in 1962. (See table 6.)

For much of the past six decades, the men's labor force has been older than the women's labor force. In 1998, however, the median age of the men's labor force was 38.8 years, and the median age of the women's was a very close 38.7 years. In 2008, the median age of the women's labor force, at 41.4 years, surpassed that of the men's, which stood at 41.0 years. The trend is expected to continue over the 2008–18 timeframe, with the median age of the women's labor force increasing by much more than that of the men's, reflecting not only the higher level of participation of older women, and the withdrawal of older men from the labor force.

Historically, white participants have been older than the rest of the labor force, and they will continue to be older in 2018. Compared with whites, blacks and Hispanics are younger, reflecting their higher birthrates and larger shares of young workers in the labor force. Hispanics are projected to continue to have a lower median age than the overall labor force, but their median age of 34.5 years in 1998 is expected to increase to 38.3 years in 2018, reflecting the aging of earlier immigrants.

Black participants have been about 1.5 to 2.5 years younger than the overall labor force, and this age gap is projected to continue through 2018. Asian labor force

Table 6. Median age of the labor force, by sex, race, and ethnicity, 1978, 1988, 1998, 2008, and projected 2018

Group	1978	1988	1998	2008	2018
Total	34.8	35.9	38.8	41.2	42.3
Men	35.5	36.2	38.8	41.0	41.9
Women	34.0	35.6	38.7	41.4	42.9
White	34.9	35.6	38.6	41.7	43.0
Black	33.4	33.3	36.4	39.1	39.9
Asian	33.6	35.3	37.0	40.6	42.8
Hispanic origin	31.1	31.3	34.5	36.2	38.3
White non-Hispanic	35.2	35.9	39.1	43.0	44.2

Table 7. Economic dependency ratio, by age ,1975–2008 and projected 2018

Group	1975	1988	1998	2008	2018
Total population	126.3	99.1	96.3	96.4	103.3
Under 16 years	61.4	45.2	43.3	43.1	43.5
16 to 64 years	44.2	31.8	30.8	31.0	34.7
65 years and older	20.7	22.1	22.2	22.3	25.1

participants have been slightly younger than the overall labor force, but this trend is expected to change by 2018.

Economic dependency

The economic dependency ratio is a measure of the number of persons in the total population (including the Armed Forces overseas and children) who are *not* in the labor force, per hundred of those who are. (See table 7.) In 2008, for every 100 persons in the labor force, 96 were not. Of those not in the labor force, about 43 were children, 31 were 16 to 64 years of age, and 22 were older than 64 years.

The economic dependency ratio for various age groups shows that the decrease in the overall rate from 1975 to 2008 is attributable to the change in the number of children. Since the 1970s, as the number of births diminished and the baby boomers aged beyond 16 years, the overall economic dependency ratio declined. Most of the 30-percentage-point drop in the ratio between 1975 and 2008 was due to the decline in the number of births.

The projected economic dependency ratios have several implications. That the portion of the ratio attributed to children is expected to continue decreasing implies that there will be fewer children per labor force participant in the future. The dependency ratio for the 16-to-64 age group dropped 13.2 percentage points, from 44.2 in 1975 to 31.0 in 2008. This ratio is projected to decrease, reflecting an expected decrease in participation among men and women between 16 and 64 years old.

The one part of the dependency ratio that has been steadily increasing is the portion attributable to older persons. In 1975, this was by far the smallest part of the dependency ratio, and it is still expected to be the smallest proportion by 2018. However, between 1975 and 2008, the older persons' dependency ratio grew, and it is projected to continue increasing, to 25 persons in 2018.

The growth of the U.S. labor force is projected to slow down in the next 10 years. With the aging of the overall U.S. population and the baby boomers, the share of older workers in the labor force is expected to increase. Because labor force participation rates decline significantly for the older age groups, the overall labor force participation rate and the growth of the labor force will decline. In contrast, the labor force participation rate of older workers has been increasing and is projected to continue to do so in the future. The growing labor force shares of Asians, blacks, and especially Hispanics have been an important development of the past several decades. Consequently, the 2018 labor force is projected to become much more diverse. Between 2008 and 2018, 37.6 mil-

lion workers are expected to enter the labor force, 25 million are anticipated to leave, and 129.3 million workers are expected to remain in the labor force. As a result, the labor force of 2018 is projected to be nearly 167 million, an increase of 12.6 million workers over the 2008 level. This increase represents a rate of growth of 0.8 percent, the same growth rate that was projected for the 2006–16 period. □

Notes

[1] The projections presented supersede those described by Mitra Toossi in "Labor Force projections to 2016: more workers in their golden years," *Monthly Labor Review*, November 2007, pp. 33–52. The BLS carries out labor force projections every 2 years based on the most recent demographic data.

[2] The civilian noninstitutional labor force consists of all employed and unemployed persons actively looking for a job. This group excludes inmates of mental and penal institutions and homes for the aged and persons who are on active duty in the Armed Forces. Historical data for this series are from the Current Population Survey (CPS), conducted by the Census Bureau for the Bureau of Labor Statistics.

[3] See Jessica R. Sincavage, "The labor force and unemployment: three generations of change," *Monthly Labor Review*, June 2004, pp. 34–41.

[4] Information about the Census Bureau's population projections is from the agency's Population Projections Program home page on the Internet at **www.census.gov/population/www/projections/2008projections.html** (visited November 24, 2009).

[5] The projections of the Armed Forces and institutional population according to age, sex, race, and ethnicity for 2008–18 are based on BLS assumptions.

[6] The CPS is a program of personal interviews conducted monthly by the Census Bureau for the BLS. The sample consists of about 60,000 households selected to represent the U.S. population 16 years and older.

[7] See David Brauer, *CBO's Projections of the Labor Force* (Congressional Budget Office, September 2004), pp. 3–17.

[8] See Edward W. Frees, *Summary of Social Security Administration Projections of the OASDI System Working Paper for the 2008 Technical Panel on Assumptions and Methods*. (Social Security Advisory Board, December 2008); see also J. Patrick Skirvin, "Accuracy of Social Security Administration labor force projections." 2007 Technical Panel on Assumptions and Methods (Social Security Advisory Board, 2007). Available on the Internet at **www.ssab.gov/documents/2007_TPAM_Report_Final_copy.pdf** (visited November 24, 2009).

[9] See Richard W. Johnson, *What Happens to Health Benefits after Retirement?An Issue in Brief.* (Boston, Center for Retirement Research at Boston College, February 2007).

[10] See Abraham Mosisa and Steven Hipple, "Trends in labor force participation in the United States," *Monthly Labor Review*, October 2006, pp. 35–57.

[11] Seasonally adjusted labor force participation rates from National labor force statistics (CPS) data are available on the Internet at **www.bls.gov/cps** (visited November 24, 2009).

[12] National labor force statistics (CPS) data are available on the Internet at **www.bls.gov/cps** (visited November 24, 2009).

[13] The numbers of 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 number of entrants. If the labor force numbers at the second point are smaller, the difference is said to be the number of leavers. These concepts understate the actual 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.

[14] Gary Becker, "Longer Life Was the Century's Greatest Gift," *Businessweek,* Jan. 31, 2000. Available on the Internet at **www.businessweek.com/archives/2000/b3666076.arc.htm** (visited November 24, 2009).

[15] Bruce Fallick, Charles Fleischman, and Jonathan Pringle, "The effect of population aging on the aggregate labor market," Labor in the New Economy, NBER, 2007. Available on the Internet at **www.bos.frb.org/economic/conf/conf52/conf52b.pdf** (visited November 24, 2009).

Employment outlook: 2008–2018

Industry output and employment projections to 2018

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

Rose A. Woods

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

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

Over the 2007-08 period, average annual employment fell by 803,900 jobs, down 0.5 percent over the year. Since 2008, further declines in employment have worsened the labor market. From December 2008 through August 2009, monthly employment (seasonally adjusted) for nonfarm wage and salary workers fell by more than 3.8 million jobs. These relatively large losses in employment since 2008 are not part of the analysis in the present article. Rather, the purpose of this article is to evaluate and present the long-term trends in industry employment, as well as the factors affecting these trends over the 10-year projection period from 2008 through 2018. Nevertheless, because of the relatively low levels for the base year employment, the projected growth rates over the 2008–18 period for some industries may be uncharacteristically high, as part of this growth will likely be due to the recovery of jobs lost during the recession.[4]

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

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

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

[1] 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.

[2] 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.

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

[4] Workers who hold a secondary wage and salary job in agricultural production, forestry, fishing, and private household industries.

[5] Wage and salary workers who hold a secondary job as a self-employed or unpaid family worker.

Projected industry employment is determined by a number of inputs, including projected industry output. BLS projects industry output to expand to $27.7 trillion (in chain-weighted 2000 dollars) by 2018, an increase of $6.7 trillion from 2008.[7] The resulting average annual growth rate of 2.8 percent is somewhat faster than the 2.1-percent rate experienced during the previous decade. Most growth is expected to come from service-providing sectors. Output in these sectors is projected to increase to $20.0 trillion by 2018, an average annual growth rate of 3.1 percent. As the growth rate is similar to the 3.0-percent rate of the 1998–2008 period, and is faster than

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

Output in the goods-producing sectors, excluding agriculture, and the agriculture, forestry, fishing and hunting sector is projected to grow at a 2.0-percent annual rate. This is an improvement from the previous decade, in which the recession at the end of the period negated any growth, resulting in a zero-percent growth rate for the goods-producing sectors, overall. Output in the agriculture, forestry, fishing and hunting sector is projected to grow at a 0.9-percent annual rate to reach $318.9 billion in 2018. Despite growth in these two sectors, neither is expected to outpace growth among service-providing industries. As a result, their respective shares of nominal output are expected to decline. (See table 2.)

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

In addition, changes within the various GDP com-

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

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

[1] Consists of nonproducing accounting categories to reconcile the input-output system with NIPA accounts.

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

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

Sector highlights

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

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

Due to continued productivity gains, output in the goods-producing sector is expected to paint a different picture than employment, as both construction and manufacturing are expected to have rising output. Specifically, output for the goods-producing sector is projected to increase 2.0 percent annually and reach $6.2 trillion by 2018. Manufacturing, the dominant major industry in the goods-producing sector, is projected to expand output 2.1 percent annually, reaching $4.9 trillion in 2018.

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

Service-providing sectors

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

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

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

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

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

The employment services industry, comprising employment placement agencies, temporary help services, and professional employer organizations, is projected to have one of the largest employment increases over the projection period. (See table 4.) This industry is expected to add 599,700 jobs and reach 3.7 million by 2018, an average annual rate of 1.8 percent. Output is projected to increase by $64.3 billion (3.2 percent annually) and reach $238.0 billion by 2018. The demand for temporary help services is expected to generate much of the growth. These services include the placement of temporary workers and those with specialized skills, such as health care staff needed to meet the needs of aging baby boomers. Demand for the services of professional employer organizations is also expected to drive growth. As companies face increasingly complex employee regulations, they are expected to shift responsibility for human resource and personnel management to these organizations to help control costs and reduce risks.

Health care and social assistance. Employment in health care and social assistance is projected to generate 4.0 million jobs, the second largest increase among all sectors. Employment in this sector is projected to reach 19.8 million in 2018, growing at an average annual rate of 2.3 percent, the second fastest among all sectors. The strong growth is driven largely by projected changes in demographics. The total number of persons aged 65 years and older is projected to increase from 38.7 million in 2008 to nearly 51.4 million in 2018; this age group will account for 15.3 percent of the total population in 2018, up from 12.7 percent in 2008.[16] 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,[17] and pressures to limit unnecessary or low-priority services will continue as well. Although cost pressures may dampen employment growth in hospitals, they are also expected to help drive demand for services provided by offices of health practitioners, home health care services, and individual and family services.

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

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

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

Table 4. Industries with the largest wage and salary employment growth and declines, 2008–18

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

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

2007 NAICS	Industry description	Sector	Billions of chained 2000 dollars		Change	Average annual rate of change
			2008	2018	2008–18	2008–18
	Fastest growing					
3341	Computer and peripheral equipment manufacturing	Manufacturing	200.5	967.3	766.8	17.0
5112	Software publishers	Information	194.9	529.6	334.7	10.5
518, 519	Data processing, hosting, related services, and other information services	Information	141.9	345.3	203.4	9.3
3343	Audio and video equipment manufacturing	Manufacturing	4.8	10.8	6.0	8.4
523	Securities, commodity contracts, and other financial investments and related activities	Financial activities	435.5	883.2	447.7	7.3
3391	Medical equipment and supplies manufacturing	Manufacturing	72.1	132.7	60.6	6.3
5417	Scientific research and development services	Professional and business services	159.0	288.5	129.5	6.1
8113	Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	Other services	22.8	40.7	17.9	6.0
3344	Semiconductor and other electronic component manufacturing	Manufacturing	173.4	308.7	135.3	5.9
3369	Other transportation equipment manufacturing	Manufacturing	12.6	21.9	9.3	5.7
517	Telecommunications	Information	480.3	822.3	342.0	5.5
5416	Management, scientific, and technical consulting services	Professional and business services	171.8	287.2	115.4	5.3
42	Wholesale trade	Wholesale trade	1,063.5	1,777.0	713.5	5.3
6242, 6243	Community and vocational rehabilitation services	Health care and social assistance	24.2	40.3	16.2	5.2
5617	Services to buildings and dwellings	Professional and business services	121.1	197.7	76.6	5.0
533	Lessors of nonfinancial intangible assets (except copyrighted works)	Financial activities	146.0	235.0	89.0	4.9
3371	Household and institutional furniture and kitchen cabinet manufacturing	Manufacturing	35.6	57.0	21.4	4.8
562	Waste management and remediation services	Professional and business services	67.0	104.8	37.8	4.6
6214, 6215, 6219	Outpatient, laboratory, and other ambulatory care services	Health care and social assistance	115.5	180.0	64.5	4.5
6211, 6212, 6213	Offices of health practitioners	Health care and social assistance	467.9	714.1	246.2	4.3
55	Management of companies and enterprises	Professional and business services	634.0	964.0	329.9	4.3
	Most rapidly declining					
NA	Federal enterprises except the Postal Service and electric utilities	Federal Government	10.9	6.7	–4.2	–4.7
3152	Cut and sew apparel manufacturing	Manufacturing	24.7	16.2	–8.5	–4.1
3314	Nonferrous metal (except aluminum) production and processing	Manufacturing	24.2	15.9	–8.3	–4.1
3151	Apparel knitting mills	Manufacturing	4.6	3.4	–1.2	–3.0
3122	Tobacco manufacturing	Manufacturing	64.8	49.7	–15.2	–2.6
3133	Textile and fabric finishing and fabric coating mills	Manufacturing	8.3	7.1	–1.2	–1.5
323	Printing and related support activities	Manufacturing	92.2	80.4	–11.9	–1.4
3222	Converted paper product manufacturing	Manufacturing	74.8	66.1	–8.7	–1.2
8122	Death care services	Other services	10.5	9.4	–1.1	–1.1
114	Fishing, hunting and trapping	Agriculture, forestry, fishing, and hunting	7.1	6.3	–.8	–1.1
3315	Foundries	Manufacturing	30.3	27.8	–2.5	–.9
3149	Other textile product mills	Manufacturing	6.4	5.9	–.5	–.8
3221	Pulp, paper, and paperboard mills	Manufacturing	66.9	62.2	–4.7	–.7
5111	Newspaper, periodical, book, and directory publishers	Information	127.0	119.6	–7.3	–.6
3332	Industrial machinery manufacturing	Manufacturing	33.6	32.1	–1.5	–.5
3313	Alumina and aluminum production and processing	Manufacturing	41.8	40.0	–1.9	–.5
3161, 3169	Leather and hide tanning and finishing, and other leather and allied product manufacturing	Manufacturing	3.8	3.6	–.1	–.4
8114	Personal and household goods repair and maintenance	Other services	14.3	13.7	–.5	–.4
3162	Footwear manufacturing	Manufacturing	7.8	7.5	–.3	–.4
211	Oil and gas extraction	Mining	125.6	121.9	–3.7	–.3
213	Support activities for mining	Mining	55.7	54.3	–1.4	–.3

Table 6. Industries with the largest output growth and declines, 2008–18

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

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

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

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

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

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

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

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

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

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

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

The data processing, hosting, related services, and other information services industry is also projected to be among those with the strongest employment growth, increasing at 3.8 percent annually, to reach 574,100 jobs by 2018. (See table 3.) Included in this industry are establishments that provide Web hosting, streaming services and application hosting and service provisioning. Establishments supplying information or storing and providing access to information, for the purpose of searching, publishing or broadcasting content are also included in this industry. These can include news syndicates, libraries, archives and Web search portals. Real output in the industry is projected to grow at an average annual rate of 9.3 percent, the third fastest increase among all industries. (See table 5.) Output is expected to increase by $203.4 billion over the projection period, placing this industry among those with the largest output increases and bringing output to $345.3 billion in 2018. (See table 6.) Internet publishing and broadcasting and Web search portals are expected to grow rapidly, as Web search portals continue to expand into major IT providers, and as Internet publishing and broadcasting gain market share from more traditional mediums.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Natural gas distribution is projected to lose 6,000 jobs over the projection period, resulting in an employment level of 100,800 in 2018, or an average annual decline of 0.6 percent. The projected job losses are partly the result of no output growth in the industry, which forces distributors to contain costs. Real output in the industry is expected to remain flat over the period, holding steady at a level of $67.1 billion in 2018. Industry consolidation has affected this industry significantly and will continue to do so. Further, new equipment that is more heavily automated means that fewer operators are needed to monitor these systems. The adoption of new technologies is costly, so companies are taking these steps gradually.

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

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

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

The State and local government sector is projected to

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

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

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

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

Goods-producing sectors

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

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

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

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

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

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

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

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

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

Mining. Employment in the mining sector is expected to reach 613,200 by 2018, down 103,800 from its 2008 level. As a whole, the mining sector is expected to experience an average annual decline in employment of 1.6 percent. Output is expected to decrease slightly at an average annual rate of 0.2 percent and reach $227.3 billion by 2018. Mining production is tied closely to prices and demand for the raw materials the industry produces. As prices for oil, gas, and metals have risen rapidly in recent years, production and employment in the industry have also grown. In the recent past, employment may have fluctuated due to changes in prices, but over the course of the projection period, prices are expected to stabilize, and output is expected to return to historic levels. Technological advances are expected to increase productivity and cause employment declines in the mining industry as a whole.

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

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

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

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

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

Construction. The construction industry, which is projected to add 1.3 million jobs by 2018 (1.7 percent annually), is the only major sector within the goods-producing sectors expected to show employment growth over the projection period. In fact, with employment expected to reach a level of 8.5 million in 2018, the construction sector is ranked first among the industries with largest projected increases in terms of employment growth. (See table 4.) The construction industry was hit particularly hard by the recession, as average annual employment for wage and salary workers fell by 415,100 jobs; this represents a 5.4-percent annual decline for the 2007-08 period.[24] From December 2008 through August 2009, employment for wage and salary workers fell by an additional 748,000 jobs. The relatively low starting point for 2008 contributes to the large change and relatively fast rate of growth for employment over the projection period. During the 1998–2008 period, the share of total employment represented by the construction industry rose from 4.4 percent to 4.8 percent. As employment in the construction industry is expected to grow at a faster rate than overall employment, the percent of all employees in the construction industry is expected to rise to 5.1 percent in 2018.

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

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

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

home improvement for existing structures, is expected to continue throughout the projection period.[25]

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

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

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

Within the manufacturing sector, 69 of the 84 industries reviewed are expected to experience employment declines over the projection period. The remaining 15 industries are projected to gain only 283,600 jobs from a base of 3.2 million jobs in 2008. As import competition increases and demand for some domestically manufactured products falls, declining output in some of these industries will contribute to the employment loss; 15 of the 84 manufacturing industries reviewed are expected to see a decrease in output during the 2008–18 period. As mentioned previously, output for the manufacturing sector is expected to expand, at 2.1 percent annually. Among these 69 expanding industries, 54 are projected to decrease employment, as improvements in their manufacturing processes will allow them to produce more output with fewer workers.

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

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

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

from rising in spite of rapidly rising output.

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

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

The transportation equipment manufacturing subsector, which includes motor vehicle and parts manufacturing, aerospace, railroad, and ship production, historically has been responsible for the largest share of manufacturing employment—approximately 12.0 percent in 2008. This subsector's share of employment within manufacturing is expected to remain mostly flat at 11.8 percent. Overall, employment in transportation equipment manufacturing is projected to fall by 169,200 jobs from 2008 to 2018, or an annual growth rate of –1.1 percent per year. Output is expected to expand at a rate of 2.5 percent per year over the 2008–18 period.

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

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

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

most important factors behind output and employment change.

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

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

The paper manufacturing and printing and related support activities subsectors are projected to lose a combined 203,100 jobs by 2018. As employment in paper manufacturing is projected to decline at a 2.7-percent rate and printing and related support activities falls 1.7 percent per year, declining output in these subsectors is driving much of this employment loss. This decrease reflects the increasing computerization of the printing process, growing imports of some types of printed products, and the expanding use of the Internet, which reduces the need for printed materials. Smaller firms are also consolidating in order to afford investment in new technology, and this development is expected to lead to further declines in employment.

Conclusion

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

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

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

Notes

[1] For a detailed description of the methods used in projecting Industry output and employment, see *BLS Handbook of Methods*, chapter 13, "Economic growth and employment projections," on the Internet at **http://www.bls.gov/opub/hom/pdf/homch13.pdf.**

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

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

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

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

[6] Throughout this article, unless otherwise noted, output refers to real output in chain-weighted 2000 dollars.

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

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

[9] For more information on projections for productivity index, see Kathryn Byun and Ian Wyatt, "The U.S. economy to 2018, from recession to recovery," this issue, pp. 11–29.

[10] *Ibid.*

[11] László Halpern, Miklós Koren and Adam Szeidl, "Imported Inputs and Productivity," Center for Firms in the Global Economy (CeFiG) Working Papers, no. 8, April 2009.

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

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

[14] Association of Management Consulting Firms, Global Consulting Leaders Symposium, "Delivering and Capturing Value in a Shifting Market," January 9, 2008.

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

[16] For more information on population and labor force projections, see Mitra Toossi, "Labor force projections to 2018, older workers staying more active," this issue, pp. 30–51.

[17] Kara Olsen, "Outpatient outlook," *Health Care Strategic Management,* March 2007, p. 7.

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

[19] For more information on macroeconomic projections, see Kathryn Byun and Ian Wyatt, "The U.S. economy to 2018, from recession to recovery," this issue, pp. 11–29.

[20] For more information, see Tabitha M. Bailey and William J. Hussar, "Projections of Education Statistics to 2017" (U.S. Department of Education, National Center for Education Statistics, Washington, DC, September 2008).

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

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

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

[24] For more information on industry job losses in 2008, see Laura A. Kelter, "Substantial job losses in 2008: weakness broadens and deepens across industries", *Monthly Labor Review*, March 2009.

[25] For more information on macroeconomic projections, see Kathryn Byun and Ian Wyatt, "The U.S. economy to 2018, from recession to recovery," this issue, pp. 11–29.

[26] The CES seasonally adjusted employment levels for manufacturing in August 2009 were 11.8 million, compared with the projected 12.2 million for 2018.

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

[28] John Markoff, "After the Transistor, a Leap into the Microcosm," *New York Times*, Aug. 31, 2009.

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

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

See footnotes at end of table.

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

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

See footnotes at end of table.

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

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

See footnotes at end of table.

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

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

See footnotes at end of table.

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

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

See footnotes at end of table.

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

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

See footnotes at end of table.

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

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

See footnotes at end of table.

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

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

See footnotes at end of table.

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

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

See footnotes at end of table.

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

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

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

[2] Comparable estimate of output growth is not available.

[3] Workers who hold a secondary wage and salary job in agricultural production, forestry, fishing, and private household industries.

[4] Wage and salary workers who hold a secondary job as a self-employed or unpaid family worker.

[5] 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.

[6] Output subcategories do not necessarily add to higher categories as a by product of chain-weighting.

NOTE: Dash indicates data not available.

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Employment outlook: 2008–18

Occupational employment projections to 2018

Professional and related occupations and service occupations are expected to create more new jobs than all other occupational groups from 2008 to 2018; in addition, growth will be faster among occupations for which postsecondary education is the most significant form of education or training, and, across all occupations, replacement needs will create many more job openings than will job growth

T. Alan Lacey
and
Benjamin Wright

The Bureau of Labor Statistics publishes long-term occupational employment projections every 2 years. Various factors affect occupational employment levels over time, including population and industry growth, technological advances, and changes in consumer demand. Total employment, a measure of all jobs in the U.S. economy, is projected to increase by 15.3 million over the 2008–18 period, representing a growth rate of 10.1 percent.[1] Among occupational groups, strong employment growth is expected in healthcare occupations and in computer-related occupations, whereas employment in production occupations as well as farming, fishing, and forestry occupations is expected to decline.

The first section of this article provides a brief overview of the BLS projections, including expectations for growth in the population, in the labor force, and in Gross Domestic Product (GDP). These factors, among others, influence occupational employment and provide context for the occupational projections. The second section of the article details employment projections for occupational groups and gives an overview of broad trends across these groups. The third section discusses education and training and how they relate to the projections, and includes statistics on employment change, job openings, and wages by education or training category. The fourth section details the projections for noteworthy individual occupations, including the occupations with the fastest projected rates of growth, those with the largest projected growth in numerical terms, and those with the greatest projected declines in numerical terms. The last section of this article provides information on job openings and on projected replacement needs, which refers to the demand that results when workers permanently leave an occupation.

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Overview of BLS projections

BLS publishes projections for a range of economic factors, including, but not limited to, the size and makeup of the labor force, the size of the economy, industry employment and output, and occupational employment. The occupational employment projections, the focus of this article, are partially dependent on expectations for the other aforementioned economic factors.

Over the 2008–18 projection period, the U.S. population will continue to experience significant demographic changes.[2] Whereas the number of people aged 16–54 is expected to increase more slowly than during the previous decade, the 55-and-older population is

expected to match its previous rate of growth, increasing by almost 21 million. As a result, the 55-and-older group will account for a larger share of the total population. Because the 55-and-older age group has a substantially lower labor force participation rate than the younger group, the labor force is expected to increase by only 12.6 million individuals from 2008 to 2018. This average annual rate of growth of 0.8 percent will be considerably slower than the 1.1-percent annual rate seen over the previous decade.

Changes in the population and labor force, along with other factors, affect the size of the economy, as well as the demand for goods and services. Real GDP is expected to increase at an average annual rate of 2.4 percent from 2008 to 2018, only slightly slower than the 2.5-percent annual rate seen over the previous 10 years.[3] BLS projects that several factors, such as slower growth in the labor force, a slower rate of growth in personal consumption expenditures, a higher savings rate, and a continued trade deficit will put downward pressure on GDP growth. However, relatively strong productivity growth, a rebound in the housing market, and continued demand for medical services will help to keep GDP growth at a rate similar to that of the previous decade.

On the basis of the expectations concerning population, labor force, and GDP growth, total employment growth is projected to be relatively slow. The projected 10.1-percent rate of employment growth can be attributed, in large part, to the anticipated slow growth of the labor force. Projected employment growth is higher than would otherwise be expected, however, as a result of the recession that began in December 2007. The analysis underlying BLS employment projections uses currently available information to focus on long-term structural changes in the economy. The 2008–18 projections assume a full-employment economy in 2018.[4] The impact of the most recent recession on the long-term structure of the economy will not be fully known until some point during or after the recovery. Because the 2008 starting point is a recession year, the projected growth to an assumed full-employment economy in 2018 will generally be stronger than if the starting point were not a recession year. This effect can have an impact on total employment, as well as on employment levels of individual occupational groups such as production occupations and construction and extraction occupations, both of which are largely in industries that were heavily affected by the recession.

Changes in U.S. demographics, as well as a dynamic business environment, will have implications for the demand for certain types of workers. As the 55-and-older age group accounts for a larger portion of the population, the demand for medical care will increase rapidly, leading to strong employment growth in healthcare and related occupations. In addition, as the U.S. business environment becomes increasingly competitive and organizations strive to increase efficiency and reduce costs through the use of information technology, computer and mathematical science occupations will see strong employment growth.

Total employment can be divided into two main segments: wage and salary workers, who work for other individuals or establishments, and the self-employed, who work for themselves. In 2008, approximately 9 of every 10 jobs were held by wage and salary workers, the remainder being held by the self-employed. Whereas wage and salary employment is expected to grow by 10.5 percent, increasing from 139.2 million to 153.8 million jobs, self-employment is projected to increase 5.5 percent over the 2008–18 decade, from 11.7 million to 12.4 million jobs.

Occupational groups

Employment change in occupational groups can point to broad trends in the economy. For example, as a result of changing demographics, demand for healthcare services is expected to increase rapidly, leading to strong employment growth in the occupational groups that provide such services. BLS publishes projections for 750 detailed occupations that are classified into 10 occupational groups.[5] (See table 1.) Among these groups, employment growth will vary considerably over the 2008–18 projection period. It is expected that the most rapid growth, estimated at 16.8 percent, will occur among professional and related occupations, while production occupations will see the fastest rate of decline, decreasing by 3.5 percent. Professional and related occupations are projected to add the largest number of new jobs—more than 5.2 million—whereas production occupations are expected to lose approximately 349,200.

Management, business, and financial occupations. The employment of management, business, and financial occupations is expected to increase by 10.6 percent, resulting in 1.7 million new jobs over the 2008–18 projection period. The workers in these occupations will be needed to help organizations navigate the increasingly complex and competitive business environment. Much of the projected growth will be in the fast-growing management, scientific, and technical consulting industry group. A substantial number of net jobs gains are expected in several large or rapidly growing sectors as well, including government, health care and social assistance, finance and insurance, and construction.

Table 1. Employment by occupational group, 2008 and projected 2018

(Numbers in thousands)

Code	2008 National Employment Matrix code and title	Employment		Percent distribution		Change, 2008–18	
		2008	2018	2008	2018	Numeric	Percent
00–0000	Total, all occupations	150,931.7	166,205.6	100.0	100.0	15,273.9	10.1
11–1300	Management, business, and financial occupations[1]	15,746.7	17,410.9	10.4	10.5	1,664.2	10.6
15–2900	Professional and related occupations[2]	31,053.5	36,280.0	20.6	21.8	5,226.5	16.8
31–3900	Service occupations[3]	29,575.9	33,645.1	19.6	20.2	4,069.2	13.8
41–0000	Sales and related occupations	15,902.7	16,883.1	10.5	10.2	980.4	6.2
43–0000	Office and administrative support occupation	24,100.6	25,942.7	16.0	15.6	1,842.1	7.6
45–0000	Farming, fishing, and forestry occupations	1,035.4	1,026.3	.7	.6	–9.1	–.9
47–0000	Construction and extraction occupations	7,810.3	8,828.8	5.2	5.3	1,018.6	13.0
49–0000	Installation, maintenance, and repair occupations	5,798.0	6,238.2	3.8	3.8	440.2	7.6
51–0000	Production occupations	10,083.0	9,733.9	6.7	5.9	–349.2	–3.5
53–0000	Transportation and material moving occupations	9,825.5	10,216.6	6.5	6.1	391.1	4.0

[1] Major occupational groups 11–0000 through 13–0000 in the 2000 Standard *Occupational Classification* (SOC).

[2] Major occupational groups 15–0000 through 29–0000 in the 2000 *Standard Occupational Classification* (SOC).

[3] Major Occupational groups 31–0000 through 39–0000 in the 2000 *Standard Occupational Classification* (SOC).

Employment in business and financial operations occupations, an occupational group within the management, business, and financial group, is projected to grow by 17.7 percent, resulting in 1.2 million new jobs. Increasing financial regulations and the need for greater accountability will drive demand for accountants and auditors, an occupation that is expected to add roughly 279,400 jobs from 2008 to 2018. In addition, an increasingly competitive business environment will result in greater demand for management analysts, an occupation that is anticipated to add 178,300 jobs. It estimated that, together, these two occupations will account for almost 4 in 10 new business and financial operations jobs.

Employment in management occupations, by contrast, is projected to grow more slowly, increasing by 5.1 percent, or 454,300 new jobs. This slow growth is, in part, the result of projected declines in two occupations: general and operations managers, the largest management occupation, is expected to decrease by about 0.1 percent, and farmers and ranchers, the second largest, is projected to decline by 8.0 percent. Aside from these two occupations, employment in all other management occupations combined is expected to increase by 8.2 percent from 2008 to 2018.

Professional and related occupations. The employment of professional and related occupations is expected to increase by 16.8 percent, resulting in 5.2 million new jobs over the projection period. It is estimated that more than 1.4 million new professional and related jobs will arise in the healthcare industry. In addition, more than 1.3 million are expected to be created in educational services, and more than 1.2 million are expected to be added in the rapidly growing professional, scientific, and technical services industry sector.

Employment among healthcare practitioner and technical occupations, an occupational group within the professional and related category, is expected to increase by 21.4 percent. (See table 2.) This growth, which, according to projections, will result in almost 1.6 million new jobs, will be driven by an increasing demand for healthcare services. As the number of older people continues to grow and as new developments allow for the treatment of more medical conditions, more healthcare professionals will be needed. With roughly 581,500 new jobs anticipated for the projection period, the most of any single occupation in the economy, registered nurses will account for more than one-third of the growth in this occupational group. Licensed practical and licensed vocational nurses, as well as pharmacy technicians, also are expected to increase by a substantial number of jobs: roughly 155,600 and 99,800, respectively.

It is estimated that education, training, and library occupations will add more than 1.3 million jobs, representing a growth rate of more than 14.4 percent. As the U.S. population grows, large numerical increases will be seen for primary, secondary, and special education teachers, occupations which, together, are projected to contribute 647,300 jobs. In addition, as a larger share of adults seeks educational services, a substantial number of jobs for postsecondary teachers also will arise.

Computer and mathematical occupations are expected to add 785,700 new jobs from 2008 to 2018, and, as a group, they will grow more than twice as fast as the average for all occupations in the economy, according to projections. It is anticipated that computer specialists will account for the vast majority of this growth, increasing by 762,700 jobs. Demand for computer specialists will be driven by the continuing need for businesses, government agencies, and other organizations to adopt the latest technologies. It is projected that computer software applications engineers will increase by 175,100 jobs—more than the projected increase for any other type of computer specialists. Network systems and data communications analysts are projected to see an increase of 155,800 jobs. New computer specialist jobs will arise in almost every industry, but roughly half will be located in the computer systems design industry, which is expected to employ more than one in four computer specialists in 2018.

Employment in community and social services occupations is projected to increase by 16.5 percent, growing by roughly 448,400 jobs. As health insurance providers increasingly cover mental and behavioral health treatment, and as a growing number of elderly individuals seek social services, demand for workers in these occupations will increase. It is estimated that counselors, social workers, and other community and social services specialists will account for roughly 349,700 of the new jobs and that religious workers will account for about 98,800.

It is projected that arts, design, entertainment, sports, and media occupations will see employment growth of roughly 12.1 percent from 2008 to 2018, resulting in 332,600 new jobs. This growth will be spread broadly across the occupations within this group. Media and communications-related occupations will add a substantial number of jobs, led by rapid growth among public relations specialists. These workers will be needed in greater numbers as firms place greater emphasis on managing their public image. Employment in the occupational group of entertainers and performers, sports and related occupations, also will increase, partly as a result of increasing demand for coaches and scouts. Furthermore, art and design occupations will see substantial growth as demand increases for graphic and interior designers. As more advertising is conducted over the Internet, a medium that generally includes many graphics, and as businesses and households increasingly seek professional design services, a greater number of these workers will be needed.

Employment in life, physical, and social science occupations is expected to increase by 277,200 jobs over the 2008–18 projection period. This increase represents a growth rate of 19.0 percent, almost twice the average for all occupations across the economy. It is anticipated that about 116,700 of the new jobs created will be in social science and related occupations and that there will be especially strong growth among market and survey researchers. As businesses increase their marketing efforts in order to remain competitive and as public policy firms and government agencies conduct more public opinion research, the employment of market and survey researchers will grow at a projected rate of 28.3 percent. Employment in life sci-

Table 2. Employment by occupational group within the professional and related occupations and service occupations groups, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment		Change, 2008–18	
		2008	2018	Numeric	Percent
15–29–0000	Professional and related occupations	31,053.5	36,280.0	5,226.5	16.8
15–0000	Computer and mathematical occupations	3,540.4	4,326.1	785.7	22.2
17–0000	Architecture and engineering occupations	2,636.0	2,906.6	270.6	10.3
19–0000	Life, physical, and social science occupations	1,460.8	1,738.0	277.2	19.0
21–0000	Community and social services occupations	2,723.7	3,172.1	448.4	16.5
23–0000	Legal occupations	1,251.0	1,439.4	188.4	15.1
25–0000	Education, training, and library occupations	9,209.5	10,533.6	1,324.1	14.4
27–0000	Arts, design, entertainment, sports, and media occupations	2,740.9	3,073.4	332.6	12.1
29–0000	Healthcare practitioners and technical occupations	7,491.3	9,090.8	1,599.6	21.4
31–39–0000	Service occupations	29,575.9	33,645.1	4,069.2	13.8
31–0000	Healthcare support occupations	3,982.4	5,129.5	1,147.1	28.8
33–0000	Protective service occupations	3,270.0	3,670.1	400.1	12.2
35–0000	Food preparation and serving and related occupations	11,552.1	12,559.6	1,007.6	8.7
37–0000	Building and grounds cleaning and maintenance occupations	5,727.2	6,211.0	483.9	8.5
39–0000	Personal care and service occupations	5,044.2	6,074.8	1,030.6	20.4

ence occupations also will increase rapidly. Medical scientists, except epidemiologists, will account for much of the growth in these occupations and, at an estimated growth rate of 40.4 percent, will be among the fastest growing occupations across the economy.

Architecture and engineering occupations are expected to add roughly 270,600 jobs, representing a growth rate of 10.3 percent over the 2008–18 period. About 178,300 of these jobs, more than 6 out of 10, are expected to be for engineers, and the growth of civil engineers is anticipated to be especially robust. As a greater emphasis is placed on improving the Nation's infrastructure, civil engineers will be needed to design, implement, and upgrade transportation, water supply, and pollution control systems. In addition, it is estimated that the occupation of drafters, engineering, and mapping technicians will increase by roughly 52,200 jobs and that architects, surveyors, and cartographers will increase by 40,100.

Legal occupations are expected to add the fewest new jobs among all the professional and related occupations, increasing by roughly 188,400. However, with a projected growth rate of almost 15.1 percent, legal occupations will grow faster than the average for all occupations in the economy. It is anticipated that lawyers will account for 98,500 of these jobs and that paralegals and legal assistants will account for 74,100. In part because legal establishments are expected to continue to expand the role of paralegals and legal assistants and assign them more of the tasks once performed by lawyers, it is estimated that the employment of paralegals and legal assistants will increase at a rate of 28.1 percent.

Service occupations. Employment in service occupations is projected to increase by 13.8 percent from 2008 to 2018, resulting in roughly 4.1 million new jobs. It is estimated that about 1.2 million of these jobs will appear in the health care industry sector and that more than 736,000 will arise in the food services and drinking places industry subsector.

Among service occupations, the largest number of new jobs is expected to arise in healthcare support occupations. (See table 2.) With more than 1.1 million new jobs expected, employment in healthcare support occupations is projected to increase by 28.8 percent. Much of this growth will be the result of high demand for home health aides. Compared with all occupations across the economy, home health aides are expected to see the second-largest number of new jobs—460,900—and experience the third-fastest rate of growth, 50.0 percent. Because home care can be a lower cost alternative to institutional care, and because many individuals prefer home care to long-term stays in healthcare facilities, hiring a home health aide will become an increasingly popular option. Many individuals, however, will require treatment in healthcare facilities. As a result, demand for nursing aides, orderlies, and attendants will increase rapidly, leading to roughly 276,000 new jobs.

Employment in personal care and service occupations is projected to grow by 20.4 percent over the 2008–18 projection period, adding 1.0 million jobs. This group contains a wide variety of occupations, but two of them, personal and home care aides and child care workers, will account for a large proportion of the new jobs. It is estimated that personal and home care aides will increase by 375,800 jobs as a growing number of elderly individuals require assistance with daily tasks. Child care workers are expected to see 142,100 new jobs, mainly because formal preschool programs, which employ child care workers alongside preschool teachers, are expected to become more prevalent.

Food preparation and serving related occupations are expected to add roughly 1.0 million jobs from 2008 to 2018, representing a growth rate of 8.7 percent. It is anticipated that almost 6 in 10 new jobs in this occupational group will appear among two occupations: fast food and counter workers, with a projected increase of 443,300 jobs, and waiters and waitresses, with a projected increase of 151,600 jobs. As consumers continue to prefer the convenience of prepared foods, demand for these occupations will grow.

Building and grounds cleaning and maintenance occupations are expected to see 483,900 new jobs over the projection period, representing a growth rate of 8.5 percent. Grounds maintenance workers are expected to increase by 236,800, and building cleaning workers are projected to increase by 191,500. As businesses place a larger emphasis on grounds aesthetics and as households increasingly rely on contract workers to maintain their yards, grounds maintenance workers will see rapid growth. In addition, more building cleaning workers will be needed to maintain an increasing number of residential and commercial structures. Almost 6 in 10 new jobs in the occupational group are expected to appear in the services to buildings and dwellings industry group, as the job functions relevant to this occupational group are increasingly outsourced to this industry group.

Protective service occupations are expected to see the fewest new jobs among all service occupations, with an increase of about 400,100 jobs, or 12.2 percent. Almost 152,500 new security guards, the occupation in this group

with the largest projected job growth, are expected as an increasing number of businesses and other organizations emphasize crime and vandalism reduction. In addition, it is estimated that about 121,500 new law enforcement jobs will arise, largely as a result of population growth.

Sales and related occupations. Employment in this occupational group is projected to increase by 980,400 jobs from 2008 to 2018, representing a growth rate of 6.2 percent. More than half of the new jobs in this group, about 513,800, are expected to be for retail sales workers. As organizations offer a wider array of products and devote an increasing share of resources to customer service, many new retail sales workers will be needed. Job growth in this group will be spread across a wide variety of industries, but almost half is expected to occur in retail trade establishments.

Office and administrative support occupations. With a projected growth rate of 7.6 percent, this occupational group is expected to add more than 1.8 million jobs over the projection period. This group contains a wide variety of occupations with very different employment outlooks. Secretaries and administrative assistants are expected to see a large number of new jobs, 471,600. It is anticipated that customer service representatives will increase by about 399,500 as businesses place a growing emphasis on relationships with customers. The occupation of Postal Service workers, by contrast, is projected to lose more than 72,100 jobs, declining by 12.0 percent. Because the use of electronic mail and bill-pay services is increasing and many Postal Service tasks are becoming automated, fewer of these workers will be needed by 2018. The new office and administrative support jobs will be distributed across a variety of industries, but about 516,900 are expected to appear in the professional, scientific, and technical services industry sector and roughly 501,500 are expected to arise in the health care and social assistance industry sector. In addition, the employment of office and administrative support workers will grow relatively fast—at a rate of 15.2 percent, according to projections—in the administrative and support services industry subsector, as more office and administrative support work is outsourced to this industry subsector.

Farming, fishing, and forestry occupations. Employment in this small occupational group is projected to remain largely unchanged from its 2008 level. Productivity increases in agriculture will lead to declining employment among agricultural workers, which will offset small gains among forest, conservation, and logging workers. It is anticipated that the majority of the jobs in this group, about 7 in 10, will continue to be found in the agriculture, forestry, fishing, and hunting industry sector.

Construction and extraction occupations. Employment in construction and extraction occupations is projected to increase by 13.0 percent from 2008 to 2018, expanding by more than 1.0 million new jobs. Demand for workers in these occupations will grow as, over the 2008–18 projection period, construction on homes, office buildings, and infrastructure projects increases. Growth will also be influenced by the recession that began in 2007. The construction industry was hit particularly hard by this recession as average annual employment for wage and salary workers fell by 415,100 jobs from 2007 to 2008, a decline of 5.4 percent.[6] Because of this low starting point, growth over the 2008–18 period will be stronger than it would have been had 2008 not been a recession year. It is estimated that more than half of the new jobs in this occupational group, about 543,100, will arise in the specialty trade contracting industry subsector and that about 227,400 will appear in the building construction industry subsector. In addition, about 98,800 new jobs are expected to arise among self-employed workers.

Installation, maintenance, and repair occupations. This group is expected to add about 440,200 jobs over the projection period, representing a 7.6-percent rate of growth. It is projected that more than one in three new jobs in this group will arise in the construction industry sector; workers in this sector are integral to the development of buildings, communication structures, transportation systems, and other types of infrastructure. As construction on these types of projects increases over the projection period, these workers will be needed in greater numbers.

Production occupations. Employment in production occupations is expected to decline by more than 349,200 jobs, roughly 3.5 percent, from 2008 to 2018. Like many other occupational groups, this group was heavily affected by the recession that began in 2007; from 2007 to 2008, the manufacturing industry sector lost an annual average of 448,000 wage and salary jobs, a decline of 3.3 percent.[7] Because of the low starting point, declines over the 2008–18 period will be smaller than they would have been had 2008 not been a recession year. Productions occupations represent a wide array of jobs, but it is projected that almost half of all job losses in the group will occur among metal workers and plastic workers. In addition, textile, ap-

parel, and furnishing occupations will lose a large number of jobs. Roughly 7 in 10 production jobs are located in the manufacturing industry sector. As productivity increases in manufacturing reduce the need for workers and as a growing number of production jobs are outsourced offshore, demand for production workers will decline.

Transportation and material moving occupations. Employment in this occupational group is projected to increase by 4.0 percent from 2008 to 2018, resulting in roughly 391,100 new jobs. Job gains will be spread across many industries, but a sizeable portion will arise in the transportation and warehousing industry sector. It is estimated that more than 6 in 10 new jobs in this group will be for truck drivers. As the economy grows over the projection period and the demand for goods increases, truck drivers will be needed to transport these goods to businesses, consumers, and other entities. In addition, a substantial number of jobs will arise for taxi drivers and chauffeurs as people seek alternative transportation options.

Growth by education or training category

BLS assigns each occupation to an education or training category that represents the most significant source of postsecondary education or training among workers in the occupation.[8] The categories range from "short-term on-the-job training" to "first professional degree." (See the box on page 89 for descriptions.) In 2008, about 3 in 10 jobs were in occupations that were classified in a category involving some form of postsecondary award or degree. It is projected that occupations in such categories will account for almost half of all new jobs created from 2008 to 2018. (See table 3.)

Employment in occupations in the associate degree category, with a projected growth rate of 19.1 percent, is expected to increase more rapidly than employment in any other education or training category over the 2008–18 period. Several fast-growing healthcare occupations, such as dental hygienists and physical therapist assistants, will drive a substantial proportion of this change. Despite this rapid growth, however, jobs in this category are expected to account for only about 2.4 million total openings, about half of which will come from replacement needs. (Job openings and replacement needs are discussed in the next section.) With a projected growth rate of 7.5 percent, occupations in the long-term on-the-job training category will see the slowest rates of growth. Many occupations in this category are in the construction and extraction; installation, maintenance, and repair; or production occupational group.

Generally, occupations in lower education or training categories have lower pay than those in higher categories. Although the median annual wage for all occupations

Table 3. Employment and total job openings, by education and training category, 2008 and projected 2018

(Numbers in thousands)

Most significant source of education or training	Employment				Change, 2008–18		Total job openings due to growth and replacement needs, 2008–18[1]		Median annual wages, May 2008[2]
	Number		Percent distribution						
	2008	2018	2008	2018	Numeric	Percent	Numeric	Percent distribution	
Total, all occupations	150,931.7	166,205.6	100.0	100.0	15,273.9	10.1	50,928.5	100.0	$32,390
First professional degree	2,000.9	2,353.6	1.3	1.4	352.6	17.6	745.6	1.5	$122,550
Doctoral degree	2,085.0	2,430.4	1.4	1.5	345.4	16.6	742.9	1.5	$61,200
Master's degree	2,531.3	2,995.3	1.7	1.8	464.0	18.3	1,007.9	2.0	$55,170
Bachelor's or higher degree, plus work experience	6,518.5	7,068.1	4.3	4.3	549.6	8.4	2,106.2	4.1	$89,720
Bachelor's degree	18,584.4	21,669.2	12.3	13.0	3,084.8	16.6	7,071.8	13.9	$57,770
Associate degree	6,128.7	7,296.5	4.1	4.4	1,167.8	19.1	2,372.4	4.7	$54,320
Postsecondary vocational award	8,787.3	9,951.5	5.8	6.0	1,164.1	13.2	2,926.9	5.7	$32,380
Work experience in a related occupation	14,516.9	15,696.9	9.6	9.4	1,180.0	8.1	4,195.9	8.2	$45,650
Long-term on-the-job training	10,814.6	11,620.5	7.2	7.0	805.8	7.5	3,081.2	6.1	$39,630
Moderate-term on-the-job training	24,568.5	26,531.1	16.3	16.0	1,962.6	8.0	7,058.5	13.9	$30,640
Short-term on-the-job training	54,395.5	58,592.5	36.0	35.3	4,197.0	7.7	19,619.1	38.5	$21,320

[1] Total job opening 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.

[2] 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 such a degree usually requires at least 3 years of full-time academic study beyond a bachelor's degree. Examples of occupations in this category 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 of occupations in this category 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 of occupations in this category 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 occupations in this category require experience in a related nonmanagement position for which a bachelor's or higher degree is usually required. Examples of occupations in this category are general and operations managers; and judges, magistrate judges, and magistrates.

Bachelor's degree. Completion of the degree generally requires about 4 years of full-time academic study. Examples of occupations in this category 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 of occupations in this category are paralegals and legal assistants, and medical records and health information technicians.

Postsecondary vocational award. Some of these programs last only a few weeks, whereas others last more than a year. Programs lead to a certificate or other award, but not a degree. Examples of occupations in this category 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. Generally, 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. Occupations in this category 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 at 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 are occupations that generally involve the development of a natural ability—such as that possessed by musicians, athletes, actors, or 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 of occupations in this category 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.

was $32,390 in May 2008, occupations in the categories involving a postsecondary award or degree or extensive work experience in a related occupation had much higher median wages. Occupations in the short-term on-the-job training category, for example, had median annual wages of $21,320, while occupations that generally require

a first professional degree had median annual wages of $122,550.

Detailed occupations

Occupational employment projections can be analyzed in a number of ways. In this article, projections are typically presented and discussed in terms of percent changes and numeric changes. Both perspectives are important, as focusing on only one can be misleading. In many cases, occupations with low levels of employment, such as financial examiners, may grow very rapidly (projected growth of 41.2 percent) but generate relatively few new jobs (11,100). Alternatively, an occupation with a large number of jobs, like retail salespersons, may grow more slowly (projected growth of 8.3 percent) but generate a much larger number of new jobs over the 10-year projection period (374,700).

As is the case with occupational groups, growth will vary among individual occupations. It is estimated that the employment of biomedical engineers, the occupation with the fastest projected rate of growth, will increase by 72.0 percent from 2008 to 2018. (See table 4.) Textile bleaching and dyeing machine operators and tenders, conversely, are expected to decrease in number by 44.8 percent, more rapidly than any other occupation. Registered nurses are expected to increase by more than 581,500 new jobs, the largest numerical increase, while farmers and ranchers, at the other extreme, will lose roughly 79,200.

In total, 577 occupations are expected to show increasing employment, resulting in more than 16.6 million new jobs from 2008 to 2018. The remaining 173 occupations are expected to decline in employment, losing almost 1.4 million jobs. This will result in an increase of more than 15.3 million jobs for all occupations combined, according to projections. It is estimated that the 30 occupations with the most robust growth in numerical terms will account for roughly 7.3 million new jobs, which represent almost half of the total growth among occupations with increasing employment. This projected increase in employment is far greater than that of the 30 fastest growing occupations, which will account for about 2.3 million new jobs. Because rapidly growing occupations tend to have lower levels of employment, they generally contribute less to total job growth than many occupations that are growing less quickly.

The 30 occupations with the largest projected declines are expected to decrease by a total of about 910,300 jobs, roughly two-thirds of the total among occupations with declining employment. Four occupations will be among both the occupations with the largest numbers of new jobs and those with the fastest rates of growth, each of the four projected to increase by at least 34.0 percent and expand by at least 155,800 new jobs: network systems and data communications analysts, computer applications software engineers, home health aides, and personal and home care aides.

Fastest growing occupations. According to projections, the 30 occupations with the fastest rates of growth will each increase by more than 29 percent from 2008 to 2018. (See table 4.) Seventeen of these are professional and related occupations, seven of which are in the healthcare practitioners and technical occupations occupational group. Ten of the thirty fastest growing occupations are service occupations, including seven occupations from the healthcare support occupations occupational group. Three of the fastest growing are management occupations or business and financial operations occupations.

For 14 of the 30 fastest growing occupations, a bachelor's or higher degree is the most significant source of education or training. Seven are in the postsecondary vocational award or associate degree category, one is categorized under work experience in a related occupation, and the remaining eight are in an on-the-job training category.

A substantial portion of the 30 fastest growing occupations are directly related to healthcare. As elderly individuals account for an increasing share of the U.S. population and as new developments allow for the treatment of a broader range of medical conditions, demand for healthcare services will grow rapidly. Several of the fastest growing occupations, such as home health aides and personal and home care aides, are generally employed outside of traditional inpatient establishments. It is anticipated that, as cost pressures mount and as individuals seek alternatives to long-term institutional care, employment in these occupations will grow by 50.0 percent and 46.0 percent, respectively. Fitness trainers and aerobics instructors, in addition, will increase rapidly in number as a growing number of individuals participate in programs promoting health and wellness.

Cost pressures will, to some extent, influence demand for a number of other healthcare occupations as well. Physician assistants and occupational therapist assistants, for example, will be used to treat individuals with fairly basic medical needs, allowing physicians and surgeons and occupational therapists, who command higher salaries, to focus on patients with more complex treatment needs. Pharmacy technicians also will assume a broader range of duties, as pharmacists devote more effort to patient care.

Table 4. Fastest growing occupations, 2008–18

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Occupational group	Employment		Change, 2008–18		Quartile rank by 2008 median wages[1]	Most significant source of post-secondary education or training[2]
			2008	2018	Number	Percent		
17–2031	Biomedical engineers	Professional and related	16.0	27.6	11.6	72.0	VH	Bachelor's degree
15–1081	Network systems and data communications analysts	Professional and related	292.0	447.8	155.8	53.4	VH	Bachelor's degree
31–1011	Home health aides	Service	921.7	1382.6	460.9	50.0	VL	Short-term on-the-job training
39–9021	Personal and home care aides	Service	817.2	1193.0	375.8	46.0	VL	Short-term on-the-job training
13–2061	Financial examiners	Management, business, and financial	27.0	38.1	11.1	41.2	VH	Bachelor's degree
19–1042	Medical scientists, except epidemiologists	Professional and related	109.4	153.6	44.2	40.4	VH	Doctoral degree
29–1071	Physician assistants	Professional and related	74.8	103.9	29.2	39.0	VH	Master's degree
39–5094	Skin care specialists	Service	38.8	53.5	14.7	37.9	L	Postsecondary vocational award
19–1021	Biochemists and biophysicists	Professional and related	23.2	31.9	8.7	37.4	VH	Doctoral degree
29–9091	Athletic trainers	Professional and related	16.3	22.4	6.0	37.0	H	Bachelor's degree
31–2022	Physical therapist aides	Service	46.1	62.8	16.7	36.3	L	Short-term on-the-job training
29–2021	Dental hygienists	Professional and related	174.1	237.0	62.9	36.1	VH	Associate degree
29–2056	Veterinary technologists and technicians	Professional and related	79.6	108.1	28.5	35.8	L	Associate degree
31–9091	Dental assistants	Service	295.3	400.9	105.6	35.8	L	Moderate-term on-the-job training
15–1031	Computer software engineers, applications	Professional and related	514.8	689.9	175.1	34.0	VH	Bachelor's degree
31–9092	Medical assistants	Service	483.6	647.5	163.9	33.9	L	Moderate-term on-the-job training
31–2021	Physical therapist assistants	Service	63.8	85.0	21.2	33.3	H	Associate degree
29–1131	Veterinarians	Professional and related	59.7	79.4	19.7	33.0	VH	First professional degree
25–3021	Self-enrichment education teachers	Professional and related	253.6	334.9	81.3	32.0	H	Work experience in a related occupation
13–1041	Compliance officers, except agriculture, construction, health and safety, and transportation	Management, business, and financial	260.2	341.0	80.8	31.1	H	Long-term on-the-job training
31–2012	Occupational therapist aides	Service	7.8	10.2	2.4	30.7	L	Short-term on-the-job training
17–2081	Environmental engineers	Professional and related	54.3	70.9	16.6	30.6	VH	Bachelor's degree
29–2052	Pharmacy technicians	Professional and related	326.3	426.0	99.8	30.6	L	Moderate-term on-the-job training
15–1032	Computer software engineers, systems software	Professional and related	394.8	515.0	120.2	30.4	VH	Bachelor's degree
19–3022	Survey researchers	Professional and related	23.4	30.5	7.1	30.4	H	Bachelor's degree
29–1123	Physical therapists	Professional and related	185.5	241.7	56.2	30.3	VH	Master's degree
13–2052	Personal financial advisors	Management, business, and financial						Bachelor's degree
17–3025	Environmental engineering technicians	Professional and related	21.2	27.5	6.4	30.1	H	Associate degree
31–2011	Occupational therapist assistants	Service	26.6	34.6	7.9	29.8	H	Associate degree
39–9031	Fitness trainers and aerobics instructors	Service	261.1	337.9	76.8	29.4	L	Postsecondary vocational award

[1] The quartile rankings of Occupational Employment Statistics survey annual wage data are presented in the following categories: VH = very high ($51,540 or more), H = high ($32,390 to $51,530), L = low ($21,590 to $32,380), and VL = very low (under $21,590). Wages are for wage and salary workers.

[2] An occupation is placed into 1 of 11 categories that best describes the postsecondary education on training needed by most workers to become fully qualified in that occupation. For more information about the categories, see *Occupational Projections and Training Data*, 2008–09 edition, bulletin 2702 (Bureau of Labor Statistics), on the Internet at **www.bls.gov/emp/optd** (visited Dec. 8, 2009); and the technical documentation accompanying the 2008–18 employment projections, available on the Internet at **www.bls.gov/emp/ep_education_tech.htm** (visited Dec. 8, 2009).

Although most athletic trainers will remain employed in schools and universities, more athletic trainers will be needed in hospitals, outpatient treatment facilities, and other settings as overall health and wellness is emphasized more by healthcare establishments.

Several occupations involved in medical research also will grow rapidly. Growth among biomedical engineers, biochemists and biophysicists, and medical scientists, except epidemiologists, will be driven by continued emphasis on researching new diseases, alleviating more ailments, and further improving patients' quality of life.

Three of the fastest growing occupations are computer specialist occupations. Network systems and data communications analysts, the occupation with the second-fastest rate of growth, will see gains across a wide range of industries. Because businesses will continue to adopt newer networking technologies and individuals and organizations will develop a growing reliance on the Internet, employment in this occupation is expected to increase by 53.4 percent. Furthermore, as new software products are needed to facilitate this reliance on technology, computer software applications engineers and systems software engineers also will grow rapidly in number.

Several business and financial operations occupations also will grow much faster than the average for all occupations. As a large segment of the workforce reaches retirement age, a greater number of personal financial advisors will be needed to help these individuals prepare for their financial futures. In addition, because many businesses are replacing traditional pension plans with personal savings options, a growing number of younger individuals will seek financial advice long before they retire. Furthermore, as the financial regulatory environment becomes more complex, the employment of financial examiners, as well as that of the occupation of compliance officers, except agriculture, construction, health and safety, and transportation, will increase at rapid rates.

Increased interest in and awareness of environmental issues should spur rapid growth among environmental engineers and environmental engineering technicians. As organizations devise ways to reduce their impact on the environment and as more emphasis is placed on preventing damage before it occurs, employment in each of these specialties is expected to increase by 30.6 percent and 30.1 percent, respectively, from 2008 to 2018.

The increasing popularity of household pets will lead to employment growth among veterinarians, as well as veterinary technologists and technicians. As the pet population grows, as households increasingly seek medical services for their pets, and as new developments lead to treatments for a wider variety of conditions, these occupations are expected to expand rapidly. Over the course of the projection decade, as the number of cosmetic and health spas increases, the employment of skin care specialists will grow by a projected rate of 37.9 percent. Skin care treatments should remain popular as consumers continue to see them as an affordable luxury.

Self-enrichment teachers offer instruction in a wide range of areas, such as foreign languages, computer literacy, and public speaking. These workers are expected to see an increase in demand as individuals look to expand their skill sets. Survey researchers will show rapid growth as businesses, government agencies, and other organizations attempt to measure a variety of phenomena, such as the popularity of mass transit and the need for social assistance programs.

Occupations with the largest numerical growth. It is estimated that each of the 30 occupations with the largest projected job growth in numerical terms will add at least 134,900 new jobs over the 2008–18 projection period. (See table 5.) The occupations on this list are very diverse, coming from a wide range of occupational groups. Nine are service occupations, including three from the healthcare support group and two from the personal care and service group. Six are from the office and administrative support occupational group, and eight are professional and related occupations. Two are business and financial operations occupations, and two are construction and extraction occupations. In addition, the sales and related; installation, maintenance, and repair; and transportation and material moving occupational groups each contain 1 of the 30 occupations with the most new jobs.

Of the 30 occupations on this list, most are projected to grow faster in percent terms than the average for all occupations across the economy. Two, however, will grow more slowly. Because these occupations had a large number of jobs in 2008, however, their projected modest growth rates are still expected to lead to substantial job creation. The employment of waiters and waitresses, for example, is expected to grow by 6.4 percent over the projection period, slower than the projected average of 10.1 percent for all occupations. However, because there were 2.4 million waiters and waitresses in 2008, this slower rate of growth still is expected to lead to 151,600 new jobs, placing it in the 26th spot on this list.

Seven of the thirty occupations on the list are classified under a bachelor's or higher degree education or training category. For three, an associate degree or postsecondary vocational award is the most significant form of education

Table 5. Occupations with the largest projected job growth, 2008–18

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Occupational group	Employment		Change, 2008–18		Quartile rank by 2008 median wages[1]	Most significant source of postsecondary education or training[2]
			2008	2018	Numeric	Percent		
29–1111	Registered nurses	Professional and related	2618.7	3200.2	581.5	22.2	VH	Associate degree
31–1011	Home health aides	Service	921.7	1382.6	460.9	50.0	VL	Short-term on-the-job training
43–4051	Customer service representatives	Office and administrative support	2252.4	2651.9	399.5	17.7	L	Moderate-term on-the-job training
35–3021	Combined food preparation and serving workers, including fast food	Service	2701.7	3096.0	394.3	14.6	VL	Short-term on-the-job training
39–9021	Personal and home care aides	Service	817.2	1193.0	375.8	46.0	VL	Short-term on-the-job training
41–2031	Retail salespersons	Sales and related	4489.2	4863.9	374.7	8.4	VL	Short-term on-the-job training
43–9061	Office clerks, general	Office and administrative support	3024.4	3383.1	358.7	11.9	L	Short-term on-the-job training
13–2011	Accountants and auditors	Management, business, and financial	1290.6	1570.0	279.4	21.7	VH	Bachelor's degree
31–1012	Nursing aides, orderlies, and attendants	Service	1469.8	1745.8	276.0	18.8	L	Postsecondary vocational award
25–1000	Postsecondary teachers	Professional and related	1699.2	1956.1	256.9	15.1	VH	Doctoral degree
47–2061	Construction laborers	Construction and extraction	1248.7	1504.6	255.9	20.5	L	Moderate-term on-the-job training
25–2021	Elementary school teachers, except special education	Professional and related	1549.5	1793.7	244.2	15.8	H	Bachelor's degree
53–3032	Truck drivers, heavy and tractor-trailer	Transportation and material moving	1798.4	2031.3	232.9	13.0	H	Short-term on-the-job training
37–3011	Landscaping and groundskeeping workers	Service	1205.8	1422.9	217.1	18.0	L	Short-term on-the-job training
43–3031	Bookkeeping, accounting, and auditing clerks	Office and administrative support	2063.8	2276.2	212.4	10.3	H	Moderate-term on-the-job training
43–6011	Executive secretaries and administrative assistants	Office and administrative support	1594.4	1798.8	204.4	12.8	H	Work experience in a related occupation
13–1111	Management analysts	Management, business, and financial	746.9	925.2	178.3	23.9	VH	Bachelor's or higher degree, plus work experience
15–1031	Computer software engineers, applications	Professional and related	514.8	689.9	175.1	34.0	VH	Bachelor's degree
43–4171	Receptionists and information clerks	Office and administrative support	1139.2	1312.1	172.9	15.2	L	Short-term on-the-job training
47–2031	Carpenters	Construction and extraction	1284.9	1450.3	165.4	12.9	H	Long-term on-the-job training
31–9092	Medical assistants	Service	483.6	647.5	163.9	33.9	L	Moderate-term on-the-job training
43–1011	First-line supervisors/managers of office and administrative support workers	Office and administrative support	1457.2	1617.5	160.3	11.0	H	Work experience in a related occupation
15–1081	Network systems and data communications analysts	Professional and related	292.0	447.8	155.8	53.4	VH	Bachelor's degree
29–2061	Licensed practical and licensed vocational nurses	Professional and related	753.6	909.2	155.6	20.7	H	Postsecondary vocational award

See footnotes at end of table.

Table 5. Continued—Occupations with the strongest projected job growth, 2008–18

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Occupational group	Employment		Change, 2008–18		Quartile rank by 2008 median wage	Most significant source of post secondary education or training
			2008	2018	Numeric	Percent		
33–9032	Security guards	Service	1076.6	1229.1	152.5	14.2	L	Short-term on-the-job training
35–3031	Waiters and waitresses	Service	2381.6	2533.3	151.6	6.4	VL	Short-term on-the-job training
49–9042	Maintenance and repair workers, general	Installation, maintenance, and repair	1361.3	1509.2	147.9	10.9	H	Moderate-term on-the-job training
29–1060	Physicians and surgeons	Professional and related	661.4	805.5	144.1	21.8	VH	First professional degree
39–9011	Child care workers	Service	1301.9	1443.9	142.1	10.9	VL	Short-term on-the-job training
25–9041	Teacher assistants	Professional and related	1312.7	1447.6	134.9	10.3	L	Short-term on-the-job training

[1] The quartile rankings of Occupational Employment Statistics survey annual wage data are presented in the following categories: VH = very high ($51,540 or more), H = high ($32,390 to $51,530), L = low ($21,590 to $32,380), and VL = very low (under $21,590). Wages are for wage and salary workers.

[2] An occupation is placed into 1 of 11 categories that best describes the postsecondary education on training needed by most workers to become fully qualified in that occupation. For more information about the categories, see *Occupational Projections and Training Data*, 2008–09 edition, bulletin 2702 (Bureau of Labor Statistics), on the Internet at **www.bls.gov/emp/optd** (visited Dec. 8, 2009); and the technical documentation accompanying the 2008–18 employment projections, available on the Internet at **www.bls.gov/emp/ep_education_tech.htm** (visited Dec. 8, 2009).

or training. The remaining 20 all fall under an on-the-job training category or under the category of work experience in a related occupation.

Several occupations with substantial projected job growth are associated with healthcare. Registered nurses are expected to expand by more than 581,500 new jobs over the course of the projection period, more than any other occupation. In addition, it is estimated that the employment of these workers will increase by 22.2 percent, more than twice as fast as the average. As elderly individuals constitute a larger portion of the population and the demand for healthcare services grows, a large number of new nurses will be needed. Home health aides, as well as personal and home care aides, also will benefit from this trend and will see increasing demand for their services as more individuals seek care outside of traditional institutional settings. Likewise, physicians and surgeons, medical assistants, licensed practical and licensed vocational nurses, and nursing aides, orderlies, and attendants all will experience strong job growth as a result of high demand for healthcare.

Accountants and auditors, as well as bookkeeping, accounting, and auditing clerks, will benefit from an increasingly complex regulatory environment. As financial scrutiny intensifies and as additional transparency requirements are established, both of these occupations are expected to exhibit large numerical increases. Growth among bookkeeping, accounting, and auditing clerks will be tempered, somewhat, by improvements in technology that will lead to greater productivity and more automation of tasks. However, as one of the occupations with the highest levels of employment in 2008, its projected 10.3-percent growth rate still is expected to lead to more than 212,400 new jobs. Accountants and auditors are expected to grow by a rapid 21.7 percent, creating an even greater 279,400 jobs. In addition, as businesses strive to stay competitive and increase efficiency, more management analyst jobs will be created.

Two computer specialist occupations also will see large increases in employment. As businesses and other organizations continue to invest in information technology in order to increase efficiency and reduce costs, computer software applications engineers, as well as network systems and data communications analysts, will increase by roughly 175,100 and 155,800 jobs, respectively. In addition, as a result of high demand, these two occupations will be among those with the fastest rates of growth.

Customer service representatives and retail salespersons also are expected to add large number of jobs, increasing by 399,500 and 374,700, respectively. As businesses place a growing emphasis on customer service and client relationships and as retail establishments offer a wider range of products, these workers will be needed in greater numbers. In addition, as trade at the retail level expands and

as producers continue to transport a growing amount of goods, more heavy and tractor-trailer truck drivers will be needed to transport these items to various locations across the country.

Two food preparation and serving occupations also will be among the occupations with the largest numerical increases. Waiters and waitresses, as well as combined food preparation and service workers, including fast food, will experience substantial gains as consumers continue to take advantage of the convenience of prepared foods. As both fast-food and full-service restaurants increase in popularity and as more individuals purchase prepared foods from grocery stores, many new jobs will be created within these occupations.

Elementary school teachers, except special education, as well as teacher assistants, also will add large numbers of jobs. Growth will be driven by an increase in school enrollment and the demand for teacher assistants who can provide individual attention to children with special needs. In addition, as a greater emphasis is placed on early childhood education, a substantial number of new jobs will be created for child care workers, who often work alongside preschool teachers. Furthermore, as enrollment in colleges and universities increases, a large number of new postsecondary teachers will be needed.

The number of executive secretaries and administrative assistants, workers who perform fewer clerical duties than workers in many other office and administrative support occupations, will not be heavily affected by technological advances. As a result, employment in this large occupation will increase about as fast as the average, leading to a large number of new jobs. Receptionists and information clerks, as well as general office clerks, will see employment gains as a result of work restructuring. As the duties of workers in other administrative occupations are automated, reducing the need for specialized clerical workers, a larger number of employees will be given more general tasks and will be classified under these two occupations. In addition, as many new jobs are created in these office and administrative support occupations, a large number also will arise for the first-line supervisors of these workers.

Two occupations in particular, construction laborers and carpenters, will benefit from relatively strong growth in the construction industry. As new homes, office buildings, and other structures are built and as many existing buildings are remodeled, many new jobs will be created in these occupations. In addition, as the number of buildings expands, a substantial number of new jobs will be created for general maintenance and repair workers, who are already great in number.

Because businesses are expected to place a higher premium on grounds aesthetics and more individuals likely will choose to have their yards professionally maintained, demand will be high for landscaping and groundskeeping workers. Security guards will be needed in greater numbers as more businesses, multifamily housing units, and other organizations place greater emphasis on the prevention of crime and vandalism.

Occupations in decline. This section focuses on the occupations with the largest projected job declines in numerical terms. Decreases in employment occur for many reasons, including productivity gains and reduced demand for a particular good or service. The 30 occupations with the largest projected numerical declines each will lose at least 12,500 jobs over the projection period. (See table 6.) These occupations are highly concentrated in two occupational groups: 12 are production occupations and 11 are office and administrative support occupations. As for the rest, three are transportation and material moving occupations, two are sales and related occupations, and one is a management occupation.

None of these 30 occupations is classified in an education or training category that involves postsecondary education. For 29, the most significant form of education or training involves some on-the-job training. For the other occupation, the most significant form of education or training is work experience in a related occupation. Production occupations make up a substantial proportion of this list, largely as a result of a high concentration in the declining manufacturing industry sector. Because productivity in manufacturing operations is expected to increase rapidly and competition from foreign producers will intensify, fewer production workers will be needed. Together, the production occupations on this list are expected to account for a decline of 299,200 jobs.

Office and administrative support occupations also are heavily represented on this list. Whereas some occupations in this occupational group will see growth as a result of technology, as exemplified by the occupations from this group on the list of occupations with the greatest projected job growth in numerical terms, other occupations, including those on the list of declining occupations, will bear losses that also will result from improved technology. For example, Postal Service clerks and Postal Service mail sorters, processors, and processing machine operators will see declines as electronic communication continues to reduce demand for correspondence by post. File clerks, computer operators, data entry keyers, and switchboard operators also will see a reduction in jobs; as a result of

Table 6. Occupations with the largest projected job declines in numerical terms, 2008–18

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Occupational group	Employment		Change, 2008–18		Quartile rank by wage, median wages[1]	Most significant source of postsecondary education or training[2]
			2008	2018	Numeric	Percent		
11–9012	Farmers and ranchers	Management, business, and financial	985.9	906.7	–79.2	–8.0	H	Long-term on-the-job training
51–6031	Sewing machine operators	Production	212.4	140.9	–71.5	–33.7	VL	Moderate-term on-the-job training
43–4151	Order clerks	Office and administrative support	245.7	181.5	–64.2	–26.1	L	Short-term on-the-job training
43–5053	Postal service mail sorters, processors, and processing machine operators	Office and administrative support	179.9	125.3	–54.5	–30.3	H	Short-term on-the-job training
43–4071	File clerks	Office and administrative support	212.2	162.6	–49.6	–23.4	L	Short-term on-the-job training
43–5071	Shipping, receiving, and traffic clerks	Office and administrative support	750.5	701.2	–49.3	–6.6	L	Short-term on-the-job training
41–9041	Telemarketers	Sales and related	341.6	303.8	–37.8	–11.1	L	Short-term on-the-job training
43–9199	Office and administrative support workers, all other	Office and administrative support	306.7	271.0	–35.7	–11.6	L	Short-term on-the-job training
51–1011	First-line supervisors/managers of production and operating workers	Production	681.2	645.5	–35.7	–5.2	H	Work experience in a related occupation
53–7064	Packers and packagers, hand	Transportation and material moving	758.8	724.8	–34.0	–4.5	VL	Short-term on-the-job training
51–4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	Production	236.8	203.5	–33.3	–14.1	L	Moderate-term on-the-job training
51–2022	Electrical and electronic equipment assemblers	Production	213.3	182.0	–31.3	–14.7	L	Short-term on-the-job training
53–7063	Machine feeders and offbearers	Transportation and material moving	140.6	109.5	–31.2	–22.2	L	Short-term on-the-job training
41–9091	Door-to-door sales workers, news and street vendors, and related workers	Sales and related	181.6	154.7	–26.9	–14.8	VL	Short-term on-the-job training
43–4199	Information and record clerks, all other	Office and administrative support	226.9	200.1	–26.7	–11.8	H	Short-term on-the-job training
51–9196	Paper goods machine setters, operators, and tenders	Production	103.3	81.0	–22.2	–21.5	H	Moderate-term on-the-job training
43–9011	Computer operators	Office and administrative support	110.0	89.5	–20.5	–18.6	H	Moderate-term on-the-job training
51–4041	Machinists	Production	421.5	402.2	–19.3	–4.6	H	Long-term on-the-job training
53–7062	Laborers and freight, stock, and material movers, hand	Transportation and material moving	2317.3	2298.6	–18.7	–0.8	L	Short-term on-the-job training
45–2090	Miscellaneous agricultural workers	Farming, fishing, and forestry	807.0	788.8	–18.2	–2.3	VL	Short-term on-the-job training
43–9021	Data entry keyers	Office and administrative support	284.3	266.9	–17.4	–6.1	L	Moderate-term on-the-job training
43–2011	Switchboard operators, including answering service	Office and administrative support	155.2	138.3	–16.9	–10.9	L	Short-term on-the-job training
51–9061	Inspectors, testers, sorters, samplers, and weighers	Production	464.7	447.8	–16.9	–3.6	L	Moderate-term on-the-job training

See footnotes at end of table.

Table 6. Continued—Occupations with the largest projected job declines in numerical terms, 2008–18

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Occupational group	Employment		Change, 2008–18		Quartile rank by wage, median wages[1]	Most significant source of postsecondary education or training[2]
			2008	2018	Numeric	Percent		
43–9051	Mail clerks and mail machine operators, except postal service	Office and administrative support	141.4	124.8	–16.6	–11.8	L	Short-term on-the-job training
51–4034	Lathe and turning machine tool setters, operators, and tenders, metal and plastic	Production	55.7	40.8	–14.9	–26.7	H	Moderate-term on-the-job training
51–4033	Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic	Production	92.7	77.9	–14.8	–15.9	L	Moderate-term on-the-job training
51–6064	Textile winding, twisting, and drawing out machine setters, operators, and tenders	Production	34.9	20.7	–14.2	–40.7	L	Moderate-term on-the-job training
43-5051	Postal service clerks	Office and administrative support	75.8	62.1	–13.7	–18.0	H	Short-term on-the-job training
51–4081	Multiple machine tool setters, operators, and tenders, metal and plastic	Production	86.0	73.4	–12.6	–14.7	L	Moderate-term on-the-job training
51–9132	Photographic processing machine operators	Production	51.3	38.8	–12.5	–24.3	VL	Short-term on-the-job training

[1] The quartile rankings of Occupational Employment Statistics survey annual wage data are presented in the following categories: VH = very high ($51,540 or more), H = high ($32,390 to $51,530), L = low ($21,590 to $32,380), and VL = very low (under $21,590). Wages are for wage and salary workers.

[2] An occupation is placed into 1 of 11 categories that best describes the postsecondary education on training needed by most workers to become fully qualified in that occupation. For more information about the categories, see *Occupational Projections and Training Data*, 2008–09 edition, bulletin 2702 (Bureau of Labor Statistics), on the Internet at **www.bls.gov/emp/optd** (visited Dec. 8, 2009); and the technical documentation accompanying the 2008–18 employment projections, available on the Internet at **www.bls.gov/emp/ep_education_tech.htm** (visited Dec. 8, 2009).

electronic document storage, sophisticated software packages, and efficient telecommunications equipment, demand for the services of these workers will decline.

The occupation of farmers and ranchers also will lose a substantial number of jobs. With a projected decrease of 79,200 jobs, farmers and ranchers will see greater losses than any other occupation. Because productivity in agriculture will increase, and because continuing consolidation in the farming industry will eliminate many small farms, fewer farmers and ranchers will be employed in 2018. In addition, because of these advances in productivity, miscellaneous agricultural workers, an occupation with a wide range of duties, will decline by 18,200 jobs.

Two sales and related occupations also are included among the occupations with the largest numerical declines. It is projected that telemarketers will decrease by 37,800 jobs, or 11.1 percent, as more consumers use the "do not call" list and as telemarketer jobs are increasingly sent offshore. It is anticipated that door-to-door sales workers, news and street vendors, and related workers will decrease by 26,900 jobs, or 14.8 percent, as these workers are less able to compete with large vendors and as newspaper circulation rates decline.

Several transportation and material moving occupations, additionally, will see large declines in employment. Advancements in technology and supply management processes, such as automated storage, retrieval, and data collection systems, will improve productivity among these occupations, reducing the need for workers.

Job openings from replacement needs

Projected job openings are a measure of the total number of workers who will be needed to meet demand for a particular occupation. Job openings arise when new jobs are created from economic growth and also when workers who have permanently left an occupation need to be replaced. Although economic growth will create a substantial number of job openings over the 2008–18 projection period, the majority are expected to come from replacement needs. Except in occupations that employ large numbers of young workers, such as the occupations of cashiers and retail salespersons, many of the job openings due to replacement needs are expected to arise in occupations that will lose workers to retirement. Replacement needs are anticipated to generate 34.3 million job open-

ings, compared with an expected net increase of 15.3 million jobs expected to be generated by economic growth.[9] The projections of replacement needs, however, are based on past trends. Should retirement trends in an occupation change, actual needs may be greater or less than projected.

For the majority of occupations, job openings due to replacement needs exceed job openings due to growth. Most of the exceptions are occupations that are among the fastest growing occupations and occupations that require high levels of education or training. Because postsecondary education can be expensive and time consuming, individuals working in occupations with high educational and training requirements, such as financial analysts and civil engineers, often stay in their professions until retirement; thus, replacement needs in such occupations tend to be lower. Conversely, occupations that have lower education or training requirements, such as cashiers and customer service representatives, tend to have high numbers of job openings due to replacements. For example, it is estimated that there will be nearly 1.3 million openings for retail salespersons that will stem from replacement needs, but only around 374,700 openings due to growth. Similarly, although it is projected that the occupation of waiters and waitresses will generate only around 151,600 openings due to growth, the occupation is expected to provide close to 1.3 million openings from replacement needs.

Several occupations that are projected to decline over the 2008–18 period, ranging from managerial to material moving occupations, will actually account for substantial numbers of openings due to replacement needs. For example, the occupation of general and operations managers, though expected to decline by 2,300 jobs over the next decade, will provide 502,200 openings due to replacement needs. In addition, the occupation of laborers and freight, stock, and material movers, hand, is expected to generate 745,800 openings, while declining by 18,700 jobs. For declining occupations, all projected job openings come from replacement needs.

From the perspective of total job openings (jobs generated by economic growth combined with openings generated by replacement needs), the number of openings in occupations falling into the bachelor's degree or higher category is expected to be 11.7 million. It is estimated that roughly 5.3 million will occur among occupations in the associate degree category and postsecondary vocational award category combined, and that 4.2 million will arise in occupations in the work experience in a related occupation category. It is projected that occupations in the short-term and moderate-term on-the-job-training categories will see 26.7 million, or about half, of total job openings and that occupations in the long-term on-the-job training category will account for a much smaller 3.1 million openings.

IN PROJECTING OCCUPATIONAL growth and decline, BLS makes assumptions about the size and makeup of the labor force, the size of the economy, demand for goods and services, and other factors that affect levels of employment. Changes in laws, business and consumer 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*, BLS attempts to provide the reader with the best estimates of occupational employment change.

BLS projects that total employment will increase by 10.1 percent from 2008 to 2018, resulting in 15.3 million new jobs. Rapid growth is expected among healthcare occupations, as a larger elderly population requires more medical services, and among computer and mathematical science occupations, as organizations continue to use information technology to improve efficiency and reduce costs. Over the decade, occupations classified into education or training categories that involve a postsecondary award or degree will see faster employment growth than occupations in categories that involve on-the-job training. Most job openings, however, will occur among occupations in the on-the-job training categories. Of the 50.9 million total job openings that are expected to arise over the 2008–18 period, it is estimated that 34.3 million will result from replacement needs. By comparison, it is estimated that a net increase of 15.3 million jobs will result from economic growth.[10] □

Notes

[1] BLS makes assumptions about the factors that affect occupational growth. Detailed information on these projections can be found at the Employment Projections Program section of the BLS Web site at **www.bls.gov/emp/** (visited Oct. 29, 2009), and in the *BLS Handbook of Methods,* on the Internet at **www.bls.gov/opub/hom/homch13_a.htm** (visited Oct. 29, 2009). The projections will also be presented in the forthcoming 2010–11 O*ccupational Outlook Handbook*. The Internet version of this edition of the *Handbook*, which will be accessible at **www.bls.gov/oco** (visited Oct. 29, 2009), is expected to be available in late December 2009; the print version of the 2010–11 *Handbook*, BLS Bulletin 2800, is expected to be available by the spring of 2010.

[2] See Mitra Toossi, "Labor force projections to 2018: older workers staying more active," this issue, pp. 30–51.

[3] See Ian D. Wyatt and Kathryn J. Byun, "The U.S. economy to 2018: from recession to recovery," this issue, pp. 11–29.

[4] See Wyatt and Byun, "The U.S. economy to 2018."

[5] The Standard Occupational Classification (SOC) system broadly classifies occupations into 23 major occupational groups. This article uses an aggregation of the 23 major groups, referred to as the SOC intermediate aggregation, which comprises 11 groups. The groupings of management, business, and financial occupations; professional and related occupations; and service occupations are part of the intermediate aggregation, and they are made up of some of the 23 major occupational groups. Military specific occupations are excluded; they stand alone as 1 of the the 23 major groups and are also their own group in the the intermediate aggregation. For more information on the SOC, see *Standard Occupation Classification Manual 2000* (Lanham, MD, Bernan Associates, 2000).

[6] See Rose A. Woods, "Industry output and employment projections to 2018," this issue, pp. 52–81. The employment figures for the 2007–08 period that are referenced here describe industry sector 23—construction—in the North American Industry Classification System (NAICS). A substantial portion of the jobs in the construction and extraction occupational group are within the construction industry sector.

[7] These data come from the BLS Current Employment Statistics program. The data referenced describe the NAICS manufacturing industry sector, which is composed of NAICS industries 31–33.

[8] Because of the variability of job functions within a given occupation, and because different employers may have different requirements for education or training, workers in the same occupation can have substantially different education and training backgrounds. For more information on education and training categories and the educational attainment of workers in various occupations, see *Occupational Projections and Training Data*, 2008–09 edition, Bulletin 2702 (Bureau of Labor Statistics), on the Internet at **www.bls.gov/emp/optd** (visited Dec. 8, 2009); and the technical documentation accompanying the 2008–18 employment projections, available on the Internet at **www.bls.gov/emp/ep_education_tech.htm** (visited Dec. 8, 2009).

[9] For a detailed discussion of the methods used to determine replacement needs, as well as data on replacement needs for all occupations, see *Occupational Projections and Training Data*, 2008–09 edition; and the technical documentation accompanying the 2008–18 employment projections, available on the Internet at **www.bls.gov/emp/ep_replacements.htm** (visited Dec. 8, 2009).

[10] Total job openings may not equal the sum of replacement needs and employment change. If employment change for a detailed occupation is negative, job openings due to growth are zero and total job openings equals replacement needs. For summary occupations, including the total of all occupations, job openings due to growth are summed from detailed occupations. If some detailed occupations are declining and others are growing, job openings due to growth will not equal the employment change.

Appendix: Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
00–0000	Total, all occupations	150,931.7	166,205.6	100.0	100.0	15,273.9	10.1	50,928.5
11–1300	Management, business, and financial occupations[2]	15,746.7	17,410.9	10.4	10.5	1,664.2	10.6	5,034.7
11–0000	Management occupations	8,912.4	9,366.6	5.9	5.6	454.3	5.1	2,459.5
11–1000	Top executives	2,201.1	2,193.7	1.5	1.3	–7.4	–.3	634.4
11–1011	Chief executives	400.4	394.9	.3	.2	–5.5	–1.4	112.5
11–1021	General and operations managers	1,733.1	1,730.8	1.1	1.0	–2.3	–.1	502.2
11–1031	Legislators	67.6	68.1	.0	.0	.5	.7	19.7
11–2000	Advertising, marketing, promotions, public relations, and sales managers	623.8	704.1	.4	.4	80.3	12.9	217.3
11–2011	Advertising and promotions managers	44.6	43.9	.0	.0	–.8	–1.7	10.5
11–2020	Marketing and sales managers	522.4	596.2	.3	.4	73.7	14.1	186.3
11–2021	Marketing managers	175.6	197.5	.1	.1	21.9	12.5	59.7
11–2022	Sales managers	346.9	398.7	.2	.2	51.8	14.9	126.6
11–2031	Public relations managers	56.7	64.1	.0	.0	7.3	12.9	20.6
11–3000	Operations specialties managers	1,551.7	1,671.5	1.0	1.0	119.9	7.7	466.6
11–3011	Administrative services managers	259.4	291.7	.2	.2	32.3	12.5	86.6
11–3021	Computer and information systems managers	293.0	342.5	.2	.2	49.5	16.9	97.1
11–3031	Financial managers	539.3	580.5	.4	.3	41.2	7.6	138.2
11–3040	Human resources managers	133.9	146.8	.1	.1	12.9	9.6	41.4
11–3041	Compensation and benefits managers	40.5	43.9	.0	.0	3.4	8.5	12.1
11–3042	Training and development managers	30.4	34.0	.0	.0	3.6	11.9	10.1
11–3049	All other human resources managers	63.1	68.9	.0	.0	5.8	9.2	19.3
11–3051	Industrial production managers	156.1	144.1	.1	.1	–11.9	–7.6	54.7
11–3061	Purchasing managers	70.3	71.4	.0	.0	1.1	1.5	21.1
11–3071	Transportation, storage, and distribution managers	99.7	94.4	.1	.1	–5.2	–5.3	27.4
11–9000	Other management occupations	4,535.8	4,797.3	3.0	2.9	261.4	5.8	1,141.2
11–9010	Agricultural managers	1,234.0	1,169.4	.8	.7	–64.6	–5.2	125.2
11–9011	Farm, ranch, and other agricultural managers	248.1	262.7	.2	.2	14.6	5.9	64.9
11–9012	Farmers and ranchers	985.9	906.7	.7	.5	–79.2	–8.0	60.3
11–9021	Construction managers	551.0	645.8	.4	.4	94.8	17.2	137.7
11–9030	Education administrators	445.4	482.5	.3	.3	37.0	8.3	170.4
11–9031	Education administrators, preschool and child care center/program	58.9	65.8	.0	.0	6.9	11.8	24.6
11–9032	Education administrators, elementary and secondary school	230.6	250.4	.2	.2	19.8	8.6	88.8
11–9033	Education administrators, postsecondary	124.6	127.4	.1	.1	2.8	2.3	40.1
11–9039	Education administrators, all other	31.4	38.9	.0	.0	7.5	23.9	16.9
11–9041	Engineering managers	184.0	195.4	.1	.1	11.3	6.2	48.7
11–9051	Food service managers	338.7	356.7	.2	.2	18.0	5.3	83.7
11–9061	Funeral directors	30.0	33.6	.0	.0	3.6	11.9	9.6
11–9071	Gaming managers	6.2	6.9	.0	.0	.7	11.8	20.0
11–9081	Lodging managers	59.8	62.6	.0	.0	2.8	4.7	15.6
11–9111	Medical and health services managers	283.5	328.8	.2	.2	45.4	16.0	99.4
11–9121	Natural sciences managers	44.6	51.5	.0	.0	6.9	15.5	2.1
11–9131	Postmasters and mail superintendents	25.6	21.7	.0	.0	–3.9	–15.1	5.2
11–9141	Property, real estate, and community association managers	304.1	329.7	.2	.2	25.6	8.4	78.0
11–9151	Social and community service managers	130.6	148.6	.1	.1	18.0	13.8	48.2
11–9199	All other managers	898.2	964.0	.6	.6	65.8	7.3	297.5
13–0000	Business and financial operations occupations	6,834.4	8,044.3	4.5	4.8	1,209.9	17.7	2,575.2

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
13–1000	Business operations specialists	4,042.7	4,762.1	2.7	2.9	719.5	17.8	1,609.0
13–1011	Agents and business managers of artists, performers, and athletes	22.7	27.8	.0	.0	5.1	22.4	10.1
13–1020	Buyers and purchasing agents	457.1	494.5	.3	.3	37.4	8.2	158.7
13–1021	Purchasing agents and buyers, farm products	14.1	14.0	.0	.0	–.2	–1.1	3.1
13–1022	Wholesale and retail buyers, except farm products	147.7	144.4	.1	.1	–3.3	–2.2	37.0
13–1023	Purchasing agents, except wholesale, retail, and farm products	295.2	336.1	.2	.2	40.9	13.9	118.6
13–1030	Claims adjusters, appraisers, examiners, and investigators	306.3	327.2	.2	.2	20.9	6.8	98.6
13–1031	Claims adjusters, examiners, and investigators	294.6	315.5	.2	.2	20.9	7.1	95.6
13–1032	Insurance appraisers, auto damage	11.7	11.7	.0	.0	.1	.5	3.0
13–1041	Compliance officers, except agriculture, construction, health and safety, and transportation	260.2	341.0	.2	.2	80.8	31.0	108.5
13–1051	Cost estimators	217.8	272.9	.1	.2	55.2	25.3	103.6
13–1061	Emergency management specialists	12.8	15.6	.0	.0	2.8	21.7	5.6
13–1070	Human resources, training, and labor relations specialists	770.9	955.5	.5	.6	184.5	23.9	385.8
13–1071	Employment, recruitment, and placement specialists	207.9	265.9	.1	.2	58.0	27.9	112.3
13–1072	Compensation, benefits, and job analysis specialists	121.9	150.6	.1	.1	28.7	23.6	60.5
13–1073	Training and development specialists	216.6	267.1	.1	.2	50.5	23.3	107.1
13–1079	Human resources, training, and labor relations specialists, all other	224.6	271.9	.1	.2	47.2	21.0	105.9
13–1081	Logisticians	100.4	120.0	.1	.1	19.6	19.5	41.9
13–1111	Management analysts	746.9	925.2	.5	.6	178.3	23.9	306.5
13–1121	Meeting and convention planners	56.6	65.4	.0	.0	8.8	15.6	21.4
13–1199	Business operation specialists, all other	1,091.1	1,217.0	.7	.7	125.9	11.5	368.3
13–2000	Financial specialists	2,791.7	3,282.2	1.8	2.0	490.5	17.6	966.2
13–2011	Accountants and auditors	1,290.6	1,570.0	.9	.9	279.4	21.6	497.5
13–2021	Appraisers and assessors of real estate	92.4	96.6	.1	.1	4.2	4.6	21.0
13–2031	Budget analysts	67.2	77.4	.0	.0	10.1	15.1	22.3
13–2041	Credit analysts	73.2	84.2	.0	.1	11.0	15.0	24.3
13–2050	Financial analysts and advisors	562.0	670.2	.4	.4	108.2	19.2	210.4
13–2051	Financial analysts	250.6	300.3	.2	.2	49.6	19.8	95.2
13–2052	Personal financial advisors	208.4	271.2	.1	.2	62.8	30.1	85.3
13–2053	Insurance underwriters	102.9	98.7	.1	.1	–4.3	–4.1	30.0
13–2061	Financial examiners	27.0	38.1	.0	.0	11.1	41.2	16.0
13–2070	Loan counselors and officers	360.2	398.5	.2	.2	38.3	10.6	77.6
13–2071	Loan counselors	32.4	37.6	.0	.0	5.3	16.3	8.8
13–2072	Loan officers	327.8	360.9	.2	.2	33.0	10.1	68.8
13–2080	Tax examiners, collectors, preparers, and revenue agents	168.5	180.8	.1	.1	12.3	7.3	53.7
13–2081	Tax examiners, collectors, and revenue agents	72.7	82.2	.0	.0	9.5	13.0	35.2
13–2082	Tax preparers	95.8	98.6	.1	.1	2.8	2.9	18.5
13–2099	All other financial specialists	150.6	166.4	.1	.1	15.8	10.5	43.2
15–2900	Professional and related occupations[3]	31,053.5	36,280.0	20.6	21.8	5,226.5	16.8	11,923.4
15–0000	Computer and mathematical science occupations	3,540.4	4,326.1	2.3	2.6	785.7	22.2	1,440.5
15–1000	Computer specialists	3,424.3	4,187.0	2.3	2.5	762.7	22.3	1,383.6

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
15–1011	Computer and information scientists, research	28.9	35.9	0.0	0.0	7.0	24.2	13.2
15–1021	Computer programmers	426.7	414.4	.3	.2	−12.3	−2.9	80.3
15–1030	Computer software engineers	909.6	1,204.8	.6	.7	295.2	32.5	371.7
15–1031	Computer software engineers, applications	514.8	689.9	.3	.4	175.1	34.0	218.4
15–1032	Computer software engineers, systems software	394.8	515.0	.3	.3	120.2	30.4	153.4
15–1041	Computer support specialists	565.7	643.7	.4	.4	78.0	13.8	234.6
15–1051	Computer systems analysts	532.2	640.3	.4	.4	108.1	20.3	222.8
15–1061	Database administrators	120.4	144.7	.1	.1	24.4	20.3	44.4
15–1071	Network and computer systems administrators	339.5	418.4	.2	.3	78.9	23.2	135.5
15–1081	Network systems and data communications analysts	292.0	447.8	.2	.3	155.8	53.4	208.3
15–1099	All other computer specialists	209.3	236.8	.1	.1	27.5	13.1	72.6
15–2000	Mathematical science occupations	116.1	139.1	.1	.1	23.0	19.8	56.9
15–2011	Actuaries	19.7	23.9	.0	.0	4.2	21.4	10.0
15–2021	Mathematicians	2.9	3.6	.0	.0	.7	22.5	1.5
15–2031	Operations research analysts	63.0	76.9	.0	.0	13.9	22.0	32.2
15–2041	Statisticians	22.6	25.5	.0	.0	2.9	13.1	9.6
15–2090	Miscellaneous mathematical science occupations	7.8	9.1	.0	.0	1.3	16.2	3.6
15–2091	Mathematical technicians	1.2	1.3	.0	.0	.1	8.5	.5
15–2099	Mathematical scientists, all other	6.6	7.8	.0	.0	1.2	17.6	3.1
17–0000	Architecture and engineering occupations	2,636.0	2,906.6	1.7	1.7	270.6	10.3	837.6
17–1000	Architects, surveyors, and cartographers	237.9	278.0	.2	.2	40.1	16.8	86.3
17–1010	Architects, except naval	167.9	196.1	.1	.1	28.2	16.8	56.5
17–1011	Architects, except landscape and naval	141.2	164.2	.1	.1	22.9	16.2	46.8
17–1012	Landscape architects	26.7	32.0	.0	.0	5.3	19.7	9.8
17–1020	Surveyors, cartographers, and photogrammetrists	70.0	81.8	.0	.0	11.9	17.0	29.7
17–1021	Cartographers and photogrammetrists	12.3	15.6	.0	.0	3.3	26.8	6.4
17–1022	Surveyors	57.6	66.2	.0	.0	8.6	14.9	23.3
17–2000	Engineers	1,571.9	1,750.3	1.0	1.1	178.3	11.3	531.3
17–2011	Aerospace engineers	71.6	79.1	.0	.0	7.4	10.4	22.3
17–2021	Agricultural engineers	2.7	3.0	.0	.0	.3	12.1	.9
17–2031	Biomedical engineers	16.0	27.6	.0	.0	11.6	72.0	14.9
17–2041	Chemical engineers	31.7	31.0	.0	.0	−.6	−2.0	7.8
17–2051	Civil engineers	278.4	345.9	.2	.2	67.6	24.3	114.6
17–2061	Computer hardware engineers	74.7	77.5	.0	.0	2.8	3.8	23.5
17–2070	Electrical and electronics engineers	301.5	304.6	.2	.2	3.1	1.0	72.3
17–2071	Electrical engineers	157.8	160.5	.1	.1	2.7	1.7	38.9
17–2072	Electronics engineers, except computer	143.7	144.1	.1	.1	.4	.3	33.4
17–2081	Environmental engineers	54.3	70.9	.0	.0	16.6	30.6	27.9
17–2110	Industrial engineers, including health and safety	240.4	273.7	.2	.2	33.2	13.8	94.6
17–2111	Health and safety engineers, except mining safety engineers and inspectors	25.7	28.3	.0	.0	2.6	10.3	9.2
17–2112	Industrial engineers	214.8	245.3	.1	.1	30.6	14.2	85.4
17–2121	Marine engineers and naval architects	8.5	9.0	.0	.0	.5	5.8	2.3
17–2131	Materials engineers	24.4	26.6	.0	.0	2.3	9.3	8.1
17–2141	Mechanical engineers	238.7	253.1	.2	.2	14.4	6.0	75.7
17–2151	Mining and geological engineers, including mining safety engineers	7.1	8.2	.0	.0	1.1	15.3	2.6
17–2161	Nuclear engineers	16.9	18.8	.0	.0	1.9	10.9	5.4
17–2171	Petroleum engineers	21.9	25.9	.0	.0	4.0	18.4	8.6
17–2199	All other engineers	183.2	195.4	.1	.1	12.2	6.7	50.2
17–3000	Drafters, engineering, and mapping technicians	826.2	878.3	.5	.5	52.2	6.3	220.0

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
17–3010	Drafters	251.9	262.5	0.2	0.2	10.7	4.2	65.6
17–3011	Architectural and civil drafters	118.4	129.1	.1	.1	10.8	9.1	36.2
17–3012	Electrical and electronics drafters	33.6	33.9	.0	.0	.3	.8	7.5
17–3013	Mechanical drafters	78.7	77.8	.1	.0	–.9	–1.1	16.9
17–3019	Drafters, all other	21.2	21.7	.0	.0	.5	2.3	5.1
17–3020	Engineering technicians, except drafters	497.3	523.1	.3	.3	25.8	5.2	124.9
17–3021	Aerospace engineering and operations technicians	8.7	8.9	.0	.0	.2	2.3	1.8
17–3022	Civil engineering technicians	91.7	107.2	.1	.1	15.5	16.9	32.8
17–3023	Electrical and electronic engineering technicians	164.0	160.4	.1	.1	–3.6	–2.2	31.0
17–3024	Electro-mechanical technicians	16.4	15.6	.0	.0	–.8	–4.9	3.1
17–3025	Environmental engineering technicians	21.2	27.5	.0	.0	6.4	30.1	10.4
17–3026	Industrial engineering technicians	72.6	77.4	.0	.0	4.8	6.6	18.5
17–3027	Mechanical engineering technicians	46.1	45.5	.0	.0	–.7	–1.5	8.7
17–3029	Engineering technicians, except drafters, all other	76.6	80.6	.1	.0	4.0	5.2	18.5
17–3031	Surveying and mapping technicians	77.0	92.7	.1	.1	15.7	20.4	29.4
19–0000	Life, physical, and social science occupations	1,460.8	1,738.0	1.0	1.0	277.2	19.0	714.6
19–1000	Life scientists	279.4	354.1	.2	.2	74.6	26.7	143.7
19–1010	Agricultural and food scientists	31.0	35.9	.0	.0	4.8	15.6	15.7
19–1011	Animal scientists	3.7	4.2	.0	.0	.5	13.1	1.8
19–1012	Food scientists and technologists	13.4	15.6	.0	.0	2.2	16.3	6.9
19–1013	Soil and plant scientists	13.9	16.1	.0	.0	2.2	15.5	7.0
19–1020	Biological scientists	91.3	110.5	.1	.1	19.2	21.0	48.5
19–1021	Biochemists and biophysicists	23.2	31.9	.0	.0	8.7	37.4	16.2
19–1022	Microbiologists	16.9	18.9	.0	.0	2.1	12.2	7.5
19–1023	Zoologists and wildlife biologists	19.5	22.0	.0	.0	2.5	12.8	8.8
19–1029	Biological scientists, all other	31.7	37.6	.0	.0	5.9	18.8	16.1
19–1030	Conservation scientists and foresters	29.8	33.4	.0	.0	3.6	12.0	6.8
19–1031	Conservation scientists	18.3	20.5	.0	.0	2.2	11.9	4.1
19–1032	Foresters	11.5	12.9	.0	.0	1.4	12.1	2.6
19–1040	Medical scientists	114.2	159.1	.1	.1	44.9	39.3	67.9
19–1041	Epidemiologists	4.8	5.5	.0	.0	.7	15.1	1.7
19–1042	Medical scientists, except epidemiologists	109.4	153.6	.1	.1	44.2	40.4	66.2
19–1099	All other life scientists	13.1	15.2	.0	.0	2.1	16.3	4.8
19–2000	Physical scientists	275.5	317.2	.2	.2	41.7	15.1	123.0
19–2010	Astronomers and physicists	17.1	19.8	.0	.0	2.7	15.9	7.6
19–2011	Astronomers	1.5	1.7	.0	.0	.2	16.0	.7
19–2012	Physicists	15.6	18.1	.0	.0	2.5	15.9	6.9
19–2021	Atmospheric and space scientists	9.4	10.8	.0	.0	1.4	14.7	3.3
19–2030	Chemists and materials scientists	94.1	97.3	.1	.1	3.3	3.5	34.4
19–2031	Chemists	84.3	86.4	.1	.1	2.1	2.5	30.0
19–2032	Materials scientists	9.7	10.9	.0	.0	1.2	11.9	4.4
19–2040	Environmental scientists and geoscientists	127.6	158.9	.1	.1	31.3	24.5	67.6
19–2041	Environmental scientists and specialists, including health	85.9	109.8	.1	.1	23.9	27.9	48.4
19–2042	Geoscientists, except hydrologists and geographers	33.6	39.4	.0	.0	5.9	17.5	15.4
19–2043	Hydrologists	8.1	9.6	.0	.0	1.5	18.3	3.8
19–2099	All other physical scientists	27.4	30.4	.0	.0	3.0	11.1	10.1
19–3000	Social scientists and related occupations	549.4	666.1	.4	.4	116.7	21.3	275.1
19–3011	Economists	14.6	15.5	.0	.0	.9	5.8	5.0

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
19–3020	Market and survey researchers	273.2	350.5	0.2	0.2	77.2	28.3	150.7
19–3021	Market research analysts	249.8	319.9	.2	.2	70.1	28.1	137.3
19–3022	Survey researchers	23.4	30.5	.0	.0	7.1	30.4	13.4
19–3030	Psychologists	170.2	190.0	.1	.1	19.7	11.6	68.0
19–3031	Clinical, counseling, and school psychologists	152.0	168.8	.1	.1	16.8	11.1	59.9
19–3032	Industrial-organizational psychologists	2.3	2.9	.0	.0	.6	26.3	1.3
19–3039	Psychologists, all other	15.9	18.3	.0	.0	2.3	14.4	6.8
19–3041	Sociologists	4.9	6.0	.0	.0	1.1	21.9	2.0
19–3051	Urban and regional planners	38.4	45.7	.0	.0	7.3	19.0	14.7
19–3090	Miscellaneous social scientists and related workers	47.9	58.5	.0	.0	10.6	22.0	34.6
19–3091	Anthropologists and archeologists	5.8	7.4	.0	.0	1.6	28.1	4.5
19–3092	Geographers	1.3	1.6	.0	.0	.3	26.2	1.0
19–3093	Historians	4.1	4.5	.0	.0	.5	11.5	2.5
19–3094	Political scientists	40.1	4.9	.0	.0	.8	19.5	2.8
19–3099	Social scientists and related workers, all other	32.8	40.1	.0	.0	7.4	22.4	23.8
19–4000	Life, physical, and social science technicians	356.5	400.7	.2	.2	44.1	12.4	172.9
19–4011	Agricultural and food science technicians	21.9	23.8	.0	.0	1.9	8.8	9.6
19–4021	Biological technicians	79.5	93.5	.1	.1	14.0	17.6	41.9
19–4031	Chemical technicians	66.1	65.5	.0	.0	–.5	–.8	13.3
19–4041	Geological and petroleum technicians	15.2	15.4	.0	.0	.2	1.5	5.5
19–4051	Nuclear technicians	6.4	7.0	.0	.0	.6	9.2	2.8
19–4061	Social science research assistants	21.0	24.7	.0	.0	3.7	17.8	12.7
19–4090	Other life, physical, and social science technicians	146.5	170.7	.1	.1	24.2	16.5	87.1
19–4091	Environmental science and protection technicians, including health	35.0	45.2	.0	.0	10.1	28.9	25.2
19–4092	Forensic science technicians	12.8	15.3	.0	.0	2.5	19.6	8.0
19–4093	Forest and conservation technicians	34.0	36.9	.0	.0	2.9	8.6	17.5
19–4099	Life, physical, and social science technicians, all other	64.7	73.3	.0	.0	8.6	13.3	36.4
21–0000	Community and social services occupations	2,723.7	3,172.1	1.8	1.9	448.4	16.5	1,032.6
21–1000	Counselors, social workers, and other community and social service specialists	1,944.9	2,294.5	1.3	1.4	349.7	18.0	780.4
21–1010	Counselors	665.5	782.2	.4	.5	116.8	17.5	251.3
21–1011	Substance abuse and behavioral disorder counselors	86.1	104.2	.1	.1	18.1	21.0	35.5
21–1012	Educational, vocational, and school counselors	275.8	314.4	.2	.2	38.6	14.0	94.4
21–1013	Marriage and family therapists	27.3	31.3	.0	.0	3.9	14.5	9.5
21–1014	Mental health counselors	113.3	140.4	.1	.1	27.2	24.0	50.1
21–1015	Rehabilitation counselors	129.5	154.1	.1	.1	24.5	18.9	50.7
21–1019	Counselors, all other	33.4	37.8	.0	.0	4.4	13.1	11.1
21–1020	Social workers	642.0	745.4	.4	.4	103.4	16.1	264.6
21–1021	Child, family, and school social workers	292.6	328.7	.2	.2	36.1	12.3	109.6
21–1022	Medical and public health social workers	138.7	169.8	.1	.1	31.1	22.4	65.9
21–1023	Mental health and substance abuse social workers	137.3	164.1	.1	.1	26.8	19.5	61.3
21–1029	Social workers, all other	73.4	82.8	.0	.0	9.4	12.8	27.8
21–1090	Miscellaneous community and social service specialists	637.4	767.0	.4	.5	129.6	20.3	264.5
21–1091	Health educators	66.2	78.2	.0	.0	12.0	18.1	26.0
21–1092	Probation officers and correctional treatment specialists	103.4	123.3	.1	.1	19.9	19.3	41.8
21–1093	Social and human service assistants	352.0	431.5	.2	.3	79.4	22.6	153.9

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
21–1099	Community and social service specialists, all other	115.8	134.0	0.1	0.1	18.2	15.7	42.7
21–2000	Religious workers	778.8	877.6	.5	.5	98.8	12.7	252.2
21–2011	Clergy	670.1	755.2	.4	.5	85.1	12.7	217.7
21–2021	Directors, religious activities and education	80.4	90.6	.1	.1	10.2	12.6	26.4
21–2099	Religious workers, all other	28.3	31.8	.0	.0	3.5	12.5	8.1
23–0000	Legal occupations	1,251.0	1,439.4	.8	.9	188.4	15.1	397.1
23–1000	Lawyers, judges, and related workers	810.4	910.8	.5	.5	100.4	12.4	252.5
23–1011	Lawyers	759.2	857.7	.5	.5	98.5	13.0	240.4
23–1020	Judges, magistrates, and other judicial workers	51.2	53.1	.0	.0	1.8	3.6	12.1
23–1021	Administrative law judges, adjudicators, and hearing officers	14.4	15.5	.0	.0	1.2	8.0	3.8
23–1022	Arbitrators, mediators, and conciliators	9.9	11.3	.0	.0	1.4	13.9	3.2
23–1023	Judges, magistrate judges, and magistrates	26.9	26.2	.0	.0	–.7	–2.6	5.0
23–2000	Legal support workers	440.6	528.7	.3	.3	88.1	20.0	144.6
23–2011	Paralegals and legal assistants	263.8	337.9	.2	.2	74.1	28.1	104.0
23–2090	Miscellaneous legal support workers	176.8	190.8	.1	.1	14.0	7.9	40.6
23–2091	Court reporters	21.5	25.4	.0	.0	3.9	18.3	7.1
23–2092	Law clerks	37.7	42.9	.0	.0	5.2	13.9	10.8
23–2093	Title examiners, abstractors, and searchers	69.5	69.0	.0	.0	–.5	–.7	10.3
23–2099	Legal support workers, all other	48.1	53.4	.0	.0	5.3	11.0	12.4
25–0000	Education, training, and library occupations	9,209.5	10,533.6	6.1	6.3	1,324.1	14.4	3,331.7
25–1000	Postsecondary teachers	1,699.2	1,956.1	1.1	1.2	256.9	15.1	552.9
25–2000	Primary, secondary, and special education teachers	4,521.5	5,168.8	3.0	3.1	647.3	14.3	1,748.4
25–2010	Preschool and kindergarten teachers	636.8	750.4	.4	.5	113.6	17.8	241.3
25–2011	Preschool teachers, except special education	457.2	543.9	.3	.3	86.7	19.0	178.3
25–2012	Kindergarten teachers, except special education	179.5	206.5	.1	.1	27.0	15.0	63.0
25–2020	Elementary and middle school teachers	2,224.6	2,570.5	1.5	1.5	345.9	15.5	851.7
25–2021	Elementary school teachers, except special education	1,549.5	1,793.7	1.0	1.1	244.2	15.8	596.5
25–2022	Middle school teachers, except special and vocational education	659.5	760.6	.4	.5	101.2	15.3	251.1
25–2023	Vocational education teachers, middle school	15.6	16.1	.0	.0	.5	3.2	4.1
25–2030	Secondary school teachers	1,187.2	1,293.1	.8	.8	105.9	8.9	450.8
25–2031	Secondary school teachers, except special and vocational education	1,087.7	1,184.1	.7	.7	96.3	8.9	412.4
25–2032	Vocational education teachers, secondary school	99.4	109.0	.1	.1	9.6	9.6	38.5
25–2040	Special education teachers	473.0	554.9	.3	.3	81.9	17.3	204.6
25–2041	Special education teachers, preschool, kindergarten, and elementary school	226.0	270.3	.1	.2	44.3	19.6	102.9
25–2042	Special education teachers, middle school	100.3	118.4	.1	.1	18.1	18.1	44.1
25–2043	Special education teachers, secondary school	146.7	166.2	.1	.1	19.5	13.3	57.5
25–3000	Other teachers and instructors	1,099.3	1,305.5	.7	.8	206.2	18.8	375.2
25–3011	Adult literacy, remedial education, and GED teachers and instructors	96.0	110.4	.1	.1	14.5	15.1	29.2
25–3021	Self-enrichment education teachers	253.6	334.9	.2	.2	81.3	32.0	120.3
25–3099	Teachers and instructors, all other	749.7	860.1	.5	.5	110.4	14.7	225.7
25–4000	Librarians, curators, and archivists	309.6	338.6	.2	.2	29.0	9.4	133.8
25–4010	Archivists, curators, and museum technicians	29.1	35.0	.0	.0	5.9	20.4	14.6
25–4011	Archivists	6.3	6.7	.0	.0	.4	6.5	2.3
25–4012	Curators	11.7	14.4	.0	.0	2.7	23.0	6.2
25–4013	Museum technicians and conservators	11.1	13.9	.0	.0	2.8	25.6	6.1
25–4021	Librarians	159.9	172.4	.1	.1	12.5	7.8	54.5

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
25–4031	Library technicians	120.6	131.2	0.1	0.1	10.6	8.8	64.7
25–9000	Other education, training, and library occupations	1,579.8	1,764.6	1.0	1.1	184.7	11.7	521.3
25–9011	Audio-visual collections specialists	6.8	7.5	.0	.0	.7	10.3	2.2
25–9021	Farm and home management advisors	13.1	13.2	.0	.0	.2	1.2	3.0
25–9031	Instructional coordinators	133.9	165.0	.1	.1	31.1	23.2	60.6
25–9041	Teacher assistants	1,312.7	1,447.6	.9	.9	134.9	10.3	412.7
25–9099	Education, training, and library workers, all other	113.3	131.2	.1	.1	17.9	15.8	42.9
27–0000	Arts, design, entertainment, sports, and media occupations	2,740.9	3,073.4	1.8	1.8	332.6	12.1	1,030.0
27–1000	Art and design occupations	834.0	922.1	.6	.6	88.1	10.6	327.7
27–1010	Artists and related workers	221.9	247.7	.1	.1	25.8	11.6	75.5
27–1011	Art directors	84.2	94.0	.1	.1	9.8	11.7	28.7
27–1012	Craft artists	13.6	14.6	.0	.0	1.0	7.2	4.0
27–1013	Fine artists, including painters, sculptors, and illustrators	23.6	25.7	.0	.0	2.1	9.0	7.4
27–1014	Multi-media artists and animators	79.0	90.2	.1	.1	11.2	14.2	28.9
27–1019	Artists and related workers, all other	21.5	23.2	.0	.0	1.7	7.9	6.5
27–1020	Designers	612.1	674.4	.4	.4	62.3	10.2	252.2
27–1021	Commercial and industrial designers	44.3	48.3	.0	.0	4.0	9.0	17.6
27–1022	Fashion designers	22.7	22.9	.0	.0	.2	.8	7.2
27–1023	Floral designers	76.1	74.2	.1	.0	–1.9	–2.5	23.4
27–1024	Graphic designers	286.1	323.1	.2	.2	36.9	12.9	124.8
27–1025	Interior designers	71.7	85.6	.0	.1	13.9	19.4	35.9
27–1026	Merchandise displayers and window trimmers	85.2	91.2	.1	.1	6.0	7.1	32.2
27–1027	Set and exhibit designers	10.9	12.7	.0	.0	1.8	16.6	5.1
27–1029	Designers, all other	15.0	16.5	.0	.0	1.5	9.6	6.1
27–2000	Entertainers and performers, sports and related occupations	740.7	845.3	.5	.5	104.6	14.1	274.3
27–2010	Actors, producers, and directors	155.1	172.0	.1	.1	16.9	10.9	61.2
27–2011	Actors	56.5	63.7	.0	.0	7.2	12.8	20.8
27–2012	Producers and directors	98.6	108.3	.1	.1	9.7	9.8	40.4
27–2020	Athletes, coaches, umpires, and related workers	258.1	317.7	.2	.2	59.6	23.1	109.0
27–2021	Athletes and sports competitors	16.5	18.4	.0	.0	1.9	11.8	5.1
27–2022	Coaches and scouts	225.7	281.7	.1	.2	56.0	24.8	99.2
27–2023	Umpires, referees, and other sports officials	15.9	17.6	.0	.0	1.7	10.4	4.7
27–2030	Dancers and choreographers	29.2	30.9	.0	.0	1.7	6.0	15.1
27–2031	Dancers	13.0	13.9	.0	.0	.9	6.8	6.9
27–2032	Choreographers	16.2	17.0	.0	.0	.9	5.3	8.3
27–2040	Musicians, singers, and related workers	240.0	259.6	.2	.2	19.6	8.2	68.0
27–2041	Music directors and composers	53.6	59.0	.0	.0	5.3	10.0	16.2
27–2042	Musicians and singers	186.4	200.6	.1	.1	14.2	7.6	51.9
27–2099	All other entertainers and performers, sports and related workers	58.2	65.1	.0	.0	6.8	11.8	20.8
27–3000	Media and communication occupations	827.2	932.5	.5	.6	105.2	12.7	310.7
27–3010	Announcers	67.4	65.0	.0	.0	–2.4	–3.5	19.9
27–3011	Radio and television announcers	55.1	51.7	.0	.0	–3.4	–6.1	15.5
27–3012	Public address system and other announcers	12.3	13.3	.0	.0	1.0	8.2	4.5
27–3020	News analysts, reporters and correspondents	69.3	64.9	.0	.0	–4.4	–6.3	19.3
27–3021	Broadcast news analysts	7.7	8.0	.0	.0	.3	4.1	2.4
27–3022	Reporters and correspondents	61.6	56.9	.0	.0	–4.7	–7.6	16.9
27–3031	Public relations specialists	275.2	341.3	.2	.2	66.2	24.0	131.3
27–3040	Writers and editors	330.2	361.1	.2	.2	30.9	9.4	105.0

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
27–3041	Editors	129.6	129.2	0.1	0.1	–0.4	–0.3	33.9
27–3042	Technical writers	48.9	57.8	.0	.0	8.9	18.2	16.8
27–3043	Writers and authors	151.7	174.1	.1	.1	22.5	14.8	54.2
27–3090	Miscellaneous media and communications workers	85.2	100.1	.1	.1	14.9	17.4	35.1
27–3091	Interpreters and translators	50.9	62.2	.0	.0	11.3	22.2	23.4
27–3099	All other media and communication workers	34.3	37.9	.0	.0	3.6	10.4	11.7
27–4000	Media and communication equipment occupations	339.0	373.6	.2	.2	34.5	10.2	117.4
27–4010	Broadcast and sound engineering technicians and radio operators	114.6	123.6	.1	.1	9.0	7.8	43.6
27–4011	Audio and video equipment technicians	55.4	62.4	.0	.0	7.0	12.6	23.7
27–4012	Broadcast technicians	38.8	39.4	.0	.0	.7	1.8	12.4
27–4013	Radio operators	1.0	1.1	.0	.0	.1	9.0	.4
27–4014	Sound engineering technicians	19.5	20.7	.0	.0	1.2	6.3	7.1
27–4021	Photographers	152.0	169.5	.1	.1	17.5	11.5	48.0
27–4030	Television, video, and motion picture camera operators and editors	51.9	57.3	.0	.0	5.4	10.5	18.2
27–4031	Camera operators, television, video, and motion picture	26.3	28.8	.0	.0	2.4	9.2	8.9
27–4032	Film and video editors	25.5	28.6	.0	.0	3.0	11.9	9.3
27–4099	All other media and communication equipment workers	20.6	23.1	.0	.0	2.6	12.5	7.6
29–0000	Healthcare practitioners and technical occupations	7,491.3	9,090.8	5.0	5.5	1,599.6	21.4	3,139.3
29–1000	Health diagnosing and treating practitioners	4,630.4	5,645.5	3.1	3.4	1,015.1	21.9	1,866.3
29–1011	Chiropractors	49.1	58.7	.0	.0	9.6	19.5	18.2
29–1020	Dentists	141.9	164.0	.1	.1	22.1	15.6	61.5
29–1021	Dentists, general	120.2	138.6	.1	.1	18.4	15.3	51.8
29–1022	Oral and maxillofacial surgeons	6.7	7.7	.0	.0	1.0	15.3	2.9
29–1023	Orthodontists	7.7	9.2	.0	.0	1.5	19.8	3.6
29–1024	Prosthodontists	.5	.7	.0	.0	.1	27.7	.3
29–1029	Dentists, all other specialists	6.9	7.9	.0	.0	1.0	14.7	2.9
29–1031	Dietitians and nutritionists	60.3	65.8	.0	.0	5.6	9.2	25.7
29–1041	Optometrists	34.8	43.2	.0	.0	8.5	24.4	20.1
29–1051	Pharmacists	269.9	315.8	.2	.2	45.9	17.0	105.8
29–1060	Physicians and surgeons	661.4	805.5	.4	.5	144.1	21.8	260.5
29–1071	Physician assistants	74.8	103.9	.0	.1	29.2	39.0	42.8
29–1081	Podiatrists	12.2	13.3	.0	.0	1.1	9.0	3.2
29–1111	Registered nurses	2,618.7	3,200.2	1.7	1.9	581.5	22.2	1,039.0
29–1120	Therapists	598.7	740.2	.4	.4	141.6	23.7	244.1
29–1121	Audiologists	12.8	16.0	.0	.0	3.2	25.0	5.8
29–1122	Occupational therapists	104.5	131.3	.1	.1	26.8	25.6	45.8
29–1123	Physical therapists	185.5	241.7	.1	.1	56.2	30.3	78.6
29–1124	Radiation therapists	15.2	19.4	.0	.0	4.1	27.1	6.9
29–1125	Recreational therapists	23.3	26.7	.0	.0	3.4	14.6	11.6
29–1126	Respiratory therapists	105.9	128.1	.1	.1	22.1	20.9	41.4
29–1127	Speech-language pathologists	119.3	141.4	.1	.1	22.1	18.5	43.8
29–1129	Therapists, all other	32.2	35.9	.0	.0	3.7	11.5	10.2
29–1131	Veterinarians	59.7	79.4	.0	.0	19.7	33.0	30.2
29–1199	Health diagnosing and treating practitioners, all other	49.0	55.4	.0	.0	6.4	13.0	15.3
29–2000	Health technologists and technicians	2,718.8	3,280.0	1.8	2.0	561.2	20.6	1,202.2
29–2010	Clinical laboratory technologists and technicians	328.1	373.6	.2	.2	45.6	13.9	107.9
29–2011	Medical and clinical laboratory technologists	172.4	193.0	.1	.1	20.5	11.9	53.3

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
29–2012	Medical and clinical laboratory technicians	155.6	180.7	0.1	0.1	25.0	16.1	54.6
29–2021	Dental hygienists	174.1	237.0	.1	.1	62.9	36.1	98.4
29–2030	Diagnostic related technologists and technicians	336.2	397.9	.2	.2	61.7	18.3	110.3
29–2031	Cardiovascular technologists and technicians	49.5	61.4	.0	.0	11.9	24.1	19.1
29–2032	Diagnostic medical sonographers	50.3	59.5	.0	.0	9.2	18.3	16.5
29–2033	Nuclear medicine technologists	21.8	25.4	.0	.0	3.6	16.3	6.7
29–2034	Radiologic technologists and technicians	214.7	251.7	.1	.2	37.0	17.2	68.0
29–2041	Emergency medical technicians and paramedics	210.7	229.7	.1	.1	19.0	9.0	62.0
29–2050	Health diagnosing and treating practitioner support technicians	596.2	753.3	.4	.5	157.1	26.4	307.6
29–2051	Dietetic technicians	25.2	28.7	.0	.0	3.5	13.9	9.9
29–2052	Pharmacy technicians	326.3	426.0	.2	.3	99.8	30.6	182.0
29–2053	Psychiatric technicians	57.1	59.5	.0	.0	2.4	4.2	16.8
29–2054	Respiratory therapy technicians	16.5	16.4	.0	.0	–.2	–1.1	4.2
29–2055	Surgical technologists	91.5	114.7	.1	.1	23.2	25.3	46.3
29–2056	Veterinary technologists and technicians	79.6	108.1	.1	.1	28.5	35.8	48.5
29–2061	Licensed practical and licensed vocational nurses	753.6	909.2	.5	.5	155.6	20.6	391.3
29–2071	Medical records and health information technicians	172.5	207.6	.1	.1	35.1	20.3	70.3
29–2081	Opticians, dispensing	59.8	67.8	.0	.0	8.0	13.4	20.2
29–2090	Miscellaneous health technologists and technicians	87.7	103.9	.1	.1	16.2	18.5	34.1
29–2091	Orthotists and prosthetists	5.9	6.8	.0	.0	.9	15.5	2.1
29–2099	Healthcare technologists and technicians, all other	81.8	97.1	.1	.1	15.3	18.7	32.0
29–9000	Other healthcare practitioners and technical occupations	142.1	165.4	.1	.1	23.3	16.4	70.8
29–9010	Occupational health and safety specialists and technicians	66.7	74.5	.0	.0	7.8	11.7	30.1
29–9011	Occupational health and safety specialists	55.8	62.0	.0	.0	6.2	11.2	24.9
29–9012	Occupational health and safety technicians	10.9	12.5	.0	.0	1.6	14.4	5.2
29–9090	Miscellaneous health practitioners and technical workers	75.4	90.8	.0	.1	15.4	20.5	40.6
29–9091	Athletic trainers	16.3	22.4	.0	.0	6.0	36.9	11.5
29–9099	Healthcare practitioners and technical workers, all other	59.0	68.4	.0	.0	9.4	15.9	29.1
31–3900	Service occupations[4]	29,575.9	33,645.1	19.6	20.2	4,069.2	13.8	11,717.6
31–0000	Healthcare support occupations	3,982.4	5,129.5	2.6	3.1	1,147.1	28.8	1,595.3
31–1000	Nursing, psychiatric, and home health aides	2,454.0	3,194.4	1.6	1.9	740.5	30.2	984.8
31–1011	Home health aides	921.7	1,382.6	.6	.8	460.9	50.0	552.7
31–1012	Nursing aides, orderlies, and attendants	1,469.8	1,745.8	1.0	1.1	276.0	18.8	422.3
31–1013	Psychiatric aides	62.5	66.1	.0	.0	3.6	5.8	9.8
31–2000	Occupational and physical therapist assistants and aides	144.3	192.6	.1	.1	48.3	33.5	69.1
31–2010	Occupational therapist assistants and aides	34.4	44.8	.0	.0	10.3	30.0	15.3
31–2011	Occupational therapist assistants	26.6	34.6	.0	.0	7.9	29.8	11.8
31–2012	Occupational therapist aides	7.8	10.2	.0	.0	2.4	30.7	3.5
31–2020	Physical therapist assistants and aides	109.9	147.8	.1	.1	37.9	34.5	53.8
31–2021	Physical therapist assistants	63.8	85.0	.0	.1	21.2	33.3	30.5
31–2022	Physical therapist aides	46.1	62.8	.0	.0	16.7	36.3	23.4
31–9000	Other healthcare support occupations	1,384.1	1,742.5	.9	1.0	358.4	25.9	541.3
31–9011	Massage therapists	122.4	145.6	.1	.1	23.2	18.9	39.5
31–9090	Miscellaneous healthcare support occupations	1,261.7	1,596.9	.8	1.0	335.2	26.6	501.8

See footnotes at end of table

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
31–9091	Dental assistants	295.3	400.9	0.2	0.2	105.6	35.8	161.0
31–9092	Medical assistants	483.6	647.5	.3	.4	163.9	33.9	217.8
31–9093	Medical equipment preparers	46.8	52.8	.0	.0	6.0	12.8	11.2
31–9094	Medical transcriptionists	105.2	116.9	.1	.1	11.7	11.1	23.5
31–9095	Pharmacy aides	54.9	51.5	.0	.0	–3.5	–6.3	6.1
31–9096	Veterinary assistants and laboratory animal caretaker	75.2	92.4	.0	.1	17.1	22.8	25.5
31–9099	All other healthcare support workers	200.6	235.0	.1	.1	34.3	17.1	56.7
33–0000	Protective service occupations	3,270.0	3,670.1	2.2	2.2	400.1	12.2	1,303.7
33–1000	First-line supervisors/managers, protective service workers	251.6	274.4	.2	.2	22.7	9.0	129.2
33–1010	First-line supervisors/managers, law enforcement workers	140.8	152.3	.1	.1	11.5	8.2	69.9
33–1011	First-line supervisors/managers of correctional officers	43.5	47.2	.0	.0	3.7	8.5	19.4
33–1012	First-line supervisors/managers of police and detectives	97.3	105.2	.1	.1	7.8	8.1	50.5
33–1021	First-line supervisors/managers of fire fighting and prevention workers	55.2	59.7	.0	.0	4.5	8.2	32.5
33–1099	All other first-line supervisors/managers, protective service workers	55.6	62.3	.0	.0	6.7	12.0	26.8
33–2000	Fire fighting and prevention workers	326.9	386.0	.2	.2	59.0	18.1	158.9
33–2011	Fire fighters	310.4	367.9	.2	.2	57.5	18.5	152.8
33–2020	Fire inspectors	16.6	18.1	.0	.0	1.5	9.2	6.0
33–2021	Fire inspectors and investigators	14.7	16.1	.0	.0	1.4	9.3	5.4
33–2022	Forest fire inspectors and prevention specialists	1.8	2.0	.0	.0	.2	8.4	.7
33–3000	Law enforcement workers	1,271.1	1,392.5	.8	.8	121.5	9.6	425.7
33–3010	Bailiffs, correctional officers, and jailers	474.8	519.4	.3	.3	44.6	9.4	149.8
33–3011	Bailiffs	20.2	21.9	.0	.0	1.7	8.4	6.2
33–3012	Correctional officers and jailers	454.5	497.5	.3	.3	42.9	9.4	143.6
33–3021	Detectives and criminal investigators	112.2	130.9	.1	.1	18.7	16.6	41.6
33–3031	Fish and game wardens	8.3	9.0	.0	.0	.7	8.3	2.7
33–3041	Parking enforcement workers	10.0	10.0	.0	.0	.0	–.1	2.4
33–3050	Police officers	665.7	723.3	.4	.4	57.5	8.6	229.2
33–3051	Police and sheriff's patrol officers	661.5	718.8	.4	.4	57.3	8.7	227.9
33–3052	Transit and railroad police	4.3	4.5	.0	.0	.2	5.3	1.2
33–9000	Other protective service workers	1,420.3	1,617.2	.9	1.0	196.8	13.9	590.0
33–9011	Animal control workers	16.1	17.5	.0	.0	1.5	9.0	5.8
33–9021	Private detectives and investigators	45.5	55.5	.0	.0	10.0	22.0	19.3
33–9030	Security guards and gaming surveillance officers	1,086.0	1,239.5	.7	.7	153.6	14.1	376.9
33–9031	Gaming surveillance officers and gaming investigators	9.3	10.4	.0	.0	1.1	11.7	3.0
33–9032	Security guards	1,076.6	1,229.1	.7	.7	152.5	14.2	373.9
33–9090	Miscellaneous protective service workers	272.8	304.7	.2	.2	31.8	11.7	188.0
33–9091	Crossing guards	69.9	76.5	.0	.0	6.6	9.4	25.6
33–9092	Lifeguards, ski patrol, and other recreational protective service workers	115.2	128.2	.1	.1	12.9	11.2	90.8
33–9099	Protective service workers, all other	87.7	100.0	.1	.1	12.3	14.0	71.5
35–0000	Food preparation and serving related occupations	11,552.1	12,559.6	7.7	7.6	1,007.6	8.7	5,100.5
35–1000	Supervisors, food preparation and serving workers	941.6	997.0	.6	.6	55.4	5.9	145.2
35–1011	Chefs and head cooks	108.3	108.5	.1	.1	.2	.2	10.8
35–1012	First-line supervisors/managers of food preparation and serving workers	833.3	888.5	.6	.5	55.1	6.6	134.4

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
35–2000	Cooks and food preparation workers	2,958.1	3,149.6	2.0	1.9	191.5	6.5	1,039.5
35–2010	Cooks	2,066.2	2,220.0	1.4	1.3	153.8	7.4	682.4
35–2011	Cooks, fast food	566.0	608.4	.4	.4	42.4	7.5	187.2
35–2012	Cooks, institution and cafeteria	391.8	429.7	.3	.3	37.9	9.7	138.1
35–2013	Cooks, private household	4.9	5.1	.0	.0	.2	4.3	1.5
35–2014	Cooks, restaurant	914.2	984.4	.6	.6	70.3	7.7	304.2
35–2015	Cooks, short order	171.4	171.5	.1	.1	.1	.0	43.9
35–2019	Cooks, all other	18.0	20.9	.0	.0	2.9	16.3	7.5
35–2021	Food preparation workers	891.9	929.6	.6	.6	37.8	4.2	357.0
35–3000	Food and beverage serving workers	6,307.2	6,962.3	4.2	4.2	655.1	10.4	3,142.0
35–3011	Bartenders	508.7	549.5	.3	.3	40.8	8.0	222.0
35–3020	Fast food and counter workers	3,227.1	3,670.4	2.1	2.2	443.3	13.7	1,402.1
35–3021	Combined food preparation and serving workers, including fast food	2,701.7	3,096.0	1.8	1.9	394.3	14.6	967.2
35–3022	Counter attendants, cafeteria, food concession, and coffee shop	525.4	574.4	.3	.3	49.0	9.3	434.9
35–3031	Waiters and waitresses	2,381.6	2,533.3	1.6	1.5	151.6	6.4	1,466.2
35–3041	Food servers, nonrestaurant	189.8	209.1	.1	.1	19.3	10.2	51.8
35–9000	Other food preparation and serving related workers	1,345.2	1,450.8	.9	.9	105.6	7.9	773.7
35–9011	Dining room and cafeteria attendants and bartender helpers	420.7	444.0	.3	.3	23.3	5.5	205.7
35–9021	Dishwashers	522.9	583.4	.3	.4	60.4	11.6	275.7
35–9031	Hosts and hostesses, restaurant, lounge, and coffee shop	350.7	373.4	.2	.2	22.8	6.5	266.8
35–9099	Food preparation and serving related workers, all other	50.9	50.0	.0	.0	–.9	–1.7	25.6
37–0000	Building and grounds cleaning and maintenance occupations	5,727.2	6,211.0	3.8	3.7	483.9	8.4	1,434.4
37–1000	Supervisors, building and grounds cleaning and maintenance workers	469.0	514.3	.3	.3	45.2	9.6	95.0
37–1011	First-line supervisors/managers of housekeeping and janitorial workers	251.1	263.9	.2	.2	12.8	5.1	38.9
37–1012	First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers	217.9	250.3	.1	.2	32.4	14.9	56.0
37–2000	Building cleaning and pest control workers	3,955.5	4,157.2	2.6	2.5	201.8	5.1	945.9
37–2010	Building cleaning workers	3,887.9	4,079.4	2.6	2.5	191.5	4.9	911.9
37–2011	Janitors and cleaners, except maids and housekeeping cleaners	2,375.3	2,479.4	1.6	1.5	104.1	4.4	553.0
37–2012	Maids and housekeeping cleaners	1,498.2	1,583.7	1.0	1.0	85.6	5.7	354.4
37–2019	Building cleaning workers, all other	14.5	16.2	.0	.0	1.7	12.1	4.5
37–2021	Pest control workers	67.5	77.8	.0	.0	10.3	15.3	34.0
37–3000	Grounds maintenance workers	1,302.7	1,539.5	.9	.9	236.8	18.2	393.6
37–3010	Grounds maintenance workers	1,302.7	1,539.5	.9	.9	236.8	18.2	393.6
37–3011	Landscaping and groundskeeping workers	1,205.8	1,422.9	.8	.9	217.1	18.0	362.2
37–3012	Pesticide handlers, sprayers, and applicators, vegetation	30.8	36.3	.0	.0	5.4	17.7	9.1
37–3013	Tree trimmers and pruners	45.0	56.8	.0	.0	11.8	26.3	17.2
37–3019	Grounds maintenance workers, all other	21.1	23.6	.0	.0	2.5	11.8	5.0
39–0000	Personal care and service occupations	5,044.2	6,074.8	3.3	3.7	1,030.6	20.4	2,283.7
39–1000	Supervisors, personal care and service workers	278.4	316.7	.2	.2	38.2	13.7	111.2
39–1010	First-line supervisors/managers of gaming workers	65.3	70.8	.0	.0	5.5	8.4	20.4
39–1011	Gaming supervisors	40.9	45.7	.0	.0	4.8	11.8	14.1
39–1012	Slot key persons	24.4	25.1	.0	.0	.7	2.8	6.2

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
39–1021	First-line supervisors/managers of personal service workers	213.2	245.9	0.1	0.1	32.7	15.4	90.8
39–2000	Animal care and service workers	220.4	265.9	.1	.2	45.5	20.6	92.7
39–2011	Animal trainers	47.1	56.7	.0	.0	9.6	20.4	19.0
39–2021	Nonfarm animal caretakers	173.3	209.1	.1	.1	35.9	20.7	73.6
39–3000	Entertainment attendants and related workers	569.0	652.0	.4	.4	83.0	14.6	377.8
39–3010	Gaming services workers	121.3	142.4	.1	.1	21.1	17.4	72.5
39–3011	Gaming dealers	91.1	108.4	.1	.1	17.3	19.0	55.9
39–3012	Gaming and sports book writers and runners	16.2	18.3	.0	.0	2.1	13.2	9.0
39–3019	Gaming service workers, all other	14.1	15.7	.0	.0	1.6	11.7	7.6
39–3021	Motion picture projectionists	10.8	10.9	.0	.0	.1	.6	4.7
39–3031	Ushers, lobby attendants, and ticket takers	106.1	120.7	.1	.1	14.5	13.7	81.9
39–3090	Miscellaneous entertainment attendants and related workers	330.7	378.0	.2	.2	47.3	14.3	218.7
39–3091	Amusement and recreation attendants	263.0	298.0	.2	.2	35.0	13.3	171.2
39–3092	Costume attendants	5.1	5.8	.0	.0	.7	13.8	3.3
39–3093	Locker room, coatroom, and dressing room attendants	18.5	20.9	.0	.0	2.4	13.2	12.0
39–3099	Entertainment attendants and related workers, all other	44.1	53.3	.0	.0	9.2	20.9	32.1
39–4000	Funeral service workers	43.0	52.5	.0	.0	9.5	22.1	30.0
39–4011	Embalmers	8.5	8.9	.0	.0	.4	5.2	4.5
39–4021	Funeral attendants	34.5	43.6	.0	.0	9.1	26.2	25.5
39–5000	Personal appearance workers	824.7	990.7	.5	.6	166.0	20.1	286.7
39–5010	Barbers and cosmetologists	684.2	817.4	.5	.5	133.2	19.5	233.5
39–5011	Barbers	53.5	59.7	.0	.0	6.2	11.6	14.0
39–5012	Hairdressers, hairstylists, and cosmetologists	630.7	757.7	.4	.5	127.0	20.1	219.5
39–5090	Miscellaneous personal appearance workers	140.5	173.3	.1	.1	32.8	23.3	53.3
39–5091	Makeup artists, theatrical and performance	2.8	3.3	.0	.0	.5	16.9	.9
39–5092	Manicurists and pedicurists	76.0	90.2	.1	.1	14.3	18.8	25.3
39–5093	Shampooers	22.9	26.3	.0	.0	3.4	14.6	6.7
39–5094	Skin care specialists	38.8	53.5	.0	.0	14.7	37.9	20.3
39–6000	Transportation, tourism, and lodging attendants	235.7	260.5	.2	.2	24.7	10.5	88.6
39–6010	Baggage porters, bellhops, and concierges	71.3	80.6	.0	.0	9.3	13.0	27.7
39–6011	Baggage porters and bellhops	50.5	56.9	.0	.0	6.4	12.7	19.5
39–6012	Concierges	20.8	23.7	.0	.0	2.8	13.7	8.2
39–6020	Tour and travel guides	44.0	48.6	.0	.0	4.6	10.4	23.0
39–6021	Tour guides and escorts	38.4	42.9	.0	.0	4.5	11.7	20.6
39–6022	Travel guides	5.6	5.7	.0	.0	.1	1.7	2.4
39–6030	Transportation attendants	120.4	131.3	.1	.1	10.9	9.1	37.9
39–6031	Flight attendants	98.7	106.7	.1	.1	8.0	8.1	30.1
39–6032	Transportation attendants, except flight attendants and baggage porters	21.7	24.6	.0	.0	2.9	13.3	7.7
39–9000	Other personal care and service workers	2,873.1	3,536.7	1.9	2.1	663.6	23.1	1,296.8
39–9011	Child care workers	1,301.9	1,443.9	.9	.9	142.1	10.9	523.1
39–9021	Personal and home care aides	817.2	1,193.0	.5	.7	375.8	46.0	477.8
39–9030	Recreation and fitness workers	588.7	713.7	.4	.4	125.0	21.2	231.0
39–9031	Fitness trainers and aerobics instructors	261.1	337.9	.2	.2	76.8	29.4	123.8
39–9032	Recreation workers	327.5	375.7	.2	.2	48.2	14.7	107.2
39–9041	Residential advisors	56.9	62.0	.0	.0	5.2	9.1	25.3
39–9099	Personal care and service workers, all other	108.5	124.0	.1	.1	15.5	14.3	39.6
41–0000	Sales and related occupations	15,902.7	16,883.1	10.5	10.2	980.4	6.2	5,712.8

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
41–1000	Supervisors, sales workers	2,192.3	2,305.1	1.5	1.4	112.8	5.1	579.6
41–1011	First-line supervisors/managers of retail sales workers	1,685.5	1,773.9	1.1	1.1	88.4	5.2	450.1
41–1012	First-line supervisors/managers of non-retail sales workers	506.8	531.2	.3	.3	24.4	4.8	129.5
41–2000	Retail sales workers	8,737.1	9,251.0	5.8	5.6	513.8	5.9	3,572.9
41–2010	Cashiers	3,572.3	3,695.5	2.4	2.2	123.2	3.4	1,729.9
41–2011	Cashiers, except gaming	3,550.0	3,675.5	2.4	2.2	125.5	3.5	1,719.9
41–2012	Gaming change persons and booth cashiers	22.3	20.0	.0	.0	–2.3	–10.4	10.0
41–2020	Counter and rental clerks and parts salespersons	675.7	691.6	.4	.4	16.0	2.4	216.1
41–2021	Counter and rental clerks	448.2	461.9	.3	.3	13.7	3.1	133.5
41–2022	Parts salespersons	227.5	229.7	.2	.1	2.2	1.0	82.6
41–2031	Retail salespersons	4,489.2	4,863.9	3.0	2.9	374.7	8.3	1,626.9
41–3000	Sales representatives, services	1,613.8	1,787.7	1.1	1.1	173.9	10.8	560.5
41–3011	Advertising sales agents	166.8	178.9	.1	.1	12.1	7.2	45.1
41–3021	Insurance sales agents	434.8	486.4	.3	.3	51.6	11.9	152.6
41–3031	Securities, commodities, and financial services sales agents	317.2	346.7	.2	.2	29.6	9.3	126.8
41–3041	Travel agents	105.3	104.1	.1	.1	–1.2	–1.1	7.9
41–3099	Sales representatives, services, all other	589.7	671.6	.4	.4	81.9	13.9	228.1
41–4000	Sales representatives, wholesale and manufacturing	1,973.2	2,116.4	1.3	1.3	143.2	7.3	600.2
41–4011	Sales representatives, wholesale and manufacturing, technical and scientific products	432.9	475.0	.3	.3	42.0	9.7	142.3
41–4012	Sales representatives, wholesale and manufacturing, except technical and scientific products	1,540.3	1,641.4	1.0	1.0	101.1	6.6	457.9
41–9000	Other sales and related workers	1,386.3	1,422.9	.9	.9	36.6	2.6	399.6
41–9010	Models, demonstrators, and product promoters	105.0	112.7	.1	.1	7.7	7.3	37.9
41–9011	Demonstrators and product promoters	102.8	110.1	.1	.1	7.3	7.1	36.9
41–9012	Models	2.2	2.6	.0	.0	.4	16.0	1.0
41–9020	Real estate brokers and sales agents	517.8	592.1	.3	.4	74.3	14.4	159.1
41–9021	Real estate brokers	123.4	134.0	.1	.1	10.6	8.6	30.8
41–9022	Real estate sales agents	394.4	458.2	.3	.3	63.7	16.2	128.3
41–9031	Sales engineers	78.0	84.9	.1	.1	6.9	8.8	35.0
41–9041	Telemarketers	341.6	303.8	.2	.2	–37.8	–11.1	85.9
41–9090	Miscellaneous sales and related workers	343.8	329.4	.2	.2	–14.5	–4.2	81.6
41–9091	Door-to-door sales workers, news and street vendors, and related workers	181.6	154.7	.1	.1	–26.9	–14.8	33.1
41–9099	Sales and related workers, all other	162.2	174.6	.1	.1	12.4	7.6	48.6
43–0000	Office and administrative support occupations	24,100.6	25,942.7	16.0	15.6	1,842.1	7.6	7,254.7
43–1000	Supervisors, office and administrative support workers	1,457.2	1,617.5	1.0	1.0	160.3	11.0	489.0
43–1011	First-line supervisors/managers of office and administrative support workers	1,457.2	1,617.5	1.0	1.0	160.3	11.0	489.0
43–2000	Communications equipment operators	181.6	163.4	.1	.1	–18.2	–10.0	36.7
43–2011	Switchboard operators, including answering service	155.2	138.3	.1	.1	–16.9	–10.9	32.1
43–2021	Telephone operators	22.7	21.9	.0	.0	–.8	–3.6	3.9
43–2099	All other communications equipment operators	3.6	3.2	.0	.0	–.4	–12.2	.8
43–3000	Financial clerks	3,911.2	4,313.4	2.6	2.6	402.2	10.3	1,151.6
43–3011	Bill and account collectors	411.0	490.5	.3	.3	79.5	19.3	156.9
43–3021	Billing and posting clerks and machine operators	528.8	609.6	.4	.4	80.8	15.3	167.6

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
43–3031	Bookkeeping, accounting, and auditing clerks	2,063.8	2,276.2	1.4	1.4	212.4	10.3	460.4
43–3041	Gaming cage workers	16.9	15.1	.0	.0	–1.8	–10.4	3.2
43–3051	Payroll and timekeeping clerks	208.7	197.7	.1	.1	–10.9	–5.2	49.5
43–3061	Procurement clerks	81.5	86.2	.1	.1	4.8	5.8	29.7
43–3071	Tellers	600.5	638.0	.4	.4	37.5	6.2	284.4
43–4000	Information and record clerks	5,684.7	6,230.2	3.8	3.7	545.5	9.6	2,351.7
43–4011	Brokerage clerks	67.6	65.8	.0	.0	–1.8	–2.6	19.2
43–4021	Correspondence clerks	14.2	12.2	.0	.0	–1.9	–13.8	4.0
43–4031	Court, municipal, and license clerks	122.1	132.1	.1	.1	10.0	8.2	44.6
43–4041	Credit authorizers, checkers, and clerks	63.8	65.6	.0	.0	1.8	2.8	19.9
43–4051	Customer service representatives	2,252.4	2,651.9	1.5	1.6	399.5	17.7	1,108.4
43–4061	Eligibility interviewers, government programs	119.5	130.5	.1	.1	11.0	9.2	38.8
43–4071	File clerks	212.2	162.6	.1	.1	–49.6	–23.4	51.6
43–4081	Hotel, motel, and resort desk clerks	230.2	261.7	.2	.2	31.5	13.7	109.5
43–4111	Interviewers, except eligibility and loan	233.4	269.9	.2	.2	36.4	15.6	92.1
43–4121	Library assistants, clerical	122.0	135.5	.1	.1	13.5	11.1	64.2
43–4131	Loan interviewers and clerks	210.4	219.4	.1	.1	9.1	4.3	60.9
43–4141	New accounts clerks	87.3	87.4	.1	.1	.1	.1	24.9
43–4151	Order clerks	245.7	181.5	.2	.1	–64.2	–26.1	69.6
43–4161	Human resources assistants, except payroll and timekeeping	169.7	160.0	.1	.1	–9.7	–5.7	48.1
43–4171	Receptionists and information clerks	1,139.2	1,312.1	.8	.8	172.9	15.2	480.2
43–4181	Reservation and transportation ticket agents and travel clerks	168.3	181.9	.1	.1	13.6	8.1	51.5
43–4199	Information and record clerks, all other	226.9	200.1	.2	.1	–26.7	–11.8	64.3
43–5000	Material recording, scheduling, dispatching, and distributing occupations	4,113.1	4,144.8	2.7	2.5	31.7	.8	1,147.3
43–5011	Cargo and freight agents	85.9	106.5	.1	.1	20.6	23.9	40.3
43–5021	Couriers and messengers	122.4	122.0	.1	.1	–.4	–.3	28.1
43–5030	Dispatchers	295.6	308.4	.2	.2	12.8	4.3	78.7
43–5031	Police, fire, and ambulance dispatchers	99.9	117.7	.1	.1	17.8	17.8	38.4
43–5032	Dispatchers, except police, fire, and ambulance	195.7	190.7	.1	.1	–5.0	–2.6	40.3
43–5041	Meter readers, utilities	45.3	36.3	.0	.0	–9.1	–20.0	12.5
43–5050	Postal service workers	599.0	526.9	.4	.3	–72.1	–12.0	139.9
43–5051	Postal service clerks	750.8	62.1	.1	.0	–13.7	–18.0	16.1
43–5052	Postal service mail carriers	343.3	339.4	.2	.2	–3.9	–1.1	107.2
43–5053	Postal service mail sorters, processors, and processing machine operators	179.9	125.3	.1	.1	–54.5	–30.3	16.6
43–5061	Production, planning, and expediting clerks	283.5	287.8	.2	.2	4.3	1.5	74.1
43–5071	Shipping, receiving, and traffic clerks	750.5	701.2	.5	.4	–49.3	–6.6	186.2
43–5081	Stock clerks and order fillers	1,858.8	1,993.3	1.2	1.2	134.4	7.2	562.6
43–5111	Weighers, measurers, checkers, and samplers, recordkeeping	71.9	62.4	.0	.0	–9.4	–13.1	25.1
43–6000	Secretaries and administrative assistants	4,348.1	4,819.7	2.9	2.9	471.6	10.8	1,057.4
43–6011	Executive secretaries and administrative assistants	1,594.4	1,798.8	1.1	1.1	204.4	12.8	419.2
43–6012	Legal secretaries	262.6	311.0	.2	.2	48.4	18.4	83.8
43–6013	Medical secretaries	471.1	596.6	.3	.4	125.5	26.6	189.0
43–6014	Secretaries, except legal, medical, and executive	2,020.0	2,113.3	1.3	1.3	93.3	4.6	365.5
43–9000	Other office and administrative support workers	4,404.8	4,653.7	2.9	2.8	249.0	5.7	1,021.0
43–9011	Computer operators	110.0	89.5	.1	.1	–20.5	–18.6	12.4
43–9020	Data entry and information processing workers	426.2	400.7	.3	.2	–25.5	–6.0	70.2
43–9021	Data entry keyers	284.3	266.9	.2	.2	–17.4	–6.1	59.2

See footnotes at end of table

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
43–9022	Word processors and typists	141.9	133.9	0.1	0.1	–8.1	–5.7	11.0
43–9031	Desktop publishers	26.4	20.4	.0	.0	–5.9	–22.5	4.4
43–9041	Insurance claims and policy processing clerks	253.8	254.4	.2	.2	.7	.3	33.8
43–9051	Mail clerks and mail machine operators, except postal service	141.4	124.8	.1	.1	–16.6	–11.8	25.6
43–9061	Office clerks, general	3,024.4	3,383.1	2.0	2.0	358.7	11.9	770.9
43–9071	Office machine operators, except computer	79.9	73.8	.1	.0	–6.0	–7.6	26.5
43–9081	Proofreaders and copy markers	18.2	17.1	.0	.0	–1.1	–6.1	3.0
43–9111	Statistical assistants	17.9	18.8	.0	.0	.9	5.1	3.9
43–9199	Office and administrative support workers, all other	306.7	271.0	.2	.2	–35.7	–11.6	70.4
45–0000	Farming, fishing, and forestry occupations	1,035.4	1,026.3	.7	.6	–9.1	–.9	291.0
45–1000	Supervisors, farming, fishing, and forestry workers	48.6	52.4	.0	.0	3.8	7.8	16.3
45–2000	Agricultural workers	871.8	856.6	.6	.5	–15.2	–1.7	238.8
45–2011	Agricultural inspectors	16.6	18.7	.0	.0	2.1	12.8	5.5
45–2021	Animal breeders	14.7	15.5	.0	.0	.8	5.8	4.8
45–2041	Graders and sorters, agricultural products	33.4	33.5	.0	.0	.1	.2	6.9
45–2090	Miscellaneous agricultural workers	807.0	788.8	.5	.5	–18.2	–2.3	221.6
45–3000	Fishing and hunting workers	36.0	33.3	.0	.0	–2.7	–7.6	9.3
45–3011	Fishers and related fishing workers	35.6	32.9	.0	.0	–2.7	–7.7	9.2
45–4000	Forest, conservation, and logging workers	79.0	84.0	.1	.1	5.0	6.3	26.5
45–4011	Forest and conservation workers	12.9	14.0	.0	.0	1.1	8.5	4.5
45–4020	Logging workers	66.1	70.0	.0	.0	3.9	5.9	22.1
45–4021	Fallers	11.0	10.7	.0	.0	–.3	–2.9	3.0
45–4022	Logging equipment operators	41.7	44.9	.0	.0	3.2	7.7	14.4
45–4023	Log graders and scalers	5.5	5.4	.0	.0	–.1	–1.8	1.5
45–4029	Logging workers, all other	8.0	9.1	.0	.0	1.1	13.5	3.2
47–0000	Construction and extraction occupations	7,810.3	8,828.8	5.2	5.3	1,018.6	13.0	2,395.6
47–1000	Supervisors, construction and extraction workers	698.1	805.3	.5	.5	107.3	15.4	242.2
47–1011	First-line supervisors/managers of construction trades and extraction workers	698.1	805.3	.5	.5	107.3	15.4	242.2
47–2000	Construction trades and related workers	6,017.8	6,826.1	4.0	4.1	808.4	13.4	1,776.6
47–2011	Boilermakers	20.2	24.0	.0	.0	3.8	18.8	8.1
47–2020	Brickmasons, blockmasons, and stonemasons	160.2	178.6	.1	.1	18.5	11.5	59.0
47–2021	Brickmasons and blockmasons	135.8	151.5	.1	.1	15.6	11.5	50.0
47–2022	Stonemasons	24.3	27.1	.0	.0	2.8	11.6	9.0
47–2031	Carpenters	1,284.9	1,450.3	.9	.9	165.4	12.9	325.4
47–2040	Carpet, floor, and tile installers and finishers	160.5	171.9	.1	.1	11.4	7.1	54.1
47–2041	Carpet installers	51.1	50.5	.0	.0	–.6	–1.1	13.3
47–2042	Floor layers, except carpet, wood, and hard tiles	21.2	21.0	.0	.0	–.2	–1.0	5.5
47–2043	Floor sanders and finishers	12.2	13.6	.0	.0	1.4	11.3	4.6
47–2044	Tile and marble setters	76.0	86.8	.1	.1	10.8	14.3	30.7
47–2050	Cement masons, concrete finishers, and terrazzo workers	206.6	233.2	.1	.1	26.6	12.9	78.6
47–2051	Cement masons and concrete finishers	201.0	226.8	.1	.1	25.9	12.9	76.4
47–2053	Terrazzo workers and finishers	5.6	6.3	.0	.0	.7	12.7	2.1
47–2061	Construction laborers	1,248.7	1,504.6	.8	.9	255.9	20.5	339.4
47–2070	Construction equipment operators	469.3	525.5	.3	.3	56.2	12.0	136.3
47–2071	Paving, surfacing, and tamping equipment operators	60.2	67.2	.0	.0	6.9	11.5	16.8
47–2072	Pile-driver operators	4.6	5.2	.0	.0	.6	13.1	1.4

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
47–2073	Operating engineers and other construction equipment operators	404.5	453.2	0.3	0.3	48.7	12.0	118.2
47–2080	Drywall installers, ceiling tile installers, and tapers	188.7	214.0	.1	.1	25.3	13.4	46.0
47–2081	Drywall and ceiling tile installers	151.3	171.7	.1	.1	20.5	13.5	37.0
47–2082	Tapers	37.4	42.3	.0	.0	4.9	13.0	9.0
47–2111	Electricians	694.9	777.9	.5	.5	83.0	11.9	250.9
47–2121	Glaziers	54.1	58.3	.0	.0	4.2	7.7	23.9
47–2130	Insulation workers	57.3	67.3	.0	.0	9.9	17.4	28.8
47–2131	Insulation workers, floor, ceiling, and wall	27.6	31.7	.0	.0	4.2	15.2	13.2
47–2132	Insulation workers, mechanical	29.8	35.5	.0	.0	5.8	19.4	15.5
47–2140	Painters and paperhangers	450.1	479.9	.3	.3	29.8	6.6	106.6
47–2141	Painters, construction and maintenance	442.8	473.6	.3	.3	30.9	7.0	106.5
47–2142	Paperhangers	7.4	6.3	.0	.0	–1.1	–14.5	.1
47–2150	Pipelayers, plumbers, pipefitters, and steamfitters	555.9	642.1	.4	.4	86.3	15.5	198.3
47–2151	Pipelayers	61.2	71.7	.0	.0	10.5	17.2	22.8
47–2152	Plumbers, pipefitters, and steamfitters	494.7	570.5	.3	.3	75.8	15.3	175.5
47–2161	Plasterers and stucco masons	49.0	52.2	.0	.0	3.2	6.6	11.3
47–2171	Reinforcing iron and rebar workers	27.7	31.1	.0	.0	3.5	12.6	8.0
47–2181	Roofers	148.9	154.6	.1	.1	5.7	3.8	30.1
47–2211	Sheet metal workers	170.7	181.8	.1	.1	11.1	6.5	51.7
47–2221	Structural iron and steel workers	70.2	78.9	.0	.0	8.7	12.4	20.2
47–3000	Helpers, construction trades	381.5	456.0	.3	.3	74.5	19.5	156.3
47–3010	Helpers, construction trades	381.5	456.0	.3	.3	74.5	19.5	156.3
47–3011	Helpers—Brickmasons, blockmasons, stonemasons, and tile and marble setter	50.8	59.1	.0	.0	8.3	16.4	18.9
47–3012	Helpers—Carpenters	79.8	98.5	.1	.1	18.6	23.3	35.3
47–3013	Helpers—Electricians	105.6	131.6	.1	.1	26.0	24.7	48.0
47–3014	Helpers—Painters, paperhangers, plasterers, and stucco masons	19.4	18.7	.0	.0	–.7	–3.4	4.0
47–3015	Helpers—Pipelayers, plumbers, pipefitters, and steamfitters	80.3	100.9	.1	.1	20.6	25.7	37.3
47–3016	Helpers—Roofers	18.7	16.9	.0	.0	–1.8	–9.4	3.9
47–3019	All other helpers, construction trades	27.0	30.3	.0	.0	3.3	12.3	8.9
47–4000	Other construction and related workers	455.5	514.1	.3	.3	58.6	12.9	173.8
47–4011	Construction and building inspectors	106.4	124.2	.1	.1	17.9	16.8	39.7
47–4021	Elevator installers and repairers	24.9	27.1	.0	.0	2.3	9.2	9.2
47–4031	Fence erectors	33.6	38.2	.0	.0	4.6	13.6	8.3
47–4041	Hazardous materials removal workers	42.5	48.8	.0	.0	6.3	14.8	17.8
47–4051	Highway maintenance workers	145.9	158.3	.1	.1	12.4	8.5	52.0
47–4061	Rail-track laying and maintenance equipment operators	15.5	17.8	.0	.0	2.3	14.8	6.5
47–4071	Septic tank servicers and sewer pipe cleaners	25.9	32.1	.0	.0	6.2	23.8	13.2
47–4090	Miscellaneous construction and related workers	60.9	67.6	.0	.0	6.7	11.0	27.1
47–4091	Segmental pavers	1.2	1.3	.0	.0	.1	7.1	.5
47–4099	Construction and related workers, all other	59.7	66.3	.0	.0	6.6	11.1	26.6
47–5000	Extraction workers	257.4	227.2	.2	.1	–30.2	–11.7	46.7
47–5010	Derrick, rotary drill, and service unit operators, oil, gas, and mining	92.8	75.1	.1	.0	–17.7	–19.0	16.0
47–5011	Derrick operators, oil and gas	25.0	19.3	.0	.0	–5.8	–23.0	4.3
47–5012	Rotary drill operators, oil and gas	28.6	22.5	.0	.0	–6.2	–21.5	4.9
47–5013	Service unit operators, oil, gas, and mining	39.1	33.4	.0	.0	–5.7	–14.7	6.7
47–5021	Earth drillers, except oil and gas	23.3	25.0	.0	.0	1.7	7.1	5.7

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
47–5031	Explosives workers, ordnance handling experts, and blasters	6.3	6.5	0.0	0.0	0.2	4.0	1.3
47–5040	Mining machine operators	25.3	25.1	.0	.0	–.2	–.8	4.8
47–5041	Continuous mining machine operators	11.2	10.6	.0	.0	–.6	–5.5	1.9
47–5042	Mine cutting and channeling machine operators	9.4	9.8	.0	.0	.4	4.4	2.0
47–5049	All other mining machine operators	4.7	4.7	.0	.0	.0	–.4	.8
47–5051	Rock splitters, quarry	4.4	4.3	.0	.0	–.1	–1.7	.8
47–5061	Roof bolters, mining	5.1	4.8	.0	.0	–.3	–5.7	.9
47–5071	Roustabouts, oil and gas	65.7	57.4	.0	.0	–8.2	–12.5	11.3
47–5081	Helpers—Extraction workers	26.2	21.2	.0	.0	–5.0	–19.2	4.5
47–5099	Extraction workers, all other	8.4	7.8	.0	.0	–.6	–7.3	1.4
49–0000	Installation, maintenance, and repair occupations	5,798.0	6,238.2	3.8	3.8	440.2	7.6	1,586.4
49–1000	Supervisors of installation, maintenance, and repair workers	448.5	467.6	.3	.3	19.1	4.3	136.5
49–1011	First-line supervisors/managers of mechanics, installers, and repairers	448.5	467.6	.3	.3	19.1	4.3	136.5
49–2000	Electrical and electronic equipment mechanics, installers, and repairers	658.8	682.9	.4	.4	24.1	3.7	149.6
49–2011	Computer, automated teller, and office machine repairers	152.9	146.2	.1	.1	–6.7	–4.4	26.3
49–2020	Radio and telecommunications equipment installers and repairers	208.8	208.1	.1	.1	–.7	–.3	36.6
49–2021	Radio mechanics	5.7	5.5	.0	.0	–.2	–4.0	1.0
49–2022	Telecommunications equipment installers and repairers, except line installers	203.1	202.6	.1	.1	–.5	–.2	35.6
49–2090	Miscellaneous electrical and electronic equipment mechanics, installers, and repairers	297.1	328.6	.2	.2	31.5	10.6	86.7
49–2091	Avionics technicians	18.8	20.8	.0	.0	2.0	10.6	5.2
49–2092	Electric motor, power tool, and related repairers	23.7	24.9	.0	.0	1.2	5.1	9.4
49–2093	Electrical and electronics installers and repairers, transportation equipment	16.1	16.7	.0	.0	.7	4.1	3.4
49–2094	Electrical and electronics repairers, commercial and industrial equipment	78.0	81.0	.1	.0	2.9	3.8	16.4
49–2095	Electrical and electronics repairers, powerhouse, substation, and relay	23.4	26.1	.0	.0	2.7	11.5	6.7
49–2096	Electronic equipment installers and repairers, motor vehicles	19.7	19.7	.0	.0	.0	.1	3.4
49–2097	Electronic home entertainment equipment installers and repairers	51.2	56.8	.0	.0	5.5	10.8	14.3
49–2098	Security and fire alarm systems installers	66.2	82.6	.0	.0	16.4	24.8	27.8
49–3000	Vehicle and mobile equipment mechanics, installers, and repairers	1,722.2	1,805.9	1.1	1.1	83.8	4.9	437.8
49–3011	Aircraft mechanics and service technicians	121.5	129.3	.1	.1	7.8	6.4	31.4
49–3020	Automotive technicians and repairers	949.6	986.6	.6	.6	37.1	3.9	229.8
49–3021	Automotive body and related repairers	166.4	167.2	.1	.1	.8	.5	43.8
49–3022	Automotive glass installers and repairers	19.5	19.9	.0	.0	.4	1.8	4.4
49–3023	Automotive service technicians and mechanics	763.7	799.6	.5	.5	35.9	4.7	181.7
49–3031	Bus and truck mechanics and diesel engine specialists	263.1	278.0	.2	.2	14.9	5.7	75.3
49–3040	Heavy vehicle and mobile equipment service technicians and mechanics	190.7	206.1	.1	.1	15.5	8.1	51.7
49–3041	Farm equipment mechanics	31.2	33.4	.0	.0	2.1	6.9	8.1

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
49–3042	Mobile heavy equipment mechanics, except engines	136.3	148.1	0.1	0.1	11.8	8.7	37.7
49–3043	Rail car repairers	23.1	24.6	.0	.0	1.5	6.5	5.9
49–3050	Small engine mechanics	70.4	75.1	.0	.0	4.8	6.8	19.4
49–3051	Motorboat mechanics	22.1	23.4	.0	.0	1.2	5.6	5.8
49–3052	Motorcycle mechanics	18.8	20.5	.0	.0	1.6	8.8	5.6
49–3053	Outdoor power equipment and other small engine mechanics	29.4	31.3	.0	.0	1.9	6.4	8.0
49–3090	Miscellaneous vehicle and mobile equipment mechanics, installers, and repairers	126.9	130.6	.1	.1	3.7	2.9	30.1
49–3091	Bicycle repairers	10.1	12.0	.0	.0	1.9	19.3	4.0
49–3092	Recreational vehicle service technicians	13.7	14.6	.0	.0	.9	6.6	3.7
49–3093	Tire repairers and changers	103.2	104.0	.1	.1	.9	.9	22.3
49–9000	Other installation, maintenance, and repair occupations	2,968.5	3,281.8	2.0	2.0	313.3	10.6	862.5
49–9010	Control and valve installers and repairers	61.6	62.9	.0	.0	1.3	2.1	11.4
49–9011	Mechanical door repairers	17.1	19.0	.0	.0	1.9	10.9	4.5
49–9012	Control and valve installers and repairers, except mechanical door	44.5	43.9	.0	.0	–.6	–1.3	6.8
49–9021	Heating, air conditioning, and refrigeration mechanics and installers	308.2	394.8	.2	.2	86.6	28.1	136.2
49–9031	Home appliance repairers	49.6	50.6	.0	.0	1.1	2.2	8.7
49–9040	Industrial machinery installation, repair, and maintenance workers	1,772.1	1,944.8	1.2	1.2	172.8	9.7	445.0
49–9041	Industrial machinery mechanics	287.7	308.6	.2	.2	20.9	7.3	62.4
49–9042	Maintenance and repair workers, general	1,361.3	1,509.2	.9	.9	147.9	10.9	357.5
49–9043	Maintenance workers, machinery	75.4	78.8	.0	.0	3.4	4.6	15.1
49–9044	Millwrights	45.2	45.9	.0	.0	.6	1.4	9.8
49–9045	Refractory materials repairers, except brickmasons	2.5	2.3	.0	.0	–.2	–6.4	.4
49–9050	Line installers and repairers	284.9	291.6	.2	.2	6.6	2.3	73.4
49–9051	Electrical power-line installers and repairers	113.9	119.0	.1	.1	5.1	4.5	45.5
49–9052	Telecommunications line installers and repairers	171.0	172.6	.1	.1	1.6	.9	27.9
49–9060	Precision instrument and equipment repairers	71.2	81.7	.0	.0	10.5	14.7	32.2
49–9061	Camera and photographic equipment repairers	4.6	3.9	.0	.0	–.7	–15.4	1.3
49–9062	Medical equipment repairers	41.4	52.6	.0	.0	11.3	27.2	23.2
49–9063	Musical instrument repairers and tuners	6.1	6.1	.0	.0	.0	.1	1.8
49–9064	Watch repairers	3.2	2.8	.0	.0	–.4	–13.8	.9
49–9069	All other precision instrument and equipment repairers	15.9	16.3	.0	.0	.4	2.5	5.0
49–9090	Miscellaneous installation, maintenance, and repair workers	420.9	455.3	.3	.3	34.4	8.2	155.6
49–9091	Coin, vending, and amusement machine servicers and repairers	43.8	46.9	.0	.0	3.1	7.0	17.7
49–9092	Commercial divers	2.4	2.5	.0	.0	.1	5.8	.5
49–9093	Fabric menders, except garment	1.1	.8	.0	.0	–.3	–29.8	.2
49–9094	Locksmiths and safe repairers	22.1	24.8	.0	.0	2.7	12.0	6.1
49–9095	Manufactured building and mobile home installers	10.3	10.9	.0	.0	.5	5.2	1.2
49–9096	Riggers	13.5	13.5	.0	.0	.0	.3	2.1
49–9097	Signal and track switch repairers	6.8	6.9	.0	.0	.1	1.2	1.1
49–9098	Helpers—Installation, maintenance, and repair workers	150.9	163.5	.1	.1	12.6	8.3	85.0

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
49–9099	Installation, maintenance, and repair workers, all other	169.9	185.5	0.1	0.1	15.6	9.2	41.8
51–0000	Production occupations	10,083.0	9,733.9	6.7	5.9	–349.2	–3.5	2,155.7
51–1000	Supervisors, production workers	681.2	645.5	.5	.4	–35.7	–5.2	91.9
51–1011	First-line supervisors/managers of production and operating workers	681.2	645.5	.5	.4	–35.7	–5.2	91.9
51–2000	Assemblers and fabricators	1,950.9	1,913.1	1.3	1.2	–37.8	–1.9	425.8
51–2011	Aircraft structure, surfaces, rigging, and systems assemblers	44.1	48.2	.0	.0	4.1	9.4	13.4
51–2020	Electrical, electronics, and electromechanical assemblers	297.5	254.2	.2	.2	–43.2	–14.5	45.9
51–2021	Coil winders, tapers, and finishers	22.1	16.5	.0	.0	–5.6	–25.2	3.4
51–2022	Electrical and electronic equipment assemblers	213.3	182.0	.1	.1	–31.3	–14.7	32.9
51–2023	Electromechanical equipment assemblers	62.1	55.7	.0	.0	–6.4	–10.3	9.6
51–2031	Engine and other machine assemblers	39.9	36.7	.0	.0	–3.2	–8.0	8.4
51–2041	Structural metal fabricators and fitters	114.1	113.7	.1	.1	–.4	–.4	24.0
51–2090	Miscellaneous assemblers and fabricators	1,455.4	1,460.2	1.0	.9	4.9	.3	334.2
51–2091	Fiberglass laminators and fabricators	30.3	28.9	.0	.0	–1.4	–4.6	6.8
51–2092	Team assemblers	1,112.3	1,112.7	.7	.7	.4	.0	250.9
51–2093	Timing device assemblers, adjusters, and calibrators	2.7	2.6	.0	.0	–.1	–4.4	.6
51–2099	All other assemblers and fabricators	309.9	316.0	.2	.2	6.0	1.9	75.8
51–3000	Food processing occupations	706.7	734.0	.5	.4	27.4	3.9	234.2
51–3011	Bakers	151.6	151.9	.1	.1	.3	.2	39.2
51–3020	Butchers and other meat, poultry, and fish processing workers	397.1	413.9	.3	.2	16.8	4.2	144.0
51–3021	Butchers and meat cutters	129.1	131.0	.1	.1	1.9	1.5	43.3
51–3022	Meat, poultry, and fish cutters and trimmers	169.6	180.4	.1	.1	10.8	6.4	65.1
51–3023	Slaughterers and meat packers	98.4	102.5	.1	.1	4.1	4.2	35.6
51–3090	Miscellaneous food processing workers	157.9	168.2	.1	.1	10.3	6.5	51.0
51–3091	Food and tobacco roasting, baking, and drying machine operators and tenders	18.1	18.2	.0	.0	.1	.3	5.3
51–3092	Food batchmakers	100.5	109.2	.1	.1	8.8	8.7	32.9
51–3093	Food cooking machine operators and tenders	39.3	40.8	.0	.0	1.5	3.8	12.8
51–4000	Metal workers and plastic workers	2,158.5	1,999.3	1.4	1.2	–159.2	–7.4	443.0
51–4010	Computer control programmers and operators	157.8	164.5	.1	.1	6.7	4.2	40.2
51–4011	Computer-controlled machine tool operators, metal and plastic	141.0	150.3	.1	.1	9.3	6.6	36.9
51–4012	Numerical tool and process control programmers	16.8	14.2	.0	.0	–2.6	–15.4	3.3
51–4020	Forming machine setters, operators, and tenders, metal and plastic	153.2	137.7	.1	.1	–15.5	–10.1	30.0
51–4021	Extruding and drawing machine setters, operators, and tenders, metal and plastic	90.7	86.0	.1	.1	–4.7	–5.2	17.8
51–4022	Forging machine setters, operators, and tenders, metal and plastic	28.1	22.6	.0	.0	–5.5	–19.5	5.5
51–4023	Rolling machine setters, operators, and tenders, metal and plastic	34.4	29.0	.0	.0	–5.3	–15.5	6.7
51–4030	Machine tool cutting setters, operators, and tenders, metal and plastic	444.3	368.4	.3	.2	–75.9	–17.1	77.3
51–4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	236.8	203.5	.2	.1	–33.3	–14.1	46.8
51–4032	Drilling and boring machine tool setters, operators, and tenders, metal and plastic	33.0	24.2	.0	.0	–8.9	–26.9	2.7

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
51–4033	Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic	92.7	77.9	0.1	0.0	–14.8	–15.9	13.6
51–4034	Lathe and turning machine tool setters, operators, and tenders, metal and plastic	55.7	40.8	.0	.0	–14.9	–26.7	9.1
51–4035	Milling and planing machine setters, operators, and tenders, metal and plastic	26.2	22.0	.0	.0	–4.1	–15.8	5.1
51–4041	Machinists	421.5	402.2	.3	.2	–19.3	–4.6	55.6
51–4050	Metal furnace and kiln operators and tenders	34.1	31.0	.0	.0	–3.1	–9.1	6.7
51–4051	Metal-refining furnace operators and tenders	19.1	17.4	.0	.0	–1.6	–8.6	3.7
51–4052	Pourers and casters, metal	15.1	13.6	.0	.0	–1.5	–9.6	2.9
51–4060	Model makers and patternmakers, metal and plastic	17.1	16.1	.0	.0	–1.0	–5.8	1.0
51–4061	Model makers, metal and plastic	10.1	9.5	.0	.0	–.6	–5.9	.6
51–4062	Patternmakers, metal and plastic	7.0	6.6	.0	.0	–.4	–5.7	.4
51–4070	Molders and molding machine setters, operators, and tenders, metal and plastic	158.8	150.7	.1	.1	–8.2	–5.1	32.9
51–4071	Foundry mold and coremakers	15.0	13.2	.0	.0	–1.8	–12.0	3.1
51–4072	Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic	143.8	137.4	.1	.1	–6.4	–4.4	29.8
51–4081	Multiple machine tool setters, operators, and tenders, metal and plastic	86.0	73.4	.1	.0	–12.6	–14.7	16.8
51–4111	Tool and die makers	84.3	77.6	.1	.0	–6.7	–8.0	5.1
51–4120	Welding, soldering, and brazing workers	466.4	455.9	.3	.3	–10.5	–2.3	142.9
51–4121	Welders, cutters, solderers, and brazers	412.3	405.6	.3	.2	–6.7	–1.6	126.3
51–4122	Welding, soldering, and brazing machine setters, operators, and tenders	54.1	50.3	.0	.0	–3.8	–7.0	16.6
51–4190	Miscellaneous metalworkers and plastic workers	134.9	121.8	.1	.1	–13.1	–9.7	34.6
51–4191	Heat treating equipment setters, operators, and tenders, metal and plastic	23.2	20.7	.0	.0	–2.5	–10.6	10.5
51–4192	Lay-out workers, metal and plastic	8.3	7.3	.0	.0	–1.0	–11.6	1.6
51–4193	Plating and coating machine setters, operators, and tenders, metal and plastic	39.5	34.6	.0	.0	–4.9	–12.4	10.6
51–4194	Tool grinders, filers, and sharpeners	18.8	17.4	.0	.0	–1.4	–7.5	5.8
51–4199	All other metal workers and plastic workers	45.0	41.7	.0	.0	–3.3	–7.4	6.0
51–5000	Printing occupations	369.1	331.2	.2	.2	–37.8	–10.3	60.1
51–5010	Bookbinders and bindery workers	66.5	53.6	.0	.0	–12.9	–19.3	9.7
51–5011	Bindery workers	60.4	48.2	.0	.0	–12.1	–20.1	8.8
51–5012	Bookbinders	6.1	5.4	.0	.0	–.7	–12.1	.9
51–5020	Printers	302.6	277.6	.2	.2	–25.0	–8.3	50.4
51–5021	Job printers	45.7	42.2	.0	.0	–3.5	–7.6	1.7
51–5022	Prepress technicians and workers	61.2	50.4	.0	.0	–10.8	–17.7	7.7
51–5023	Printing machine operators	195.6	185.0	.1	.1	–10.7	–5.5	41.0
51–6000	Textile, apparel, and furnishings occupations	787.5	667.6	.5	.4	–119.9	–15.2	95.5
51–6011	Laundry and dry-cleaning workers	235.4	242.0	.2	.1	6.6	2.8	47.6
51–6021	Pressers, textile, garment, and related materials	66.6	61.1	.0	.0	–5.5	–8.2	2.9
51–6031	Sewing machine operators	212.4	140.9	.1	.1	–71.5	–33.7	11.7
51–6040	Shoe and leather workers	14.0	11.0	.0	.0	–3.0	–21.3	1.6
51–6041	Shoe and leather workers and repairers	9.2	7.9	.0	.0	–1.3	–14.3	1.1
51–6042	Shoe machine operators and tenders	4.8	3.1	.0	.0	–1.7	–34.8	.5
51–6050	Tailors, dressmakers, and sewers	66.8	64.7	.0	.0	–2.1	–3.1	7.1
51–6051	Sewers, hand	12.2	11.2	.0	.0	–1.0	–8.2	1.3

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
51–6052	Tailors, dressmakers, and custom sewers	54.6	53.6	0.0	0.0	–1.1	–2.0	5.8
51–6060	Textile machine setters, operators, and tenders	99.5	60.6	.1	.0	–38.8	–39.0	12.7
51–6061	Textile bleaching and dyeing machine operators and tenders	16.0	8.8	.0	.0	–7.2	–44.8	1.7
51–6062	Textile cutting machine setters, operators, and tenders	19.4	13.4	.0	.0	–6.0	–31.0	3.4
51–6063	Textile knitting and weaving machine setters, operators, and tenders	29.2	17.7	.0	.0	–11.5	–39.3	1.9
51–6064	Textile winding, twisting, and drawing out machine setters, operators, and tenders	34.9	20.7	.0	.0	–14.2	–40.7	5.8
51–6090	Miscellaneous textile, apparel, and furnishings workers	92.9	87.2	.1	.1	–5.7	–6.1	11.8
51–6091	Extruding and forming machine setters, operators, and tenders, synthetic and glass fibers	14.1	9.3	.0	.0	–4.8	–33.9	1.5
51–6092	Fabric and apparel patternmakers	8.2	6.0	.0	.0	–2.2	–27.2	.9
51–6093	Upholsterers	52.7	56.3	.0	.0	3.6	6.8	6.9
51–6099	All other textile, apparel, and furnishings workers	17.9	15.6	.0	.0	–2.3	–12.7	2.5
51–7000	Woodworkers	323.3	344.0	.2	.2	20.6	6.4	89.3
51–7011	Cabinetmakers and bench carpenters	131.7	143.7	.1	.1	11.9	9.1	41.6
51–7021	Furniture finishers	26.5	27.7	.0	.0	1.2	4.5	7.2
51–7030	Model makers and patternmakers, wood	3.5	3.5	.0	.0	.0	–.6	.8
51–7031	Model makers, wood	1.7	1.7	.0	.0	.0	2.4	.4
51–7032	Patternmakers, wood	1.9	1.8	.0	.0	–.1	–3.2	.4
51–7040	Woodworking machine setters, operators, and tenders	138.4	145.1	.1	.1	6.7	4.9	33.7
51–7041	Sawing machine setters, operators, and tenders, wood	52.6	53.4	.0	.0	.8	1.4	10.2
51–7042	Woodworking machine setters, operators, and tenders, except sawing	85.7	91.7	.1	.1	6.0	7.0	23.5
51–7099	All other woodworkers	23.3	24.0	.0	.0	.8	3.3	6.0
51–8000	Plant and system operators	325.2	332.4	.2	.2	7.2	2.2	102.1
51–8010	Power plant operators, distributors, and dispatchers	50.4	50.6	.0	.0	.2	.4	18.4
51–8011	Nuclear power reactor operators	5.0	6.0	.0	.0	1.0	18.9	2.7
51–8012	Power distributors and dispatchers	10.0	9.8	.0	.0	–.2	–2.2	3.5
51–8013	Power plant operators	35.4	34.8	.0	.0	–.6	–1.6	12.2
51–8021	Stationary engineers and boiler operators	41.6	43.8	.0	.0	2.2	5.2	9.2
51–8031	Water and liquid waste treatment plant and system operators	113.4	135.9	.1	.1	22.5	19.8	46.9
51–8090	Miscellaneous plant and system operators	119.8	102.2	.1	.1	–17.7	–14.7	27.6
51–8091	Chemical plant and system operators	45.1	35.8	.0	.0	–9.3	–20.6	10.4
51–8092	Gas plant operators	14.9	14.3	.0	.0	–.6	–4.2	3.4
51–8093	Petroleum pump system operators, refinery operators, and gaugers	47.1	40.0	.0	.0	–7.1	–15.2	10.8
51–8099	All other plant and system operators	12.7	12.1	.0	.0	–.6	–4.7	2.9
51–9000	Other production occupations	2,780.6	2,766.8	1.8	1.7	–13.9	–.5	613.9
51–9010	Chemical processing machine setters, operators, and tenders	93.8	91.7	.1	.1	–2.1	–2.2	12.1
51–9011	Chemical equipment operators and tenders	53.0	46.6	.0	.0	–6.4	–12.1	4.4
51–9012	Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders	40.8	45.1	.0	.0	4.3	10.6	7.7
51–9020	Crushing, grinding, polishing, mixing, and blending workers	222.8	247.2	.1	.1	24.4	11.0	63.0

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
51–9021	Crushing, grinding, and polishing machine setters, operators, and tenders	41.2	40.6	0.0	0.0	–0.6	–1.4	7.0
51–9022	Grinding and polishing workers, hand	40.1	43.2	.0	.0	3.1	7.6	9.9
51–9023	Mixing and blending machine setters, operators, and tenders	141.5	163.5	.1	.1	21.9	15.5	46.1
51–9030	Cutting workers	99.4	92.6	.1	.1	–6.8	–6.8	21.3
51–9031	Cutters and trimmers, hand	24.2	21.0	.0	.0	–3.2	–13.1	5.2
51–9032	Cutting and slicing machine setters, operators, and tenders	75.2	71.6	.0	.0	–3.6	–4.8	16.1
51–9041	Extruding, forming, pressing, and compacting machine setters, operators, and tenders	83.3	95.8	.1	.1	12.5	15.0	29.6
51–9051	Furnace, kiln, oven, drier, and kettle operators and tenders	24.5	22.8	.0	.0	–1.7	–7.0	2.5
51–9061	Inspectors, testers, sorters, samplers, and weighers	464.7	447.8	.3	.3	–16.9	–3.6	77.9
51–9071	Jewelers and precious stone and metal workers	52.1	54.8	.0	.0	2.8	5.3	13.5
51–9080	Medical, dental, and ophthalmic laboratory technicians	95.2	108.3	.1	.1	13.1	13.8	31.5
51–9081	Dental laboratory technicians	46.0	52.4	.0	.0	6.4	13.9	15.3
51–9082	Medical appliance technicians	13.9	15.4	.0	.0	1.5	10.9	4.2
51–9083	Ophthalmic laboratory technicians	35.2	40.4	.0	.0	5.2	14.7	12.0
51–9111	Packaging and filling machine operators and tenders	349.0	346.7	.2	.2	–2.4	–.7	58.5
51–9120	Painting workers	192.7	199.9	.1	.1	7.3	3.8	57.9
51–9121	Coating, painting, and spraying machine setters, operators and tenders	107.8	111.3	.1	.1	3.5	3.3	31.8
51–9122	Painters, transportation equipment	52.2	52.6	.0	.0	.4	.8	14.1
51–9123	Painting, coating, and decorating workers	32.7	36.0	.0	.0	3.3	10.2	11.9
51–9130	Photographic process workers and processing machine operators	73.0	61.2	.0	.0	–11.8	–16.1	18.6
51–9131	Photographic process workers	21.7	22.4	.0	.0	.7	3.1	6.0
51–9132	Photographic processing machine operators	51.3	38.8	.0	.0	–12.5	–24.3	12.6
51–9141	Semiconductor processors	31.6	21.6	.0	.0	–10.0	–31.5	6.5
51–9190	Miscellaneous production workers	998.6	976.3	.7	.6	–22.3	–2.2	221.0
51–9191	Cementing and gluing machine operators and tenders	19.8	17.5	.0	.0	–2.3	–11.4	4.8
51–9192	Cleaning, washing, and metal pickling equipment operators and tenders	18.0	17.4	.0	.0	–.6	–3.5	3.7
51–9193	Cooling and freezing equipment operators and tenders	9.9	9.9	.0	.0	.0	–.4	2.0
51–9194	Etchers and engravers	12.0	12.0	.0	.0	.0	.0	.7
51–9195	Molders, shapers, and casters, except metal and plastic	48.2	49.5	.0	.0	1.3	2.8	25.2
51–9196	Paper goods machine setters, operators, and tenders	103.3	81.0	.1	.0	–22.2	–21.5	21.6
51–9197	Tire builders	21.4	17.6	.0	.0	–3.8	–17.6	7.4
51–9198	Helpers—Production workers	484.0	483.7	.3	.3	–.3	–.1	84.6
51–9199	All other production workers	282.0	287.5	.2	.2	5.6	2.0	70.9
53–0000	Transportation and material moving occupations	9,825.5	10,216.6	6.5	6.1	391.1	4.0	2,856.5
53–1000	Supervisors, transportation and material moving workers	406.1	405.0	.3	.2	–1.0	–.3	77.4
53–1011	Aircraft cargo handling supervisors	4.9	5.3	.0	.0	.4	7.2	1.2

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
53–1021	First-line supervisors/managers of helpers, laborers, and material movers, hand	183.5	190.2	0.1	0.1	6.7	3.6	38.5
53–1031	First-line supervisors/managers of transportation and material-moving machine and vehicle operators	217.6	209.5	.1	.1	–8.1	–3.7	37.7
53–2000	Air transportation occupations	150.4	168.5	.1	.1	18.2	12.1	69.2
53–2010	Aircraft pilots and flight engineers	116.0	129.7	.1	.1	13.7	11.8	53.1
53–2011	Airline pilots, copilots, and flight engineers	76.8	83.3	.1	.1	6.4	8.4	32.5
53–2012	Commercial pilots	39.2	46.5	.0	.0	7.3	18.5	20.6
53–2020	Air traffic controllers and airfield operations specialists	34.3	38.8	.0	.0	4.5	13.0	16.1
53–2021	Air traffic controllers	26.2	29.6	.0	.0	3.4	13.0	12.3
53–2022	Airfield operations specialists	8.1	9.2	.0	.0	1.1	13.0	3.8
53–3000	Motor vehicle operators	4,170.9	4,551.8	2.8	2.7	380.9	9.1	1,123.6
53–3011	Ambulance drivers and attendants, except emergency medical technicians	22.2	24.5	.0	.0	2.3	10.3	6.2
53–3020	Bus drivers	647.5	691.4	.4	.4	43.9	6.8	157.0
53–3021	Bus drivers, transit and intercity	193.9	209.9	.1	.1	16.0	8.2	49.9
53–3022	Bus drivers, school	453.6	481.5	.3	.3	27.9	6.2	107.1
53–3030	Driver/sales workers and truck drivers	3,189.3	3,481.2	2.1	2.1	291.9	9.2	862.5
53–3031	Driver/sales workers	406.4	424.1	.3	.3	17.7	4.4	90.4
53–3032	Truck drivers, heavy and tractor-trailer	1,798.4	2,031.3	1.2	1.2	232.9	12.9	554.6
53–3033	Truck drivers, light or delivery services	984.5	1,025.9	.7	.6	41.4	4.2	217.5
53–3041	Taxi drivers and chauffeurs	232.3	268.4	.2	.2	36.1	15.5	77.3
53–3099	All other motor vehicle operators	79.6	86.3	.1	.1	6.7	8.4	20.6
53–4000	Rail transportation occupations	130.5	142.4	.1	.1	12.0	9.2	54.9
53–4010	Locomotive engineers and operators	51.1	56.2	.0	.0	5.1	9.9	21.6
53–4021	Railroad brake, signal, and switch operators	25.6	28.0	.0	.0	2.4	9.4	10.7
53–4031	Railroad conductors and yardmasters	41.3	44.1	.0	.0	2.8	6.9	17.0
53–4041	Subway and streetcar operators	7.7	9.1	.0	.0	1.4	18.8	3.9
53–4099	Rail transportation workers, all other	4.8	5.0	.0	.0	.2	4.2	1.8
53–5000	Water transportation occupations	81.1	93.1	.1	.1	12.0	14.8	46.3
53–5011	Sailors and marine oilers	32.9	36.7	.0	.0	3.8	11.7	17.9
53–5020	Ship and boat captains and operators	36.8	42.8	.0	.0	6.0	16.3	21.3
53–5021	Captains, mates, and pilots of water vessels	33.1	38.8	.0	.0	5.7	17.3	19.5
53–5022	Motorboat operators	3.7	4.0	.0	.0	.3	8.1	1.8
53–5031	Ship engineers	11.5	13.6	.0	.0	2.1	18.6	7.0
53–6000	Other transportation workers	302.9	318.5	.2	.2	15.6	5.2	127.8
53–6011	Bridge and lock tenders	4.7	5.1	.0	.0	.4	8.4	2.1
53–6021	Parking lot attendants	136.2	141.9	.1	.1	5.7	4.2	54.7
53–6031	Service station attendants	83.3	81.5	.1	.0	–1.8	–2.2	34.7
53–6041	Traffic technicians	7.4	8.2	.0	.0	.8	10.3	3.4
53–6051	Transportation inspectors	26.9	31.9	.0	.0	4.9	18.3	11.3
53–6099	All other related transportation workers	44.3	49.9	.0	.0	5.6	12.7	21.5
53–7000	Material moving occupations	4,583.7	4,537.2	3.0	2.7	–46.5	–1.0	1,357.3
53–7011	Conveyor operators and tenders	41.0	37.2	.0	.0	–3.8	–9.3	11.9
53–7021	Crane and tower operators	43.9	40.9	.0	.0	–3.0	–6.7	10.2
53–7030	Dredge, excavating, and loading machine operators	82.3	88.6	.1	.1	6.3	7.7	30.6
53–7031	Dredge operators	2.2	2.4	.0	.0	.2	7.0	.8
53–7032	Excavating and loading machine and dragline operators	75.7	82.1	.1	.0	6.5	8.6	28.5
53–7033	Loading machine operators, underground mining	4.4	4.1	.0	.0	–.3	–7.4	1.3

See footnotes at end of table.

Appendix: Continued—Employment and job openings by occupation and occupational group, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs[1]
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
53–7041	Hoist and winch operators	2.8	2.6	0.0	0.0	–0.2	–8.0	0.8
53–7051	Industrial truck and tractor operators	610.3	627.0	.4	.4	16.7	2.7	198.6
53–7060	Laborers and material movers, hand	3,565.7	3,485.4	2.4	2.1	–80.2	–2.3	1,015.5
53–7061	Cleaners of vehicles and equipment	348.9	352.5	.2	.2	3.6	1.0	127.7
53–7062	Laborers and freight, stock, and material movers, hand	2,317.3	2,298.6	1.5	1.4	–18.7	–.8	745.8
53–7063	Machine feeders and offbearers	140.6	109.5	.1	.1	–31.2	–22.2	15.9
53–7064	Packers and packagers, hand	758.8	724.8	.5	.4	–34.0	–4.5	126.1
53–7070	Pumping station operators	32.5	24.5	.0	.0	–8.0	–24.7	9.5
53–7071	Gas compressor and gas pumping station operators	4.3	3.4	.0	.0	–.9	–20.6	1.2
53–7072	Pump operators, except wellhead pumpers	9.7	7.8	.0	.0	–1.9	–19.6	2.8
53–7073	Wellhead pumpers	18.6	13.3	.0	.0	–5.3	–28.4	5.4
53–7081	Refuse and recyclable material collectors	149.0	176.7	.1	.1	27.8	18.6	71.1
53–7111	Shuttle car operators	3.1	3.0	.0	.0	–.1	–4.0	.9
53–7121	Tank car, truck, and ship loaders	12.0	11.2	.0	.0	–.9	–7.4	3.5
53–7199	Material moving workers, all other	41.0	40.0	.0	.0	–1.0	–2.4	4.7

[1] Total job openings represents the sum of employment increases and replacement needs. If employment change is negative, job openings due to growth are zero and total job openings equals replacement needs.

[2] Codes 11–0000 through 13–0000 in the 2000 *Standard Occupational Classification* (SOC).

[3] Codes 15–0000 through 29–0000 in the 2000 *Standard Occupational Classification* (SOC).

[4] Codes 31–0000 through 39–0000 in the 2000 *Standard Occupational Classification* (SOC).

NOTE: Data may not sum to totals or to 100 percent because of rounding.

Community colleges: a report card

Do Community Colleges Respond to Local Needs? Evidence from California. By Duane E. Leigh and Andrew M. Gill, Kalamazoo, MI, W.E. Upjohn Institute for Employment Research, 2007, 219 pp., $40/cloth; $18/paperback.

When Duane Leigh and Andrew Gill ask the question, "Do community colleges respond to local needs?" they are using the term "needs" in two distinct senses. The more obvious interpretation is that of employer demand: to what extent do these educational institutions satisfy the requirements of job providers? But they also address the extent to which the student customers of community colleges, who are part of the labor supply to local employers, get what they want from the institutions in the way of career preparation and personal growth.

Community colleges play a multitude of roles: trainer of labor, provider of further education, and facilitator of student transfers to 4-year institutions among them. Leigh and Gill address two research questions about the California Community College system using the criteria that a labor-market-responsive community college seeks to develop programs that are aligned to changes in both the demand and supply sides of its local labor market. The first question concerns the supply-side changes associated with immigration into the California labor market and transfer to 4-year colleges. The second question asks whether community colleges provide occupational training that enables students to acquire marketable skills in the local labor market.

On the supply side, Leigh and Gill analyze differences between Latinos and Whites and Asians and Whites in terms of receipt of an Associate's degree, total credits earned, and transfer to a 4-year institution. They also analyze subgroups of first generation immigrants, high school dropouts, and students of specific national origins. First generation immigrant Asian students (57 percent of all Asian freshmen students on California community college campuses in 1996-97) do better than other immigrant groups and about as well as non-immigrant Asian students on the three outcome measures. Latino immigrant students (32 percent of all Latino students in the sample) do less well than other immigrant groups and Latino nonimmigrants.

Just 35 percent of all entering students in the California Community College system used by Leigh and Gill stated plans to transfer to a 4-year institution. Looking at actual rates of transfer to 4-year institutions of male students, here are the percentages: Latino immigrant, 5.0; Latino nonimmigrant, 8.5; Asian immigrant, 23.4; Asian nonimmigrant, 28.0; White immigrant, 11.4 and Black immigrant, 14.1 Nonimmigrant transfer percentages for Whites and Blacks are not provided, but can be inferred to be lower than immigrant Whites and Blacks in contrast to the Latino and Asian numbers. The percentages were slightly higher for females in each subgroup except for Black immigrants, for whom the female transfer rate was lower than the male rate.

An important finding of the study is that "clustering" of students of particular ethnic backgrounds in specific colleges has different effects on the transfer rates of Latinos and Asians. A high concentration of Latino students decreases their transfer rates, controlling for student background characteristics, while a high concentration of Asian students increases the rate at which they transfer to 4-year institutions. The authors attribute these differences to differences in cultural norms and educational aspirations within the various ethnic groups.

The authors measure the extent to which community colleges satisfy the skill requirements of local employers by comparing the distribution of occupational credits completed by students in their sample to the occupational distribution of projected new jobs. This measure of "responsiveness" does not provide any information on whether students actually find employment in their fields of specialization. Leigh and Gill find considerable variability in responsiveness across the 106 community colleges in their sample. However, multi-campus districts appear to be more responsive than single campus districts, perhaps because individual campuses within multi-campus systems in a district specialize in ways that complement each other. The authors contend that this means that the heterogeneity in programs and curricular emphases observed among individual colleges in a district is consistent with their being more responsive as a group; that one-size fits-all performance measures don't fully capture the variety of programs, including transfer-oriented as well as vocationally-oriented, available in the district as a whole.

As the authors acknowledge, the two research approaches used cannot be melded together to answer the question of whether immigrants, or ethnic group members generally, are obtaining training and credentials of value in the various California labor

markets. Their preliminary findings, however, of which those mentioned in this review are but a share, indicate that further work on the ways in which different groups of students enter and prepare for the labor market and further education, and complementary work on how skill demands get translated into careers, will yield helpful insights. It should be mentioned, finally, that the authors are scrupulous in their descriptions of the data and their limitations, and provide a good example of productive labor market research.

—Stephen E. Baldwin
Economist
Bethesda, MD

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Recession affects beliefs as well as wallets

Will the current economic downturn profoundly affect the political, economic, and personal ideologies of the generation that is coming of age during these tough times? Or were the beliefs of this generation already ingrained prior to adulthood?

Economists Paola Giuliano and Antonio Spilimbergo try to answer these questions in a recent National Bureau of Economic Research (NBER) study entitled "Growing Up in a Recession: Beliefs and the Macroeconomy" (NBER Working Paper 15321, September 2009). Giuliano and Spilimbergo argue that "the system of individual beliefs and attitudes is conditioned by the collective experience of a recession"—especially for those individuals who experience a recession during "early adulthood," defined by the authors as ages 18 to 25. Among the various age groups, the 18- to 25-year-olds are probably the most sensitive to macroeconomic conditions; it is the time in life during which many socioeconomic beliefs are formed, according to social psychology research done by the authors.

The authors used the self-reported answers from participants in the National Opinion Research Center's General Social Survey, which provides repeated cross sections over a 30-year period with information on economic beliefs, demographic characteristics, and the location and economic conditions of the participants when they were teens. With data from the 1940s through the 1980s to assess respondents' beliefs and attitudes, Giuliano and Spilimbergo then matched survey answers to the macroeconomic experiences of the survey respondents over a number of years. The authors used regional recessions as the measure for macroeconomic shocks, making their analysis both time and location specific.

Giuliano and Spilimbergo found three major commonalities in beliefs adopted later in life by people who experienced recessions during their formative early adult years, suggesting that recessions have a long-lasting effect on economic beliefs and personal values. These individuals are more likely to

- believe that luck rather than effort is the most important driver of individual success;
- support more government-initiated redistribution of wealth;
- have less confidence in public institutions.

The influence of a recession on an individual's belief system in turn has a profound long-term effect on labor market experience. Young people entering the job market during a recession experience considerable initial earning losses that may be permanent, and they generally choose a more conservative capital structure in business dealings. These individuals are also less likely to invest a large fraction of their wealth in stocks.

Giuliano and Spilimbergo also found that, until they are in their 40s, adults can have their trust in government institutions shaken by macroeconomic shocks. People who are 40 and older do not tend to change their beliefs in response to negative economic shocks they have experienced.

Employers' online job postings

It goes without saying that the Internet has transformed the ways in which jobseekers hunt for work and employers search for candidates to fill open positions. There are a number of examples of recent research documenting the causes and consequences of employers using the Internet to search, but there is little known about *how* employers use the Web to search for workers. In the article "Employers' Online Search: An Empirical Analysis," (*Industrial Relations*, October 2009, pp. 684–709) Vera Brenčič and John B. Norris present a study they conducted in an attempt to provide more answers to the "how" question.

The researchers use data on 172,219 job vacancies on Monster.com between late April and early July of 2005. They set out to determine whether, in general, the urgency in filling a position has a substantial effect on the content of the job posting. The authors control for numerous factors—the length of the job description, whether the job is a temporary assignment, whether the vacancy was posted by the employer that intends to hire or by a recruitment agency, and various other factors—in order to obtain robust results.

The study finds some interesting general trends. For example, compared with employers who did not specify that a position was immediately available, employers who indicated in job postings that the vacancies were ready to be filled right away were less likely to specify required work experience and also less likely to list educational requirements. Brenčič and Norris believe that this result suggests that, when the costs of continuing a search are high, employers elect to provide less information about the types of candidates they are looking for—and that they do so in order to increase the size of the applicant pool. The study also finds that employers with immediately available jobs gave more details about the application process and were quicker to remove the job postings from the Web site. Although there remains much to be learned about the ways in which the Web is used in matching jobseekers with employers, this article provides evidence that vacancy costs influence the ways in which employers use the Internet to find candidates for jobs. □

To the Editor:

This refers to the article titled "An international analysis of workplace injuries," by Al-Amin Ussif that appeared in the March 2004 issue of the *Monthly Labor Review* (**http://www.bls.gov/opub/mlr/2004/03/art3full.pdf**).

In the article, the author discusses occupational injury data for the United States, Canada, Finland, France, and Sweden and draws cross-country comparisons. On page 44, he gives both the BLS and ILO as sources (see end of Chart 1) and states that "the sources of the data are different, but are comparable." Our analysis indicates that these are false statements. We believe that fundamental inconsistencies in the data preclude meaningful comparisons, not only of levels but also of trends in the data. At a minimum, the author should have discussed limitations of the data. Furthermore, the U.S. data series is presented incorrectly. (Jeffery Brown, an Economist in the BLS Office of Compensation and Working Conditions, Division of Safety and Health Statistics, provided the information about the U.S. data series.) Below is a more detailed analysis of these and other points.

Source data cited incorrectly. All data are from ILO; BLS is listed as a source incorrectly on Chart 1. BLS does not publish international data on occupational injuries; therefore, data for Canada, Finland, France, and Sweden are clearly from ILO. The U.S. data are not directly from BLS; the series graphed by the author shows an unusual trend not characteristic of the occupational injury series published by BLS. The ILO series on U.S. occupational injuries data, however, shows the same unusual trend (as discussed further below), so we conclude that the U.S. data were taken from ILO rather than directly from BLS. In fact, footnote 8 of the article states that "The data employed in this analysis are obtained from the International Labor Office Web site: **www.laborsta.ilo.org**." This contradicts the author's source note on Chart 1, which sources BLS directly.

International data are not comparable. ILO metadata show that occupational injury data are not strictly comparable across the five countries. For example, type of injuries–whether reported or compensated–has a significant impact on comparisons across countries. Thus, data for the U.S. and Sweden, which are based on reported injuries, should not be compared with those of Canada, Finland, and France, since these are based on insurance claims. Table 1 provides an overview of the various differences in coverage for the five countries.

Furthermore, the ILO provides the following caveats about the statistics on occupational injuries:

- "Care should be taken when using the data provided in these tables, particularly when making international comparisons. The sources, methods of data collection, coverage and classifications used differ between countries. For example, coverage may be limited to certain types of workers (employees, insured persons, full-time workers, etc.), certain economic activities, establishments employing more than a given number of workers, cases of injury losing more than a certain number of days of work, etc."
- "It should be borne in mind that a rise or fall in the number of cases of occupational injury or in the rates of injury over a period of time may reflect not only changes in

conditions of work and the work environment, but also modifications in reporting procedures or data collection methods, or revisions to laws or regulations governing the reporting or compensation of occupational injuries in the country concerned."

These caveats appear online at **http://laborsta.ilo.org/applv8/data/c8e.html** and in the ILO Yearbook of Labor Statistics publications.

Table 1. ILO metadata on occupational injury data

Coverage	United States	Canada	Finland	France	Sweden
Source	Establishment survey for non-fatal and census for fatal injuries	Insurance claims	Insurance claims	Insurance claims	Insurance claims
Type of injuries	Reported injuries	Compensated injuries	Compensated injuries	Compensated injuries	Reported injuries
Persons	Paid employees	Paid employees and self-employed if covered by workers' compensation board	Paid employees and trainees	Paid employees	All (employees, self-employed, family workers); also includes trainees
Economic activities	All except public sector and private household services	All except defense	All	All except public administration and services	All
Establishments	All except farms with fewer than 11 employees	All	All	All	All
Injuries outside country	Not included	Included if covered by workers' compensation board	Included if employer registered in Finland	Not included	Included if claim filed to Swedish company
Metadata source	**http://laborsta.ilo.org/applv8/data/SSM8/E/US.html**	**http://laborsta.ilo.org/applv8/data/SSM8/E/FI.html**	**http://laborsta.ilo.org/applv8/data/SSM8/E/FR.html**	**http://laborsta.ilo.org/applv8/data/SSM8/E/SE.html**	**http://laborsta.ilo.org/applv8/data/SSM8/E/SE.html**

Data series identified incorrectly. The author incorrectly identifies the type of occupational injury data series used. The ILO provides three data series on occupational injuries: fatal injuries, non-fatal injuries, and total injuries. Based on the data discussed in the article, the author appears to have used the series on total injuries, which includes both fatal and non-fatal cases. However, on page 41, the author states "the injury counts are cases with lost workdays, that is, injuries resulting in days away from work." Thus the author is implying that he is using the series on non-fatal injuries, which is not true based on the data shown in the article.

Misuse of data. As briefly discussed above, the U.S. data presented show an unusual trend. Chart 1 on page 43 shows U.S. injuries falling from above 5 million in 1977 to about 2.5 million in 1978. Although this trend is consistent with the ILO data series on total reported injuries in the United States, the author does not reproduce the break in series for 1977 indicated by the ILO, resulting in a misleading graph. In addition, he makes no attempt to explain the sharp drop from one year to the other in the U.S. data series.

The underlying problem, however, is the ILO's inaccurate presentation of the U.S. data from BLS. The ILO series on total reported occupational injuries for the United States is actually a combination of two separate BLS data series: total injuries for 1976–77 and counts of cases resulting in days away from work for 1978 onward. Thus, the classification of this dataset as total reported injuries is incorrect, since only the first two years of data reflect total injuries. The majority of the data presented (i.e., data for 1978 onward) are days away from work cases, a subset of total injuries.

Also note that the 1977 break in series for the U.S. data is inaccurately described by the ILO, and, more importantly, it is inappropriate. Although it is placed at the seam of the two different data series, it incorrectly characterizes the difference between the two series. The ILO's explanation for the break is that the figures for 1976–77 include non-fatal cases without lost workdays, implying that the figures are larger because they are based on a broader definition for non-fatal cases. As discussed above, this is incorrect; the difference is in fact due to the exclusion of fatal cases for all years after 1977. However, the error in the explanation of the break is moot since the two BLS series should not be combined into one.

Missing breaks in series. The author does not reproduce the breaks in series given in the ILO metadata for four of the five countries studied in the article. Table 2 provides an overview of the omitted breaks.

Table 2. ILO metadata on breaks in series

Country	Year	Explanation
United States	1992	Establishment of Census of Fatal Occupational Injuries. Previously, fatal injuries figures were estimations based on survey data.
Canada	1991	Geographic coverage expanded to include the Yukon.
Finland	1992	Revisions to definitions of establishment, occupation and branch of industry.
Sweden	1993	Revisions to definition of economic activities and work injuries.
	1990	Revisions to definition of occupation.
	1997	Further revisions to definition of occupation.

Other comments. Footnote 2 on Chart 1 is incorrectly placed after the United States. This footnote relates only to France.

[signed] Amy Seale
Economist
Division of International Labor Comparisons
Bureau of Labor Statistics

Nominations Sought for 2010 Julius Shiskin Award

Nominations are invited for the annual Julius Shiskin Memorial Award for Economic Statistics. The Award is given in recognition of unusually original and important contributions in the development of economic statistics or in the use of statistics in interpreting the economy. Contributions are recognized for statistical research, development of statistical tools, application of information technology techniques, use of economic statistical programs, management of statistical programs, or developing public understanding of measurement issues. The Award was established in 1980 by the Washington Statistical Society (WSS) and is now cosponsored by the WSS, the National Association for Business Economics, and the Business and Economics Statistics Section of the American Statistical Association (ASA). In 2009, Dr. Helen Stone Tice received the award for her innovative research in developing improved measures of the activities on nonprofit institutions throughout the world and for leadership in providing users with comprehensive documentation of the methodologies used for the U.S. economic accounts.

Because the program was initiated many years ago, statisticians and economists often ask, "Who was Julius Shiskin?" At the time of his death in 1978, "Julie" was the Commissioner of the Bureau of Labor Statistics (BLS); he earlier served as the Chief Statistician at the Office of Management and Budget (OMB), and the Chief Economic Statistician and Assistant Director of the Census Bureau. Throughout his career, he was known as an innovator. At Census he was instrumental in developing an electronic computer method for seasonal adjustment. In 1961, he published Signals of Recession and Recovery, which laid the groundwork for the calculation of monthly economic indicators, and he developed the monthly Census report Business Conditions Digest to disseminate them to the public. In 1969, he was appointed Chief Statistician at OMB where he developed the policies and procedures that govern the release of key economic indicators (Statistical Policy Directive Number 3), and originated a Social Indicators report. In 1973, he was selected to head BLS where he was instrumental in preserving the integrity and independence of the BLS labor force data and directed the most comprehensive revision in the history of the Consumer Price Index (CPI), which included a new CPI for all urban consumers.

Nominations for the 2010 award are now being accepted. Individuals and groups in the public or private sector from any country can be nominated. The award will be presented with an honorarium of $750 plus additional recognition from the sponsors. A nomination form and a list of all previous recipients are available on the ASA Website at **www.amstat.org/sections/bus_econ/shiskin.html**.

For questions or more information, please contact Steven Paben, Julius Shiskin Award Committee Secretary, via e-mail at **paben.steven@bls.gov** or call 202-691-6147.

Completed nominations must be *received* by March 5, 2010.

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Labor force data

Labor compensation and collective bargaining data

Price data

Productivity data

International comparisons data

Injury and Illness data

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 x 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/

Historically comparable unadjusted and seasonally adjusted data from the establishment survey also are available on the Internet:

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/

For additional information on international comparisons data, see *International 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**).

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**) 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** infor-mation 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 supple-mental 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 aggre-

gations, 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 con-version 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/**

ADDITIONAL INFORMATION on the Employment Cost Index is available at **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 **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 esti-

mated 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 stop-pages data is available at **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 meaured 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 manufactures, 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, allow-

ances, 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, contact 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 compensation 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**

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 further 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 Internet at **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

Foreign country data are adjusted as closely as possible to the U.S. definitions. Primary areas of adjustment address conceptual differences in upper age limits and definitions of employment and unemployment, provided that reliable data are available to make these adjustments. Adjustments are made where applicable to include employed and unemployed persons above upper age limits; some European countries do not include persons older than age 64 in their labor force measures, because a large portion of this population has retired. Adjustments are made to exclude active duty military from employment figures, although a small number of career military may be included in some European countries. Adjustments are made to exclude unpaid family workers who worked fewer than 15 hours per week from employment figures; U.S. concepts do not include them in employment, whereas most foreign countries include all unpaid family workers regardless of the number of hours worked. Adjustments are made to include full-time students seeking work and available for work as unemployed when they are classified as not in the labor force.

Where possible, lower age limits are based on the age at which compulsory schooling ends in each country, rather than based on the U.S. standard of 16. Lower age limits have ranged between 13 and 16 over the years covered; currently, the lower age limits are either 15 or 16 in all 10 countries.

Some adjustments for comparability are not made because data are unavailable for adjustment purposes. For example, no adjustments to unemployment are usually made for deviations from U.S. concepts in the treatment of persons waiting to start a new job or passive job seekers. These conceptual differences have little impact on the measures. Furthermore, BLS studies have concluded that no adjustments should be made for persons on layoff who are counted as employed in some countries because of their strong job attachment as evidenced by, for example, payment of salary or the existence of a recall date. In the United States, persons on layoff have weaker job attachment and are classified as unemployed.

The annual labor force measures are obtained from monthly, quarterly, or continuous household surveys and may be calculated as averages of monthly or quarterly data. Quarterly and monthly unemployment rates are based on household surveys. For some countries, they are calculated by applying annual adjustment factors to current published data and, therefore, are less precise indicators of unemployment under U.S. concepts than the annual figures. The labor force measures may have breaks in series over time due to changes in surveys, sources, or estimation methods. Breaks are noted in data tables.

For up-to-date information on adjustments and breaks in series, see the Technical Notes of *Comparative Civilian Labor Force Statistics, 10 Countries*, on the Internet at **www.bls.gov/fls/flscomparelf.htm**, and the Notes of *Unemployment rates in 10 countries, civilian labor force basis, approximating U.S. concepts, seasonally adjusted*, on the Internet at **www.bls.gov/fls/flsjec.pdf**.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 691–5654 or **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, Singapore, 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.

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). However, the measures for France include parts of mining as well. For the United States and Canada, manufacturing is defined according to the North American Industry Classification System (NAICS 97).

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 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.

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, Singapore, 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.

Labor productivity is defined as real output per hour worked. Although the labor productivity measure presented in this release relates output to the hours worked of persons employed in manufacturing, it does not measure the specific contributions of labor as a single factor of production. Rather, it reflects the joint effects of many influences, including new technology, capital investment, capacity utilization, energy use, and managerial skills, as well as the skills and efforts of the workforce.

Unit labor costs are defined as the cost 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

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 this series, go to **http://www.bls.gov/news.release/prod4.toc.htm** or contact the Division of International Labor Comparison at (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: **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/**

1. Labor market indicators

Selected indicators	2007	2008	2007		2008				2009		
			III	IV	I	II	III	IV	I	II	III
Employment data											
Employment status of the civilian noninstitutional population (household survey):[1]											
Labor force participation rate	66.0	66.0	65.9	66.0	66.0	66.1	66.1	65.9	65.6	65.8	65.4
Employment-population ratio	63.0	62.2	62.9	62.8	62.8	62.5	62.1	61.3	60.3	59.7	59.1
Unemployment rate	4.6	5.8	4.7	4.8	4.9	5.4	6.0	6.9	8.1	9.2	9.6
Men	4.7	6.1	4.8	4.9	5.1	5.6	6.5	7.5	8.8	10.4	10.8
16 to 24 years	11.6	14.4	11.8	12.1	12.7	13.5	14.9	16.5	18.0	20.0	20.4
25 years and older	3.6	4.8	3.6	3.7	3.9	4.2	5.1	6.0	7.4	8.8	9.4
Women	4.5	5.4	4.6	4.7	4.8	5.1	5.6	6.1	7.2	8.0	8.3
16 to 24 years	9.4	11.2	9.7	9.9	10.1	11.1	11.9	11.6	12.9	14.4	15.5
25 years and older	3.6	4.4	3.7	3.8	3.9	4.1	4.5	5.2	6.2	6.9	7.1
Employment, nonfarm (payroll data), in thousands: [1]											
Total nonfarm	137,598	137,066	137,652	138,152	137,814	137,356	136,732	135,074	133,000	131,715	130,947
Total private	115,380	114,566	115,389	115,783	115,373	114,834	114,197	112,542	110,457	109,182	108,544
Goods-producing	22,233	21,419	22,099	22,043	21,800	21,507	21,247	20,532	19,520	18,829	18,465
Manufacturing	13,879	13,431	13,796	13,777	13,643	13,505	13,322	12,902	12,296	11,877	11,719
Service-providing	115,366	115,646	115,553	116,109	116,014	115,849	115,485	114,542	113,480	112,886	112,482
Average hours:											
Total private	33.9	33.6	33.8	33.8	33.8	33.6	33.6	33.3	33.1	33.0	33.0
Manufacturing	41.2	40.8	41.3	41.2	41.2	40.9	40.5	39.9	39.4	39.5	39.8
Overtime	4.2	3.7	4.1	4.1	4.0	3.8	3.5	2.9	2.6	2.8	2.8
Employment Cost Index[1, 2, 3]											
Total compensation:											
Civilian nonfarm[4]	3.3	2.6	1.0	.6	.8	.7	.8	.3	.4	.4	.5
Private nonfarm	3.0	2.4	.8	.6	.9	.7	.6	.2	.4	.3	.4
Goods-producing[5]	2.4	2.4	.5	.6	1.0	.7	.4	.3	.4	.3	.2
Service-providing[5]	3.2	2.5	.9	.6	.9	.7	.6	.3	.4	.3	.4
State and local government	4.1	3.0	1.8	.7	.5	.5	1.7	.3	.6	.5	1.0
Workers by bargaining status (private nonfarm):											
Union	2.0	2.8	.5	.7	.8	.8	.7	.6	1.0	.6	.6
Nonunion	3.2	2.4	.8	.6	.9	.7	.6	.2	.3	.2	.3

[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter.

[3] 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.

[4] Excludes Federal and private household workers.

[5] 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	2007	2008	2007		2008				2009		
			III	IV	I	II	III	IV	I	II	III
Compensation data[1, 2, 3]											
Employment Cost Index—compensation:											
Civilian nonfarm	3.3	2.6	1.0	0.6	0.8	0.7	0.8	0.3	0.4	0.4	0.5
Private nonfarm	3.0	2.4	.8	.6	.9	.7	.6	.2	.4	.3	.4
Employment Cost Index—wages and salaries:											
Civilian nonfarm	3.4	2.7	1.0	.7	.8	.7	.8	.3	.4	.4	.5
Private nonfarm	3.3	2.6	.9	.6	.9	.7	.6	.3	.4	.3	.5
Price data[1]											
Consumer Price Index (All Urban Consumers): All Items	2.8	3.8	.1	.7	1.7	2.5	0	-3.9	1.2	1.4	.1
Producer Price Index:											
Finished goods	3.9	6.3	.1	1.8	2.8	4.2	-.1	-7.4	.2	3.0	-.4
Finished consumer goods	4.5	7.4	.2	1.9	3.4	5.2	-.4	-10.0	.3	4.1	-.4
Capital equipment	1.8	2.8	-.1	1.2	.7	.6	1.0	1.9	-.2	-.2	-.3
Intermediate materials, supplies, and components	4.1	10.5	.1	2.0	5.0	6.9	.7	-13.6	-2.1	2.7	1.6
Crude materials	12.1	21.5	-2.4	11.9	14.5	14.9	-15.6	-32.1	-7.2	12.9	-3.7
Productivity data[4]											
Output per hour of all persons:											
Business sector	1.8	1.9	5.5	1.6	.2	3.1	.3	.8	.2	6.8	9.8
Nonfarm business sector	1.8	1.8	5.5	2.0	-.1	3.1	-.1	.8	.3	6.9	9.5
Nonfinancial corporations[5]	1.0	1.9	-1.1	5.3	-2.7	6.9	3.2	-1.4	-7.3	6.6	-

[1] 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.

[2] Excludes Federal and private household workers.

[3] 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.

[4] 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.

[5] Output per hour of all employees.

3. Alternative measures of wage and compensation changes

Components	Quarterly change					Four quarters ending—				
	2008		2009			2008		2009		
	III	IV	I	II	III	III	IV	I	II	III
Average hourly compensation:[1]										
All persons, business sector	4.5	2.6	-4.7	0.2	4.2	2.9	2.5	0.9	0.6	0.5
All persons, nonfarm business sector	4.5	2.9	-4.7	.3	3.8	3.1	2.6	.9	.7	.5
Employment Cost Index—compensation:[2]										
Civilian nonfarm[3]	.8	.3	.4	.4	.5	2.9	2.6	2.1	1.8	1.5
Private nonfarm	.6	.2	.4	.3	.4	2.8	2.4	1.9	1.5	1.2
Union	.7	.6	1.0	.6	.6	2.9	2.8	3.0	2.9	2.9
Nonunion	.6	.2	.3	.2	.3	2.8	2.4	1.8	1.2	.9
State and local government	1.7	.3	.6	.5	1.0	3.4	3.0	3.1	3.2	2.4
Employment Cost Index—wages and salaries:[2]										
Civilian nonfarm[3]	.8	.3	.4	.4	.5	3.1	2.7	2.2	1.8	1.5
Private nonfarm	.6	.3	.4	.3	.5	2.9	2.6	2.0	1.6	1.4
Union	.7	.7	.6	.7	.5	2.9	3.2	3.1	2.7	2.6
Nonunion	.6	.2	.4	.2	.4	3.0	2.5	1.9	1.4	1.1
State and local government	1.8	.3	.5	.5	.8	3.5	3.1	3.0	3.0	2.1

[1] Seasonally adjusted. "Quarterly average" is percent change from a quarter ago, at an annual rate.

[2] 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.

[3] 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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
TOTAL															
Civilian noninstitutional population[1]	231,867	233,788	234,360	234,612	234,828	235,035	234,739	234,913	235,086	235,271	235,452	235,655	235,870	236,087	236,322
Civilian labor force	153,124	154,287	154,621	154,878	154,620	154,447	153,716	154,214	154,048	154,731	155,081	154,926	154,504	154,577	154,006
Participation rate	66.0	66.0	66.0	66.0	65.8	65.7	65.5	65.6	65.5	65.8	65.9	65.7	65.5	65.5	65.2
Employed	146,047	145,362	145,029	144,657	144,144	143,338	142,099	141,748	140,887	141,007	140,570	140,196	140,041	139,649	138,864
Employment-population ratio[2]	63.0	62.2	61.9	61.7	61.4	61.0	60.5	60.3	59.9	59.9	59.7	59.5	59.4	59.2	58.8
Unemployed	7,078	8,924	9,592	10,221	10,476	11,108	11,616	12,467	13,161	13,724	14,511	14,729	14,462	14,928	15,142
Unemployment rate	4.6	5.8	6.2	6.6	6.8	7.2	7.6	8.1	8.5	8.9	9.4	9.5	9.4	9.7	9.8
Not in the labor force	78,743	79,501	79,739	79,734	80,208	80,588	81,023	80,699	81,038	80,541	80,371	80,729	81,366	81,509	82,316
Men, 20 years and over															
Civilian noninstitutional population[1]	103,555	104,453	104,741	104,869	104,978	105,083	104,902	104,999	105,095	105,196	105,299	105,412	105,530	105,651	105,780
Civilian labor force	78,596	79,047	79,392	79,380	79,335	78,998	78,585	78,687	78,578	79,081	79,395	79,291	79,045	79,231	79,018
Participation rate	75.9	75.7	75.8	75.7	75.6	75.2	74.9	74.9	74.8	75.2	75.4	75.2	74.9	75.0	74.7
Employed	75,337	74,750	74,503	74,292	74,045	73,285	72,613	72,293	71,655	71,678	71,593	71,387	71,319	71,204	70,887
Employment-population ratio[2]	72.8	71.6	71.1	70.8	70.5	69.7	69.2	68.9	68.2	68.1	68.0	67.7	67.6	67.4	67.0
Unemployed	3,259	4,297	4,889	5,088	5,290	5,714	5,972	6,394	6,923	7,403	7,802	7,904	7,726	8,027	8,131
Unemployment rate	4.1	5.4	6.2	6.4	6.7	7.2	7.6	8.1	8.8	9.4	9.8	10.0	9.8	10.1	10.3
Not in the labor force	24,959	25,406	25,349	25,489	25,643	26,085	26,318	26,312	26,516	26,115	25,904	26,121	26,485	26,420	26,762
Women, 20 years and over															
Civilian noninstitutional population[1]	111,330	112,260	112,518	112,633	112,731	112,825	112,738	112,824	112,908	112,999	113,089	113,189	113,296	113,405	113,522
Civilian labor force	67,516	68,382	68,385	68,700	68,753	68,891	68,584	68,917	68,977	69,148	69,112	69,060	68,985	68,923	68,703
Participation rate	60.6	60.9	60.8	61.0	61.0	61.1	60.8	61.1	61.1	61.2	61.1	61.0	60.9	60.8	60.5
Employed	64,799	65,039	65,008	64,975	64,902	64,860	64,298	64,271	64,148	64,226	63,895	63,810	63,789	63,662	63,318
Employment-population ratio[2]	58.2	57.9	57.8	57.7	57.6	57.5	57.0	57.0	56.8	56.8	56.5	56.4	56.3	56.1	55.8
Unemployed	2,718	3,342	3,377	3,725	3,851	4,031	4,286	4,646	4,828	4,922	5,217	5,249	5,196	5,261	5,385
Unemployment rate	4.0	4.9	4.9	5.4	5.6	5.9	6.2	6.7	7.0	7.1	7.5	7.6	7.5	7.6	7.8
Not in the labor force	43,814	43,878	44,133	43,933	43,978	43,935	44,154	43,907	43,931	43,850	43,976	44,130	44,311	44,481	44,819
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	16,982	17,075	17,101	17,110	17,118	17,126	17,098	17,090	17,083	17,076	17,064	17,053	17,044	17,031	17,020
Civilian labor force	7,012	6,858	6,844	6,799	6,531	6,557	6,547	6,610	6,493	6,501	6,573	6,575	6,474	6,423	6,285
Participation rate	41.3	40.2	40.0	39.7	38.2	38.3	38.3	38.7	38.0	38.1	38.5	38.6	38.0	37.7	36.9
Employed	5,911	5,573	5,518	5,390	5,196	5,194	5,188	5,184	5,083	5,103	5,082	4,999	4,933	4,783	4,659
Employment-population ratio[2]	34.8	32.6	32.3	31.5	30.4	30.3	30.3	30.3	29.8	29.9	29.8	29.3	28.9	28.1	27.4
Unemployed	1,101	1,285	1,326	1,408	1,335	1,363	1,359	1,427	1,410	1,398	1,491	1,576	1,541	1,640	1,626
Unemployment rate	15.7	18.7	19.4	20.7	20.4	20.8	20.8	21.6	21.7	21.5	22.7	24.0	23.8	25.5	25.9
Not in the labor force	9,970	10,218	10,257	10,311	10,587	10,568	10,551	10,480	10,590	10,575	10,491	10,478	10,570	10,608	10,735
White[3]															
Civilian noninstitutional population[1]	188,253	189,540	189,916	190,085	190,221	190,351	190,225	190,331	190,436	190,552	190,667	190,801	190,944	191,086	191,244
Civilian labor force	124,935	125,635	125,844	126,298	126,029	125,634	125,312	125,703	125,599	126,110	126,423	126,199	125,997	126,118	125,599
Participation rate	66.4	66.3	66.3	66.4	66.3	66.0	65.9	66.0	66.0	66.2	66.3	66.1	66.0	66.0	65.7
Employed	119,792	119,126	118,964	118,722	118,226	117,357	116,692	116,481	115,693	115,977	115,561	115,202	115,123	114,922	114,251
Employment-population ratio[2]	63.6	62.8	62.6	62.5	62.2	61.7	61.3	61.2	60.8	60.9	60.6	60.4	60.3	60.1	59.7
Unemployed	5,143	6,509	6,880	7,577	7,803	8,277	8,621	9,222	9,906	10,133	10,862	10,997	10,874	11,197	11,349
Unemployment rate	4.1	5.2	5.5	6.0	6.2	6.6	6.9	7.3	7.9	8.0	8.6	8.7	8.6	8.9	9.0
Not in the labor force	63,319	63,905	64,072	63,787	64,193	64,718	64,913	64,628	64,837	64,441	64,244	64,601	64,947	64,968	65,645
Black or African American[3]															
Civilian noninstitutional population[1]	27,485	27,843	27,939	27,982	28,021	28,059	28,052	28,085	28,118	28,153	28,184	28,217	28,252	28,290	28,330
Civilian labor force	17,496	17,740	17,733	17,768	17,708	17,796	17,791	17,703	17,542	17,816	17,737	17,700	17,684	17,584	17,442
Participation rate	63.7	63.7	63.5	63.5	63.2	63.4	63.4	63.0	62.4	63.3	62.9	62.7	62.6	62.2	61.6
Employed	16,051	15,953	15,709	15,762	15,703	15,674	15,546	15,336	15,212	15,142	15,095	15,103	15,111	14,929	14,755
Employment-population ratio[2]	58.4	57.3	56.2	56.3	56.0	55.9	55.4	54.6	54.1	53.8	53.6	53.5	53.5	52.8	52.1
Unemployed	1,445	1,788	2,024	2,006	2,005	2,122	2,245	2,368	2,330	2,673	2,642	2,597	2,573	2,655	2,687
Unemployment rate	8.3	10.1	11.4	11.3	11.3	11.9	12.6	13.4	13.3	15.0	14.9	14.7	14.5	15.1	15.4
Not in the labor force	9,989	10,103	10,206	10,214	10,313	10,263	10,261	10,382	10,576	10,337	10,446	10,517	10,568	10,706	10,888

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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Hispanic or Latino ethnicity															
Civilian noninstitutional population[1]	31,383	32,141	32,369	32,465	32,558	32,649	32,417	32,501	32,585	32,671	32,753	32,839	32,926	33,017	33,110
Civilian labor force	21,602	22,024	22,259	22,187	22,074	22,134	21,931	22,100	22,175	22,376	22,438	22,347	22,526	22,341	22,469
Participation rate	68.8	68.5	68.8	68.3	67.8	67.8	67.7	68.0	68.1	68.5	68.5	68.1	68.4	67.7	67.9
Employed	20,382	20,346	20,506	20,232	20,168	20,096	19,800	19,684	19,640	19,854	19,595	19,623	19,745	19,433	19,625
Employment-population ratio[2]	64.9	63.3	63.4	62.3	61.9	61.6	61.1	60.6	60.3	60.8	59.8	59.8	60.0	58.9	59.3
Unemployed	1,220	1,678	1,752	1,955	1,906	2,038	2,132	2,416	2,536	2,521	2,843	2,724	2,781	2,908	2,844
Unemployment rate	5.6	7.6	7.9	8.8	8.6	9.2	9.7	10.9	11.4	11.3	12.7	12.2	12.3	13.0	12.7
Not in the labor force	9,781	10,116	10,111	10,278	10,484	10,515	10,486	10,401	10,410	10,295	10,315	10,491	10,400	10,675	10,641

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

[3] 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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Characteristic															
Employed, 16 years and older	146,047	145,362	145,029	144,657	144,144	143,338	142,099	141,748	140,887	141,007	140,570	140,196	140,041	139,649	138,864
Men	78,254	77,486	77,249	76,938	76,577	75,847	75,092	74,777	74,053	74,116	74,033	73,777	73,703	73,519	73,180
Women	67,792	67,876	67,780	67,720	67,567	67,491	67,007	66,970	66,834	66,890	66,537	66,419	66,339	66,131	65,684
Married men, spouse present	46,314	45,860	45,887	45,787	45,610	45,182	44,712	44,502	44,470	44,469	44,255	44,294	43,992	43,943	43,716
Married women, spouse present	35,832	35,869	35,864	35,590	35,649	35,632	35,375	35,563	35,481	35,444	35,391	35,464	35,377	35,199	34,857
Persons at work part time[1]															
All industries:															
Part time for economic reasons	4,401	5,875	6,292	6,848	7,323	8,038	7,839	8,626	9,049	8,910	9,084	8,989	8,798	9,076	9,179
Slack work or business conditions	2,877	4,169	4,418	4,953	5,399	6,020	5,766	6,443	6,857	6,699	6,794	6,783	6,849	6,941	6,960
Could only find part-time work	1,210	1,389	1,514	1,514	1,585	1,617	1,667	1,764	1,839	1,810	1,922	1,980	1,835	2,044	2,025
Part time for noneconomic reasons	19,756	19,343	19,275	19,083	18,886	18,922	18,864	18,855	18,833	19,065	18,872	18,718	19,018	18,814	18,621
Nonagricultural industries:															
Part time for economic reasons	4,317	5,773	6,167	6,742	7,209	7,932	7,705	8,543	8,942	8,826	8,928	8,845	8,647	8,945	9,004
Slack work or business conditions	2,827	4,097	4,279	4,889	5,304	5,938	5,660	6,390	6,773	6,650	6,681	6,699	6,733	6,844	6,734
Could only find part-time work	1,199	1,380	1,541	1,499	1,579	1,619	1,658	1,760	1,850	1,802	1,909	1,969	1,776	2,020	2,021
Part time for noneconomic reasons	19,419	19,005	18,930	18,808	18,635	18,642	18,567	18,562	18,493	18,661	18,502	18,358	18,621	18,436	18,285

[1] 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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Characteristic															
Total, 16 years and older	4.6	5.8	6.2	6.6	6.8	7.2	7.6	8.1	8.5	8.9	9.4	9.5	9.4	9.7	9.8
Both sexes, 16 to 19 years	15.7	18.7	19.4	20.7	20.4	20.8	20.8	21.6	21.7	21.5	22.7	24.0	23.8	25.5	25.9
Men, 20 years and older	4.1	5.4	6.2	6.4	6.7	7.2	7.6	8.1	8.8	9.4	9.8	10.0	9.8	10.1	10.3
Women, 20 years and older	4.0	4.9	4.9	5.4	5.6	5.9	6.2	6.7	7.0	7.1	7.5	7.6	7.5	7.6	7.8
White, total [1]	4.1	5.2	5.5	6.0	6.2	6.6	6.9	7.3	7.9	8.0	8.6	8.7	8.6	8.9	9.0
Both sexes, 16 to 19 years	13.9	16.8	17.5	18.6	18.4	18.7	18.4	19.1	20.0	19.7	20.3	21.4	22.2	24.1	23.2
Men, 16 to 19 years	15.7	19.1	19.7	22.6	21.4	21.4	21.8	22.2	23.3	22.5	24.4	23.9	25.8	27.9	26.6
Women, 16 to 19 years	12.1	14.4	15.2	14.4	15.3	16.0	14.8	16.0	16.7	16.9	16.0	18.9	18.5	20.1	19.6
Men, 20 years and older	3.7	4.9	5.5	5.8	6.1	6.5	6.8	7.4	8.0	8.5	9.0	9.2	9.1	9.3	9.6
Women, 20 years and older	3.6	4.4	4.2	4.9	5.1	5.5	5.8	6.1	6.5	6.4	6.9	6.8	6.8	6.9	7.0
Black or African American, total [1]	8.3	10.1	11.4	11.3	11.3	11.9	12.6	13.4	13.3	15.0	14.9	14.7	14.5	15.1	15.4
Both sexes, 16 to 19 years	29.4	31.2	29.8	32.9	32.2	33.7	36.5	38.8	32.5	34.7	39.4	37.9	35.7	34.7	40.8
Men, 16 to 19 years	33.8	35.9	32.9	37.2	42.0	35.2	44.0	45.6	41.2	42.1	46.1	44.4	39.2	46.0	50.4
Women, 16 to 19 years	25.3	26.8	26.7	27.8	23.2	32.2	29.8	32.1	25.2	27.2	34.0	32.4	32.5	24.7	31.5
Men, 20 years and older	7.9	10.2	11.9	11.8	12.1	13.4	14.1	14.9	15.4	17.2	16.8	16.4	15.8	17.0	16.5
Women, 20 years and older	6.7	8.1	9.3	8.9	9.0	8.9	9.2	9.9	9.9	11.5	11.2	11.3	11.7	11.9	12.5
Hispanic or Latino ethnicity	5.6	7.6	7.9	8.8	8.6	9.2	9.7	10.9	11.4	11.3	12.7	12.2	12.3	13.0	12.7
Married men, spouse present	2.5	3.4	3.9	4.1	4.2	4.4	5.0	5.5	5.8	6.3	6.8	6.9	6.9	7.1	7.4
Married women, spouse present	2.8	3.6	3.5	4.2	4.3	4.5	4.7	5.1	5.4	5.5	5.7	5.6	5.5	5.4	5.8
Full-time workers	4.6	5.8	6.3	6.8	7.0	7.5	8.0	8.6	9.2	9.6	10.2	10.3	10.1	10.5	10.7
Part-time workers	4.9	5.5	5.9	5.7	5.8	5.9	5.9	5.8	5.9	6.1	6.0	5.9	6.0	6.3	6.4
Educational attainment [2]															
Less than a high school diploma	7.1	9.0	9.8	10.4	10.6	10.9	12.0	12.6	13.3	14.8	15.5	15.5	15.4	15.6	15.0
High school graduates, no college [3]	4.4	5.7	6.3	6.5	6.9	7.7	8.0	8.3	9.0	9.3	10.0	9.8	9.4	9.7	10.8
Some college or associate degree	3.6	4.6	5.1	5.3	5.5	5.6	6.2	7.0	7.2	7.4	7.7	8.0	7.9	8.2	8.5
Bachelor's degree and higher [4]	2.0	2.6	2.6	3.1	3.2	3.7	3.8	4.1	4.3	4.4	4.8	4.7	4.7	4.7	4.9

[1] 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.

[2] Data refer to persons 25 years and older.

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Less than 5 weeks	2,542	2,932	2,864	3,108	3,255	3,267	3,658	3,404	3,371	3,346	3,275	3,204	3,233	3,026	2,966
5 to 14 weeks	2,232	2,804	3,083	3,055	3,141	3,398	3,519	3,969	4,041	3,982	4,321	4,066	3,557	4,120	3,910
15 weeks and over	2,303	3,188	3,662	4,109	3,964	4,517	4,634	5,264	5,715	6,211	7,002	7,833	7,880	7,816	8,380
15 to 26 weeks	1,061	1,427	1,621	1,834	1,757	1,927	1,987	2,347	2,534	2,531	3,054	3,452	2,916	2,828	2,942
27 weeks and over	1,243	1,761	2,041	2,275	2,207	2,591	2,647	2,917	3,182	3,680	3,948	4,381	4,965	4,988	5,438
Mean duration, in weeks	16.8	17.9	18.7	19.8	18.9	19.7	19.8	19.8	20.1	21.4	22.5	24.5	25.1	24.9	26.2
Median duration, in weeks	8.5	9.4	10.3	10.6	10.0	10.6	10.3	11.0	11.2	12.5	14.9	17.9	15.7	15.4	17.3

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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Job losers[1]	3,515	4,789	5,348	5,811	6,156	6,471	6,980	7,696	8,243	8,814	9,546	9,649	9,560	9,818	10,421
On temporary layoff	976	1,176	1,396	1,367	1,413	1,524	1,441	1,488	1,557	1,625	1,832	1,762	1,680	1,718	1,916
Not on temporary layoff	2,539	3,614	3,952	4,443	4,744	4,946	5,539	6,208	6,686	7,189	7,714	7,886	7,880	8,100	8,506
Job leavers	793	896	982	946	940	1,007	917	820	887	890	910	822	885	829	864
Reentrants	2,142	2,472	2,587	2,650	2,655	2,777	2,751	2,834	2,974	3,087	3,180	3,335	3,312	3,307	3,255
New entrants	627	766	822	825	760	829	780	1,005	868	900	956	947	967	1,085	1,112
Percent of unemployed															
Job losers[1]	49.7	53.7	54.9	56.8	58.6	58.4	61.1	62.3	63.5	64.4	65.4	65.4	64.9	65.3	66.6
On temporary layoff	13.8	13.2	14.3	13.4	13.4	13.8	12.6	12.0	12.0	11.9	12.6	11.9	11.4	11.4	12.2
Not on temporary layoff	35.9	40.5	40.6	43.4	45.1	44.6	48.5	50.2	51.5	52.5	52.9	53.5	53.5	53.9	54.3
Job leavers	11.2	10.0	10.1	9.2	8.9	9.1	8.0	6.6	6.8	6.5	6.2	5.6	6.0	5.5	5.5
Reentrants	30.3	27.7	26.6	25.9	25.3	25.1	24.1	22.9	22.9	22.5	21.8	22.6	22.5	22.0	20.8
New entrants	8.9	8.6	8.4	8.1	7.2	7.5	6.8	8.1	6.7	6.6	6.6	6.4	6.6	7.2	7.1
Percent of civilian labor force															
Job losers[1]	2.3	3.1	3.5	3.8	4.0	4.2	4.5	5.0	5.4	5.7	6.2	6.2	6.2	6.4	6.8
Job leavers	.5	.6	.6	.6	.6	.7	.6	.5	.6	.6	.6	.5	.6	.5	.6
Reentrants	1.4	1.6	1.7	1.7	1.7	1.8	1.8	1.8	1.9	2.0	2.1	2.2	2.1	2.1	2.1
New entrants	.4	.5	.5	.5	.5	.5	.5	.7	.6	.6	.6	.6	.6	.7	.7

[1] 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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Total, 16 years and older	4.6	5.8	6.2	6.6	6.8	7.2	7.6	8.1	8.5	8.9	9.4	9.5	9.4	9.7	9.8
16 to 24 years	10.5	12.8	13.4	13.8	13.9	14.7	14.8	15.5	16.3	16.7	17.3	17.8	17.8	18.2	18.1
16 to 19 years	15.7	18.7	19.4	20.7	20.4	20.8	20.8	21.6	21.7	21.5	22.7	24.0	23.8	25.5	25.9
16 to 17 years	17.5	22.1	21.7	23.1	24.1	24.1	21.4	22.9	23.7	23.0	23.4	25.1	25.4	26.4	27.6
18 to 19 years	14.5	16.8	17.8	18.4	18.3	19.1	20.2	21.0	20.9	21.3	22.9	23.7	23.0	25.0	24.2
20 to 24 years	8.2	10.2	10.8	10.6	11.1	12.1	12.1	12.9	14.0	14.7	15.0	15.2	15.3	15.1	14.9
25 years and older	3.6	4.6	5.0	5.3	5.6	6.0	6.4	6.9	7.2	7.5	8.1	8.2	8.1	8.3	8.6
25 to 54 years	3.7	4.8	5.3	5.5	5.8	6.3	6.7	7.2	7.6	7.8	8.4	8.5	8.4	8.7	9.1
55 years and older	3.1	3.8	4.2	4.6	4.8	4.9	5.2	5.6	6.2	6.4	6.7	7.0	6.7	6.8	6.8
Men, 16 years and older	4.7	6.1	6.8	7.2	7.4	7.9	8.3	8.8	9.5	10.0	10.5	10.6	10.5	10.9	11.0
16 to 24 years	11.6	14.4	14.8	16.5	16.1	16.9	17.1	17.6	19.3	19.8	20.2	19.8	20.0	20.7	20.6
16 to 19 years	17.6	21.2	21.4	24.7	24.0	23.3	24.4	24.9	25.7	25.6	26.7	26.2	27.0	29.8	29.5
16 to 17 years	19.4	25.2	23.2	27.3	28.8	27.0	26.5	26.5	28.2	26.3	26.1	25.8	27.7	29.8	30.6
18 to 19 years	16.5	19.0	20.4	21.7	21.2	21.5	22.8	24.7	24.6	25.3	27.8	26.9	27.0	29.8	28.3
20 to 24 years	8.9	11.4	11.9	12.9	12.9	14.2	14.1	14.6	16.7	17.5	17.5	17.2	17.1	16.8	16.9
25 years and older	3.6	4.8	5.5	5.6	5.9	6.4	6.9	7.5	7.9	8.3	9.0	9.2	9.0	9.5	9.7
25 to 54 years	3.7	5.0	5.8	5.8	6.1	6.7	7.3	7.9	8.3	8.8	9.5	9.5	9.5	10.0	10.4
55 years and older	3.2	3.9	4.5	4.7	5.1	5.1	5.3	6.0	6.3	6.7	7.0	7.7	7.4	7.5	7.3
Women, 16 years and older	4.5	5.4	5.5	5.9	6.1	6.4	6.7	7.3	7.5	7.6	8.0	8.3	8.1	8.2	8.4
16 to 24 years	9.4	11.2	11.9	10.7	11.5	12.4	12.2	13.3	13.1	13.3	14.2	15.7	15.5	15.6	15.5
16 to 19 years	13.8	16.2	17.3	16.5	16.7	18.2	17.1	18.3	17.8	17.4	18.6	21.8	20.5	21.1	22.0
16 to 17 years	15.7	19.1	20.3	19.2	19.7	21.2	16.2	19.8	19.4	19.9	20.7	24.4	23.2	22.9	24.5
18 t0 19 years	12.5	14.3	14.9	14.7	15.1	16.6	17.5	17.0	17.2	17.1	17.5	20.4	18.8	19.9	20.0
20 to 24 years	7.3	8.8	9.4	8.1	9.2	9.8	10.0	10.9	11.0	11.5	12.2	12.8	13.3	13.2	12.7
25 years and older	3.6	4.4	4.4	5.1	5.2	5.4	5.8	6.2	6.5	6.6	7.0	7.0	6.9	7.0	7.3
25 to 54 years	3.8	4.6	4.6	5.2	5.4	5.7	6.0	6.4	6.7	6.7	7.2	7.2	7.1	7.2	7.6
55 years and older[1]	3.0	3.7	3.9	4.3	4.3	4.3	5.4	5.3	5.8	5.4	5.8	6.4	7.1	6.7	6.3

[1] 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. 2008	July 2009[p]	Aug. 2009[p]	State	Aug. 2008	July 2009[p]	Aug. 2009[p]
Alabama	5.2	10.2	10.3	Missouri	6.2	9.3	9.5
Alaska	6.7	8.2	8.1	Montana	4.6	6.7	6.6
Arizona	5.9	9.2	9.1	Nebraska	3.3	5.0	5.0
Arkansas	5.1	7.4	7.1	Nevada	7.0	12.5	13.2
California	7.6	11.9	12.3	New Hampshire	3.9	6.8	7.0
Colorado	4.9	7.8	7.3	New Jersey	5.7	9.3	9.6
Connecticut	6.1	7.8	8.1	New Mexico	4.3	7.0	7.4
Delaware	5.1	8.1	8.0	New York	5.7	8.6	8.9
District of Columbia	7.2	10.6	11.1	North Carolina	6.6	10.9	10.8
Florida	6.5	10.8	10.8	North Dakota	3.3	4.2	4.3
Georgia	6.4	10.3	10.1	Ohio	6.7	11.2	10.8
Hawaii	4.2	7.0	7.1	Oklahoma	3.9	6.6	6.8
Idaho	5.2	8.8	8.9	Oregon	6.5	11.8	12.0
Illinois	6.7	10.4	10.0	Pennsylvania	5.5	8.5	8.7
Indiana	6.0	10.6	9.9	Rhode Island	8.3	12.7	12.8
Iowa	4.2	6.5	6.7	South Carolina	7.3	11.7	11.4
Kansas	4.4	7.5	7.2	South Dakota	3.1	4.9	4.9
Kentucky	6.7	11.1	11.2	Tennessee	6.6	10.7	10.7
Louisiana	4.8	7.4	7.8	Texas	5.0	7.9	8.0
Maine	5.4	8.5	8.6	Utah	3.4	6.0	6.0
Maryland	4.5	7.2	7.1	Vermont	4.7	6.8	6.8
Massachusetts	5.4	8.8	9.1	Virginia	4.1	6.9	6.6
Michigan	8.6	15.0	15.2	Washington	5.4	8.9	9.0
Minnesota	5.4	8.1	8.0	West Virginia	4.2	8.9	8.9
Mississippi	7.3	9.7	9.7	Wisconsin	4.7	9.0	8.8
				Wyoming	3.4	6.5	6.6

[p] = preliminary

11. Employment of workers on nonfarm payrolls by State, seasonally adjusted

State	Aug. 2008	July 2009[p]	Aug. 2009[p]	State	Aug. 2008	July 2009[p]	Aug. 2009[p]
Alabama	2,158,550	2,108,750	2,093,726	Missouri	3,009,891	3,003,321	3,009,349
Alaska	357,906	358,054	357,637	Montana	507,295	499,049	498,858
Arizona	3,158,696	3,153,879	3,169,717	Nebraska	996,194	980,794	977,653
Arkansas	1,371,283	1,361,928	1,357,318	Nevada	1,380,679	1,400,331	1,403,330
California	18,435,230	18,458,451	18,402,507	New Hampshire	738,766	740,208	738,452
Colorado	2,731,332	2,690,935	2,683,084	New Jersey	4,502,100	4,561,769	4,541,283
Connecticut	1,883,230	1,884,593	1,883,842	New Mexico	961,695	953,279	957,552
Delaware	443,569	433,983	432,824	New York	9,709,913	9,741,365	9,744,018
District of Columbia	334,640	329,606	324,387	North Carolina	4,549,056	4,535,411	4,521,510
Florida	9,253,078	9,207,857	9,204,357	North Dakota	370,499	364,159	363,352
Georgia	4,847,831	4,764,573	4,740,225	Ohio	5,975,291	5,951,729	5,912,514
Hawaii	655,049	645,433	643,035	Oklahoma	1,751,967	1,778,175	1,783,861
Idaho	756,755	754,591	753,291	Oregon	1,964,219	1,972,457	1,962,197
Illinois	6,682,289	6,646,220	6,589,548	Pennsylvania	6,412,907	6,389,316	6,359,014
Indiana	3,232,172	3,158,473	3,138,631	Rhode Island	566,569	573,584	573,581
Iowa	1,676,460	1,677,863	1,685,674	South Carolina	2,161,896	2,182,993	2,173,458
Kansas	1,498,691	1,530,471	1,521,973	South Dakota	445,861	447,037	446,310
Kentucky	2,048,936	2,069,566	2,067,752	Tennessee	3,038,676	3,022,089	3,013,827
Louisiana	2,090,398	2,066,449	2,064,966	Texas	11,734,737	12,017,910	12,026,503
Maine	707,143	700,478	701,356	Utah	1,385,130	1,368,519	1,369,658
Maryland	3,000,814	2,956,023	2,950,738	Vermont	355,325	360,235	358,768
Massachusetts	3,426,482	3,440,444	3,443,579	Virginia	4,129,941	4,148,781	4,135,815
Michigan	4,923,796	4,857,097	4,844,686	Washington	3,489,196	3,556,136	3,563,291
Minnesota	2,941,114	2,964,399	2,958,149	West Virginia	804,180	788,662	787,997
Mississippi	1,315,975	1,291,409	1,283,920	Wisconsin	3,080,252	3,081,545	3,075,356
				Wyoming	293,841	291,256	291,279

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

[p] = preliminary

12. Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
TOTAL NONFARM	137,598	137,066	136,732	136,352	135,755	135,074	134,333	133,652	133,000	132,481	132,178	131,715	131,411	131,210	130,947
TOTAL PRIVATE	115,380	114,566	114,197	113,813	113,212	112,542	111,793	111,105	110,457	109,865	109,573	109,182	108,936	108,754	108,544
GOODS-PRODUCING	22,233	21,419	21,247	21,063	20,814	20,532	20,127	19,832	19,520	19,253	19,041	18,829	18,713	18,581	18,465
Natural resources and mining	724	774	794	794	793	789	781	771	754	740	731	721	715	709	708
Logging	60.1	57.0	56.5	56.6	56.6	55.7	55.2	54.5	51.9	51.4	51.3	51.4	51.1	51.3	51.3
Mining	663.8	717.0	737.7	737.7	736.8	733.3	725.3	716.4	701.9	689.0	679.6	669.3	663.8	657.3	656.4
Oil and gas extraction	146.2	161.6	166.3	166.5	167.4	169.4	167.7	167.8	166.9	167.0	168.1	166.9	165.5	165.4	166.1
Mining, except oil and gas[1]	223.4	227.7	230.2	230.5	230.7	229.2	227.9	225.7	222.8	220.4	219.4	217.4	215.6	215.4	215.1
Coal mining	77.2	80.6	82.5	83.1	84.3	84.5	84.9	84.1	83.3	82.4	81.4	80.3	79.0	79.3	79.0
Support activities for mining	294.3	327.7	341.2	340.7	338.7	334.7	329.7	322.9	312.2	301.6	292.1	285.0	282.7	276.5	275.2
Construction	7,630	7,215	7,131	7,066	6,939	6,841	6,706	6,593	6,470	6,367	6,310	6,231	6,162	6,102	6,038
Construction of buildings	1,774.2	1,659.3	1,625.0	1,609.9	1,588.4	1,572.9	1,536.9	1,509.5	1,481.5	1,461.7	1,451.2	1,433.4	1,415.1	1,408.9	1,388.5
Heavy and civil engineering	1,005.4	970.2	960.2	952.6	942.5	933.2	926.6	919.0	907.2	885.5	876.1	862.1	854.4	848.3	836.4
Speciality trade contractors	4,850.2	4,585.3	4,545.4	4,503.9	4,408.5	4,335.2	4,242.2	4,164.4	4,081.4	4,019.6	3,983.1	3,935.9	3,892.4	3,844.7	3,812.9
Manufacturing	13,879	13,431	13,322	13,203	13,082	12,902	12,640	12,468	12,296	12,146	12,000	11,877	11,836	11,770	11,719
Production workers	9,975	9,649	9,543	9,425	9,322	9,174	8,946	8,804	8,654	8,532	8,409	8,316	8,301	8,258	8,228
Durable goods	8,808	8,476	8,392	8,300	8,216	8,085	7,881	7,753	7,620	7,490	7,372	7,271	7,248	7,193	7,150
Production workers	6,250	5,986	5,898	5,805	5,741	5,633	5,458	5,352	5,239	5,130	5,034	4,957	4,957	4,916	4,890
Wood products	515.3	459.6	446.4	438.8	429.8	416.2	403.9	390.4	388.4	382.4	373.5	367.1	364.3	362.1	360.4
Nonmetallic mineral products	500.5	468.1	460.2	458.2	450.1	441.2	434.3	425.8	417.0	415.5	410.7	406.1	405.5	403.4	401.5
Primary metals	455.8	443.3	441.1	438.6	429.8	419.6	409.3	395.2	386.4	376.2	367.8	360.3	358.8	357.5	354.7
Fabricated metal products	1,562.8	1,528.3	1,519.4	1,505.0	1,486.3	1,461.5	1,425.3	1,399.0	1,370.3	1,344.1	1,325.9	1,308.8	1,295.1	1,286.8	1,276.9
Machinery	1,187.1	1,185.6	1,183.1	1,179.3	1,162.7	1,150.2	1,126.0	1,100.8	1,070.5	1,051.4	1,032.0	1,016.3	1,003.2	997.9	989.0
Computer and electronic products[1]	1,272.5	1,247.6	1,246.5	1,239.8	1,233.3	1,223.7	1,212.9	1,196.9	1,187.1	1,171.1	1,156.1	1,142.4	1,134.5	1,125.2	1,117.8
Computer and peripheral equipment	186.2	182.8	182.8	182.4	181.8	180.0	180.3	175.5	173.5	167.8	164.2	162.7	162.4	160.4	159.5
Communications equipment	128.1	129.0	129.2	128.6	129.5	129.1	129.6	129.0	128.5	127.8	127.4	126.5	126.3	125.4	125.4
Semiconductors and electronic components	447.5	432.4	431.0	428.4	423.2	417.4	410.5	403.3	397.6	389.2	382.8	375.6	371.0	367.9	364.8
Electronic instruments	443.2	441.6	442.5	440.2	438.8	437.5	433.8	431.9	430.9	431.1	427.2	424.4	422.2	419.7	416.9
Electrical equipment and appliances	429.4	424.9	422.6	421.3	417.5	412.0	406.1	399.1	389.7	382.0	378.4	377.0	374.0	372.9	373.9
Transportation equipment	1,711.9	1,606.5	1,572.6	1,531.3	1,532.5	1,501.8	1,423.5	1,423.7	1,400.4	1,365.9	1,335.3	1,309.6	1,339.0	1,320.8	1,317.1
Furniture and related products	531.1	481.0	470.3	458.8	449.6	440.6	428.6	417.4	408.8	401.0	394.4	388.1	382.7	378.4	373.7
Miscellaneous manufacturing	641.7	630.8	629.4	628.5	624.2	618.4	611.0	604.5	601.1	600.4	597.4	595.1	590.9	588.2	585.1
Nondurable goods	5,071	4,955	4,930	4,903	4,866	4,817	4,759	4,715	4,676	4,656	4,628	4,606	4,588	4,577	4,569
Production workers	3,725	3,663	3,645	3,620	3,581	3,541	3,488	3,452	3,415	3,402	3,375	3,359	3,344	3,342	3,338
Food manufacturing	1,484.1	1,484.8	1,484.3	1,484.7	1,489.0	1,477.6	1,470.7	1,467.2	1,464.4	1,474.9	1,471.7	1,473.8	1,473.9	1,475.5	1,473.5
Beverages and tobacco products	198.2	199.0	199.3	197.2	196.4	195.8	194.2	191.3	191.6	190.9	190.5	190.0	189.4	189.9	189.8
Textile mills	169.7	151.0	147.5	145.6	140.6	136.8	133.6	130.0	128.2	127.3	126.1	124.5	122.5	122.4	121.7
Textile product mills	157.7	147.5	145.5	144.5	143.5	141.2	137.4	134.2	129.3	127.5	127.0	126.7	125.9	125.6	126.0
Apparel	214.6	198.4	197.3	192.8	187.1	183.5	178.9	176.3	173.8	169.9	170.2	165.8	166.7	165.1	163.9
Leather and allied products	33.8	33.6	34.3	33.9	32.6	32.6	32.4	31.9	31.7	31.7	31.5	30.8	31.3	30.6	30.3
Paper and paper products	458.2	445.8	441.9	439.7	437.1	433.4	427.3	422.5	418.3	415.1	410.5	409.1	407.2	406.0	405.6
Printing and related support activities	622.1	594.1	587.6	582.3	574.1	567.0	558.1	549.2	541.5	534.4	529.6	522.8	518.4	514.6	512.5
Petroleum and coal products	114.5	117.1	117.9	117.8	117.2	116.9	114.2	114.6	114.5	114.6	114.5	114.5	114.3	114.3	114.6
Chemicals	860.9	849.8	844.3	843.4	842.6	837.1	832.7	828.2	823.4	818.9	814.9	811.0	807.4	804.4	802.8
Plastics and rubber products	757.2	734.2	729.7	721.1	705.9	694.9	679.7	669.3	659.0	651.1	641.4	637.1	631.3	629.0	627.9
SERVICE-PROVIDING	115,366	115,646	115,485	115,289	114,941	114,542	114,206	113,820	113,480	113,228	113,137	112,886	112,698	112,629	112,482
PRIVATE SERVICE-PROVIDING	93,147	93,146	92,950	92,750	92,398	92,010	91,666	91,273	90,937	90,612	90,532	90,353	90,223	90,173	90,079
Trade, transportation, and utilities	26,630	26,385	26,257	26,157	26,005	25,843	25,735	25,605	25,479	25,371	25,308	25,258	25,174	25,152	25,092
Wholesale trade	6,015.2	5,963.7	5,947.2	5,920.1	5,890.3	5,850.7	5,819.3	5,773.7	5,741.3	5,710.8	5,695.7	5,680.3	5,666.8	5,654.0	5,649.1
Durable goods	3,121.5	3,060.7	3,047.2	3,026.1	3,004.9	2,978.6	2,959.6	2,926.2	2,899.4	2,875.5	2,861.8	2,848.1	2,836.8	2,827.1	2,820.7
Nondurable goods	2,062.2	2,053.0	2,044.1	2,040.5	2,033.6	2,025.1	2,013.9	2,006.6	2,002.5	1,997.7	1,996.6	1,994.0	1,992.2	1,987.3	1,986.1
Electronic markets and agents and brokers	831.5	850.1	855.9	853.5	851.8	847.0	845.8	840.9	839.4	837.6	837.3	838.2	837.8	839.6	842.3
Retail trade	15,520.0	15,356.3	15,278.2	15,216.8	15,126.0	15,037.9	14,991.5	14,934.3	14,872.4	14,839.7	14,811.6	14,791.5	14,747.0	14,738.2	14,699.7
Motor vehicles and parts dealers[1]	1,908.3	1,844.5	1,818.4	1,792.7	1,770.5	1,745.6	1,730.1	1,716.8	1,701.8	1,690.2	1,681.6	1,673.9	1,669.9	1,673.4	1,666.3
Automobile dealers	1,242.2	1,186.0	1,164.8	1,141.7	1,121.2	1,099.9	1,088.6	1,078.7	1,067.7	1,057.1	1,050.2	1,042.6	1,040.4	1,044.1	1,038.9
Furniture and home furnishings stores	574.6	542.8	538.4	532.4	522.6	514.2	508.3	499.7	497.7	492.4	486.3	484.7	483.9	480.4	479.2
Electronics and appliance stores	549.4	549.6	547.1	545.1	541.5	538.6	535.5	533.7	518.6	518.0	517.0	515.7	513.1	513.5	512.1

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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
Building material and garden supply stores	1,309.3	1,253.1	1,248.4	1,245.9	1,235.8	1,227.8	1,214.9	1,207.1	1,193.5	1,189.3	1,186.3	1,181.1	1,175.3	1,169.0	1,165.4
Food and beverage stores	2,843.6	2,858.4	2,846.5	2,851.9	2,843.5	2,835.1	2,835.3	2,826.0	2,827.6	2,828.9	2,828.0	2,828.8	2,823.5	2,821.4	2,815.3
Health and personal care stores	993.1	1,002.4	998.9	995.9	989.4	991.2	985.7	986.9	985.0	984.2	984.7	984.3	984.1	983.9	980.4
Gasoline stations	861.5	843.4	834.8	836.1	836.9	834.4	833.0	832.1	830.4	831.1	829.0	829.9	830.3	833.5	828.9
Clothing and clothing accessories stores	1,500.0	1,484.2	1,478.5	1,471.5	1,462.2	1,448.5	1,445.0	1,443.8	1,433.4	1,432.7	1,426.8	1,420.1	1,414.4	1,407.1	1,408.7
Sporting goods, hobby, book, and music stores	656.3	646.7	641.6	641.2	633.1	624.3	620.8	613.6	610.0	608.8	607.0	605.1	605.4	605.8	605.3
General merchandise stores[1]	3,020.6	3,047.1	3,045.8	3,025.5	3,024.5	3,029.2	3,040.7	3,040.7	3,045.5	3,041.2	3,041.8	3,045.1	3,032.8	3,034.6	3,031.3
Department stores	1,591.5	1,557.0	1,541.9	1,523.9	1,517.5	1,521.2	1,529.1	1,532.6	1,530.9	1,524.0	1,526.0	1,528.6	1,523.3	1,528.1	1,525.9
Miscellaneous store retailers	865.4	847.8	844.3	845.0	838.3	825.0	819.5	815.1	810.4	805.3	805.8	804.8	797.6	799.0	790.3
Nonstore retailers	437.9	436.3	435.5	433.6	427.7	424.0	422.7	418.8	418.5	417.6	417.3	418.0	416.7	416.6	416.5
Transportation and warehousing	4,540.9	4,505.0	4,471.3	4,456.9	4,424.4	4,389.9	4,354.4	4,327.0	4,295.5	4,251.7	4,233.5	4,218.4	4,193.9	4,193.6	4,178.2
Air transportation	491.8	492.6	483.2	482.1	481.6	477.8	476.8	474.8	474.0	466.8	466.7	463.9	462.9	463.6	462.3
Rail transportation	233.7	229.5	227.6	229.5	229.0	226.8	227.1	224.1	220.7	217.9	214.6	212.2	212.2	213.2	212.3
Water transportation	65.5	65.2	64.5	63.9	62.6	60.3	59.7	60.9	59.6	58.1	57.2	56.5	55.7	56.2	56.1
Truck transportation	1,439.2	1,391.1	1,378.1	1,370.3	1,358.0	1,340.8	1,323.3	1,313.9	1,300.3	1,283.2	1,277.4	1,269.5	1,264.6	1,261.3	1,257.7
Transit and ground passenger transportation	412.1	418.1	414.4	413.8	411.7	410.1	408.1	406.4	406.2	401.8	405.4	413.0	407.0	406.7	402.8
Pipeline transportation	39.9	42.0	43.1	43.3	43.2	43.3	43.1	43.1	43.0	43.0	42.5	42.3	41.8	42.5	43.1
Scenic and sightseeing transportation	28.6	28.0	27.1	27.1	27.2	27.2	26.9	27.0	27.0	27.2	28.5	27.7	28.7	28.5	29.2
Support activities for transportation	584.2	589.9	589.5	588.0	582.2	579.5	569.3	561.0	554.6	550.3	545.6	537.8	532.5	533.9	534.1
Couriers and messengers	580.7	575.9	572.9	570.5	565.7	564.6	563.2	563.7	558.5	556.0	550.5	551.5	547.8	549.0	546.3
Warehousing and storage	665.2	672.8	670.9	668.4	663.2	659.5	656.9	652.1	651.6	647.4	645.1	644.0	640.7	638.7	634.3
Utilities	553.4	559.5	560.5	562.8	564.0	564.6	569.3	570.0	570.1	568.5	567.5	567.8	566.1	565.7	565.0
Information	3,032	2,997	2,986	2,982	2,965	2,940	2,924	2,918	2,905	2,884	2,858	2,845	2,834	2,826	2,826
Publishing industries, except Internet	901.2	882.6	876.6	872.6	863.6	857.8	846.3	836.3	827.8	820.1	808.6	801.8	795.6	787.9	786.8
Motion picture and sound recording industries	380.6	381.6	381.7	388.7	385.0	377.2	376.7	389.8	393.7	389.5	381.3	379.3	380.3	382.9	384.3
Broadcasting, except Internet.	325.2	315.9	313.0	312.9	313.1	308.1	306.5	302.5	299.0	296.3	294.2	291.9	290.2	288.6	288.5
Internet publishing and broadcasting															
Telecommunications	1,030.6	1,021.4	1,021.6	1,014.5	1,010.2	1,004.0	1,001.6	999.5	996.7	989.3	986.4	981.6	978.2	976.0	974.7
ISPs, search portals, and data processing	267.8	261.6	259.6	258.9	257.5	256.4	257.0	254.6	253.9	255.5	253.8	254.4	254.8	257.0	256.1
Other information services	126.3	133.6	133.6	134.1	135.1	136.5	135.7	134.8	134.1	133.7	133.2	135.5	135.3	134.0	135.2
Financial activities	8,301	8,146	8,115	8,088	8,043	8,010	7,954	7,898	7,857	7,811	7,784	7,751	7,737	7,712	7,702
Finance and insurance	6,132.0	6,015.2	5,994.3	5,978.7	5,948.7	5,924.0	5,890.4	5,853.9	5,829.5	5,799.6	5,781.6	5,760.5	5,748.0	5,729.8	5,721.0
Monetary authorities—central bank	21.6	22.2	22.3	22.1	21.5	21.3	21.0	20.9	20.8	20.5	20.3	20.3	20.2	20.3	20.3
Credit intermediation and related activities[1]	2,866.3	2,735.8	2,722.4	2,706.4	2,692.8	2,680.8	2,665.3	2,648.8	2,635.4	2,619.8	2,613.5	2,604.0	2,602.1	2,592.4	2,585.0
Depository credit intermediation[1]	1,823.5	1,819.5	1,814.8	1,811.1	1,806.9	1,804.9	1,798.1	1,790.9	1,783.4	1,778.0	1,774.4	1,772.7	1,770.0	1,767.0	1,763.6
Commercial banking	1,351.4	1,359.9	1,359.0	1,356.0	1,352.7	1,351.8	1,346.6	1,340.5	1,334.2	1,329.4	1,327.9	1,324.2	1,323.5	1,321.0	1,319.2
Securities, commodity contracts, investments	848.6	858.1	851.4	847.8	842.1	839.9	826.5	814.9	805.8	797.0	791.7	786.4	782.3	780.5	780.5
Insurance carriers and related activities	2,306.8	2,308.8	2,307.6	2,311.0	2,300.9	2,292.0	2,287.4	2,281.1	2,279.4	2,274.3	2,268.3	2,261.9	2,256.5	2,249.6	2,248.6
Funds, trusts, and other financial vehicles	88.7	90.3	90.6	91.4	91.4	90.0	90.2	88.2	88.1	88.0	87.8	87.9	86.9	87.0	86.6
Real estate and rental and leasing	2,169.1	2,130.2	2,120.6	2,109.0	2,093.8	2,085.8	2,063.2	2,043.8	2,027.0	2,011.7	2,002.7	1,990.6	1,988.6	1,981.9	1,981.3
Real estate	1,500.4	1,481.1	1,474.5	1,471.2	1,461.7	1,458.2	1,444.9	1,432.4	1,421.9	1,411.9	1,405.1	1,396.3	1,396.4	1,392.5	1,398.0
Rental and leasing services	640.3	620.9	617.7	609.7	603.8	599.3	589.9	583.2	576.6	571.5	569.2	566.5	564.6	562.1	555.9
Lessors of nonfinancial intangible assets	28.4	28.2	28.4	28.1	28.3	28.3	28.4	28.2	28.5	28.3	28.4	27.8	27.6	27.3	27.4
Professional and business services	17,942	17,778	17,675	17,612	17,488	17,356	17,205	17,029	16,910	16,783	16,756	16,655	16,624	16,605	16,597
Professional and technical services[1]	7,659.5	7,829.7	7,834.4	7,844.0	7,827.7	7,797.2	7,765.5	7,729.2	7,697.9	7,670.7	7,652.4	7,615.6	7,598.9	7,582.6	7,576.6
Legal services	1,175.4	1,163.7	1,160.2	1,160.2	1,157.7	1,156.8	1,154.1	1,148.7	1,144.9	1,139.4	1,136.9	1,131.7	1,128.2	1,128.1	1,126.1
Accounting and bookkeeping services	935.9	950.1	945.6	946.4	941.0	933.7	927.5	924.4	929.5	929.3	938.0	936.8	934.8	934.3	928.3
Architectural and engineering services	1,432.2	1,444.8	1,441.4	1,437.1	1,428.6	1,419.4	1,411.1	1,394.2	1,377.9	1,364.1	1,350.3	1,335.9	1,324.5	1,320.6	1,321.1

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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
Computer systems design and related services	1,372.1	1,450.3	1,461.6	1,466.1	1,467.9	1,466.8	1,462.4	1,463.7	1,459.2	1,460.4	1,457.0	1,456.0	1,462.6	1,459.9	1,459.6
Management and technical consulting services	952.7	1,008.9	1,021.0	1,022.9	1,024.9	1,020.5	1,025.7	1,021.6	1,016.0	1,016.7	1,017.9	1,015.7	1,014.9	1,015.6	1,016.0
Management of companies and enterprises	1,866.4	1,894.6	1,887.1	1,882.8	1,882.0	1,872.1	1,871.7	1,862.1	1,852.6	1,840.2	1,829.9	1,823.8	1,819.7	1,818.4	1,814.0
Administrative and waste services	8,416.3	8,053.7	7,953.2	7,884.8	7,778.3	7,686.3	7,567.5	7,437.8	7,359.4	7,272.3	7,274.0	7,215.2	7,205.8	7,203.9	7,205.9
Administrative and support services[1]	8,061.3	7,693.5	7,591.9	7,522.0	7,414.2	7,324.4	7,203.1	7,076.5	6,999.2	6,911.7	6,912.7	6,854.3	6,843.7	6,841.5	6,841.4
Employment services[1]	3,545.9	3,144.4	3,049.8	2,987.7	2,896.7	2,829.5	2,720.5	2,638.7	2,567.0	2,506.4	2,501.9	2,470.3	2,459.5	2,455.9	2,456.7
Temporary help services	2,597.4	2,342.6	2,264.2	2,218.9	2,128.5	2,055.6	1,965.7	1,892.7	1,835.4	1,781.5	1,780.6	1,750.9	1,745.2	1,738.3	1,736.6
Business support services	817.4	823.2	818.1	820.8	823.7	816.0	817.6	805.0	799.1	792.9	790.5	783.8	783.9	781.9	781.4
Services to buildings and dwellings	1,849.5	1,847.0	1,843.3	1,837.4	1,829.4	1,818.1	1,812.5	1,796.8	1,791.5	1,778.7	1,786.1	1,771.2	1,769.8	1,767.3	1,766.4
Waste management and remediation services	355.0	360.2	361.3	362.8	364.1	361.9	364.4	361.3	360.2	360.6	361.3	360.9	362.1	362.4	364.5
Educational and health services	18,322	18,855	18,957	18,981	19,044	19,080	19,119	19,138	19,158	19,175	19,215	19,248	19,262	19,308	19,311
Educational services	2,941.4	3,036.6	3,055.1	3,047.3	3,066.0	3,063.1	3,088.4	3,083.1	3,077.9	3,077.4	3,077.6	3,082.0	3,072.2	3,076.3	3,059.4
Health care and social assistance	15,380.2	15,818.5	15,901.9	15,934.1	15,977.8	16,017.0	16,030.3	16,054.7	16,080.1	16,097.8	16,137.7	16,166.1	16,190.2	16,231.5	16,252.0
Ambulatory health care services[1]	5,473.5	5,660.7	5,699.5	5,706.1	5,727.7	5,742.6	5,753.3	5,770.1	5,779.8	5,794.1	5,812.9	5,830.6	5,842.0	5,856.3	5,871.6
Offices of physicians	2,201.6	2,265.7	2,279.0	2,283.3	2,289.8	2,294.5	2,300.4	2,304.4	2,308.0	2,310.5	2,314.6	2,321.9	2,329.8	2,336.1	2,341.4
Outpatient care centers	512.0	532.5	534.8	536.6	536.9	536.7	538.0	538.5	537.7	538.7	539.3	543.5	542.0	543.3	543.6
Home health care services	913.8	958.0	966.8	968.6	975.6	980.7	981.4	991.0	996.7	1,004.5	1,013.3	1,016.7	1,018.2	1,021.1	1,025.5
Hospitals	4,515.0	4,641.1	4,668.9	4,681.9	4,692.4	4,703.7	4,707.5	4,711.3	4,715.1	4,716.7	4,719.1	4,718.9	4,722.4	4,723.0	4,726.6
Nursing and residential care facilities[1]	2,958.3	3,008.1	3,007.6	3,013.2	3,022.3	3,029.6	3,029.4	3,033.6	3,041.0	3,042.8	3,049.1	3,056.3	3,064.7	3,072.8	3,073.1
Nursing care facilities	1,602.6	1,613.7	1,608.9	1,611.0	1,614.5	1,617.3	1,616.6	1,617.9	1,621.8	1,624.5	1,626.8	1,628.9	1,631.4	1,635.9	1,638.0
Social assistance[1]	2,433.4	2,508.7	2,525.9	2,532.9	2,535.4	2,541.1	2,540.1	2,539.7	2,544.2	2,544.2	2,556.6	2,560.3	2,561.1	2,579.4	2,580.7
Child day care services	850.4	859.2	862.5	862.3	863.2	864.3	862.7	860.4	858.2	853.9	860.3	854.3	845.9	856.5	854.8
Leisure and hospitality	13,427	13,459	13,428	13,395	13,344	13,304	13,268	13,236	13,202	13,168	13,195	13,176	13,177	13,163	13,154
Arts, entertainment, and recreation	1,969.2	1,969.3	1,955.3	1,952.0	1,944.0	1,947.1	1,943.8	1,936.2	1,928.7	1,900.6	1,901.8	1,885.5	1,897.8	1,892.9	1,908.4
Performing arts and spectator sports	405.0	406.3	402.9	402.5	398.8	401.4	405.7	398.6	400.5	392.9	396.8	393.8	400.0	396.3	398.4
Museums, historical sites, zoos, and parks	130.3	131.8	130.6	129.6	130.6	130.8	130.3	130.9	130.6	130.5	130.9	130.8	130.5	130.5	130.4
Amusements, gambling, and recreation	1,433.9	1,431.2	1,421.8	1,419.9	1,414.6	1,414.9	1,407.8	1,406.7	1,397.6	1,377.2	1,374.1	1,360.9	1,367.3	1,366.1	1,379.6
Accommodations and food services	11,457.4	11,489.3	11,472.4	11,442.7	11,399.6	11,356.5	11,323.7	11,299.7	11,273.2	11,267.0	11,293.6	11,290.0	11,278.8	11,270.3	11,245.8
Accommodations	1,866.9	1,857.3	1,841.3	1,827.9	1,812.1	1,794.3	1,768.4	1,754.7	1,732.7	1,723.6	1,728.7	1,721.0	1,715.5	1,713.8	1,699.8
Food services and drinking places	9,590.4	9,632.0	9,631.1	9,614.8	9,587.5	9,562.2	9,555.3	9,545.0	9,540.5	9,543.4	9,564.9	9,569.0	9,563.3	9,556.5	9,546.0
Other services	5,494	5,528	5,532	5,535	5,509	5,477	5,461	5,449	5,426	5,420	5,416	5,420	5,415	5,407	5,397
Repair and maintenance	1,253.4	1,228.2	1,221.2	1,216.4	1,204.7	1,189.9	1,184.7	1,177.3	1,166.3	1,163.7	1,158.4	1,157.8	1,155.1	1,155.9	1,150.6
Personal and laundry services	1,309.7	1,326.6	1,333.9	1,330.1	1,323.2	1,320.9	1,313.6	1,312.5	1,302.4	1,297.3	1,293.3	1,298.4	1,296.1	1,295.9	1,296.1
Membership associations and organizations	2,931.1	2,973.3	2,977.1	2,988.3	2,980.7	2,965.7	2,963.1	2,958.7	2,956.8	2,958.6	2,964.3	2,963.9	2,963.4	2,955.2	2,950.6
Government	22,218	22,500	22,535	22,539	22,543	22,532	22,540	22,547	22,543	22,616	22,605	22,533	22,475	22,456	22,403
Federal	2,734	2,764	2,771	2,775	2,783	2,778	2,793	2,796	2,808	2,876	2,860	2,817	2,826	2,824	2,818
Federal, except U.S. Postal Service	1,964.7	2,016.8	2,034.3	2,043.5	2,052.4	2,057.3	2,065.8	2,071.0	2,086.0	2,154.6	2,150.2	2,111.1	2,120.9	2,127.6	2,127.4
U.S. Postal Service	769.1	747.5	736.5	731.9	730.1	720.9	726.9	724.9	721.7	721.0	709.5	705.9	705.4	696.0	690.7
State	5,122	5,178	5,192	5,194	5,197	5,196	5,192	5,192	5,186	5,189	5,189	5,174	5,149	5,150	5,140
Education	2,317.5	2,359.0	2,373.3	2,372.8	2,380.3	2,381.3	2,380.2	2,382.3	2,379.9	2,385.5	2,386.2	2,377.9	2,357.2	2,354.3	2,338.7
Other State government	2,804.3	2,818.9	2,818.9	2,820.7	2,816.4	2,814.8	2,811.6	2,809.4	2,805.9	2,803.5	2,802.5	2,796.3	2,791.4	2,795.9	2,801.4
Local	14,362	14,557	14,572	14,570	14,563	14,558	14,555	14,559	14,549	14,551	14,556	14,542	14,500	14,482	14,445
Education	7,986.8	8,075.6	8,075.4	8,071.6	8,067.6	8,060.5	8,070.7	8,076.7	8,078.7	8,081.4	8,078.0	8,070.2	8,015.6	7,998.6	7,985.2
Other local government	6,375.5	6,481.8	6,496.4	6,498.3	6,495.6	6,497.7	6,484.7	6,482.5	6,469.8	6,469.2	6,478.3	6,471.3	6,484.6	6,483.3	6,459.5

[1] 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[1] on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
TOTAL PRIVATE	33.9	33.6	33.6	33.5	33.4	33.3	33.3	33.3	33.1	33.1	33.1	33.0	33.1	33.1	33.0
GOODS-PRODUCING	40.6	40.2	39.9	39.8	39.5	39.4	39.3	39.2	38.9	39.0	39.0	39.0	39.3	39.3	39.2
Natural resources and mining	45.9	45.1	44.5	44.7	45.3	44.3	44.2	43.9	43.4	43.0	43.3	43.3	42.9	43.4	43.2
Construction	39.0	38.5	38.3	38.3	37.7	38.0	37.9	38.0	37.7	37.5	37.6	37.6	37.8	37.9	37.5
Manufacturing	41.2	40.8	40.5	40.4	40.2	39.9	39.8	39.5	39.4	39.6	39.4	39.5	39.9	39.9	39.8
Overtime hours	4.2	3.7	3.5	3.5	3.2	2.9	2.9	2.7	2.6	2.7	2.8	2.8	2.9	2.9	2.8
Durable goods	41.5	41.1	40.6	40.6	40.4	40.0	39.8	39.6	39.3	39.5	39.4	39.4	39.9	39.9	39.8
Overtime hours	4.2	3.7	3.4	3.4	3.1	2.8	2.7	2.5	2.4	2.5	2.6	2.6	2.7	2.7	2.5
Wood products	39.4	38.6	38.4	38.1	37.6	36.8	36.9	37.1	36.9	37.0	36.9	37.4	37.7	37.7	37.8
Nonmetallic mineral products	42.3	42.1	41.9	41.8	40.9	40.9	40.2	40.0	39.9	40.2	40.5	40.8	41.5	41.1	40.8
Primary metals	42.9	42.2	41.8	41.4	40.9	40.5	40.4	40.1	40.1	40.0	40.0	39.7	40.1	40.4	39.9
Fabricated metal products	41.6	41.3	40.9	40.8	40.8	40.3	39.7	39.5	39.0	39.2	39.2	39.3	39.4	39.5	39.4
Machinery	42.6	42.3	42.1	41.8	41.4	41.1	40.9	40.6	40.1	40.1	39.9	39.8	39.9	39.8	39.6
Computer and electronic products	40.6	41.0	40.8	40.8	41.3	40.4	40.7	40.5	39.9	40.2	40.0	40.0	40.2	40.4	40.3
Electrical equipment and appliances	41.2	40.9	41.0	40.4	40.2	39.7	39.4	38.9	38.8	39.6	39.3	38.8	38.9	39.0	39.1
Transportation equipment	42.8	42.0	40.9	41.3	40.9	40.9	40.4	40.1	40.0	40.6	40.0	40.4	41.9	41.6	41.8
Furniture and related products	39.2	38.1	37.4	37.4	37.2	37.3	37.7	37.4	37.7	37.6	37.8	37.8	37.9	37.4	37.5
Miscellaneous manufacturing	38.9	38.9	38.7	38.9	38.5	38.3	38.4	38.2	38.2	38.3	38.0	37.9	38.3	38.4	38.4
Nondurable goods	40.8	40.4	40.2	40.2	39.9	39.7	39.7	39.5	39.4	39.6	39.6	39.6	39.8	39.9	39.8
Overtime hours	4.1	3.7	3.6	3.6	3.4	3.1	3.2	3.0	3.0	3.1	3.2	3.2	3.3	3.3	3.2
Food manufacturing	40.7	40.5	40.3	40.3	39.9	39.8	40.1	39.9	40.1	40.1	40.0	39.9	39.6	40.1	39.9
Beverage and tobacco products	40.7	38.8	38.2	38.1	37.9	36.7	37.0	37.0	36.2	35.8	36.5	35.3	35.0	35.4	35.9
Textile mills	40.3	38.7	38.9	38.4	37.7	37.0	37.1	36.4	36.3	36.9	36.8	37.8	37.6	37.5	37.3
Textile product mills	39.7	38.6	38.1	37.9	37.9	37.1	37.0	37.1	37.0	37.5	38.3	38.0	38.4	38.3	38.7
Apparel	37.2	36.4	35.9	36.3	36.2	36.0	36.0	35.6	36.1	36.1	36.1	35.6	36.2	35.6	36.0
Leather and allied products	38.2	37.5	37.5	36.9	34.4	34.7	34.0	33.3	32.8	32.4	32.0	32.0	33.3	33.6	32.9
Paper and paper products	43.1	42.9	42.4	42.2	42.1	41.9	41.6	41.5	41.1	41.4	41.2	41.8	42.2	41.9	42.1
Printing and related support activities	39.1	38.3	38.3	38.3	38.2	38.0	37.7	37.3	37.5	37.7	37.6	38.1	38.5	38.6	38.6
Petroleum and coal products	44.1	44.6	45.2	45.2	44.4	45.3	45.1	43.8	44.3	43.8	43.4	43.4	43.2	44.2	43.9
Chemicals	41.9	41.5	41.3	41.5	41.3	41.1	41.1	41.1	40.9	41.0	41.1	41.2	41.6	41.4	41.3
Plastics and rubber products	41.3	41.0	40.7	40.6	40.6	40.0	39.9	39.6	39.4	39.8	39.8	39.8	40.4	40.3	40.3
PRIVATE SERVICE-PROVIDING	32.4	32.3	32.3	32.3	32.2	32.2	32.2	32.1	32.1	32.0	32.0	31.9	32.0	32.0	32.0
Trade, transportation, and utilities	33.3	33.2	33.2	33.1	33.0	32.9	32.9	32.8	32.7	32.8	32.9	32.8	32.8	32.8	32.9
Wholesale trade	38.2	38.2	38.1	38.2	38.1	37.8	38.1	37.9	37.8	37.8	37.6	37.6	37.4	37.6	37.4
Retail trade	30.2	30.0	30.1	29.9	29.8	29.7	29.7	29.8	29.7	29.8	29.9	29.8	29.8	29.8	29.8
Transportation and warehousing	37.0	36.4	36.4	36.3	36.1	36.2	36.0	35.7	35.7	35.8	36.0	35.8	36.3	36.3	36.8
Utilities	42.4	42.7	42.7	42.5	42.4	42.9	42.6	43.2	42.4	42.3	42.1	41.9	41.9	42.0	41.5
Information	36.5	36.7	36.9	36.9	37.0	37.0	37.2	36.9	36.7	36.4	36.5	36.4	36.4	36.4	36.3
Financial activities	35.9	35.8	36.0	35.9	36.1	35.9	36.2	36.2	36.1	36.0	36.0	35.9	35.9	36.1	35.9
Professional and business services	34.8	34.8	34.8	34.9	34.9	34.8	34.9	34.8	34.7	34.7	34.7	34.6	34.6	34.7	34.6
Education and health services	32.6	32.5	32.5	32.5	32.4	32.4	32.4	32.3	32.4	32.3	32.3	32.2	32.2	32.2	32.2
Leisure and hospitality	25.5	25.2	25.2	25.1	25.0	25.0	24.8	25.0	24.8	24.8	24.7	24.7	24.7	24.7	24.6
Other services	30.9	30.8	30.7	30.7	30.7	30.6	30.7	30.6	30.5	30.5	30.5	30.3	30.4	30.4	30.4

[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.

p = preliminary.

14. Average hourly earnings of production or nonsupervisory workers[1] on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
TOTAL PRIVATE															
Current dollars	$17.43	$18.08	$18.21	$18.28	$18.34	$18.40	$18.43	$18.46	$18.50	$18.50	$18.53	$18.54	$18.59	$18.66	$18.67
Constant (1982) dollars	8.33	8.30	8.21	8.33	8.54	8.65	8.64	8.61	8.64	8.65	8.65	8.57	8.59	8.58	8.57
GOODS-PRODUCING	18.67	19.33	19.48	19.56	19.63	19.69	19.72	19.78	19.85	19.82	19.84	19.85	19.92	19.91	19.87
Natural resources and mining	20.97	22.50	23.08	23.03	23.28	23.23	23.14	23.14	23.33	23.38	23.26	23.28	23.23	23.16	23.13
Construction	20.95	21.87	22.09	22.17	22.28	22.41	22.43	22.42	22.59	22.55	22.59	22.58	22.60	22.61	22.45
Manufacturing	17.26	17.74	17.81	17.89	17.94	17.96	17.99	18.07	18.10	18.11	18.11	18.13	18.27	18.25	18.31
Excluding overtime	16.43	16.97	17.07	17.15	17.25	17.33	17.36	17.47	17.52	17.51	17.49	17.51	17.63	17.61	17.69
Durable goods	18.20	18.70	18.74	18.84	18.91	18.94	18.99	19.09	19.17	19.18	19.23	19.22	19.44	19.38	19.44
Nondurable goods	15.67	16.15	16.28	16.35	16.37	16.39	16.43	16.49	16.46	16.49	16.45	16.54	16.54	16.60	16.66
PRIVATE SERVICE-PRIVATE SERVICE-PROVIDING	17.11	17.77	17.90	17.97	18.03	18.10	18.14	18.17	18.20	18.21	18.24	18.25	18.30	18.39	18.41
Trade,transportation, and utilities	15.78	16.16	16.20	16.23	16.29	16.31	16.36	16.38	16.38	16.38	16.42	16.38	16.41	16.54	16.50
Wholesale trade	19.59	20.14	20.20	20.22	20.29	20.31	20.41	20.52	20.59	20.70	20.87	20.79	20.86	20.99	20.95
Retail trade	12.75	12.87	12.91	12.89	12.93	12.94	12.97	12.96	12.97	12.96	12.97	12.96	12.98	13.10	13.10
Transportation and warehousing	17.72	18.41	18.47	18.58	18.66	18.66	18.72	18.67	18.68	18.62	18.63	18.54	18.58	18.67	18.53
Utilities	27.88	28.84	28.86	28.91	28.91	29.16	29.22	29.67	29.31	29.29	29.45	29.44	29.48	29.83	29.64
Information	23.96	24.77	24.90	24.99	24.94	24.91	24.98	25.09	25.31	25.28	25.41	25.45	25.42	25.62	25.57
Financial activities	19.64	20.27	20.43	20.43	20.41	20.53	20.53	20.55	20.62	20.64	20.75	20.78	20.75	20.86	20.90
Professional and business services	20.15	21.19	21.47	21.63	21.78	21.97	22.04	22.17	22.26	22.26	22.26	22.32	22.42	22.50	22.59
Education and health services	18.11	18.88	19.04	19.08	19.13	19.20	19.18	19.24	19.24	19.33	19.34	19.39	19.45	19.49	19.56
Leisure and hospitality	10.41	10.84	10.90	10.92	10.90	10.94	10.97	10.97	10.98	10.97	10.99	11.05	11.07	11.13	11.12
Other services	15.42	16.08	16.20	16.24	16.29	16.29	16.30	16.25	16.23	16.22	16.24	16.24	16.29	16.35	16.38

[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.
p = preliminary.

15. Average hourly earnings of production or nonsupervisory workers[1] on private nonfarm payrolls, by industry

Industry	Annual average		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
TOTAL PRIVATE	$17.43	$18.08	$18.25	$18.27	$18.40	$18.40	$18.49	$18.57	$18.57	$18.52	$18.47	$18.42	$18.49	$18.60	$18.68
Seasonally adjusted	–	–	18.21	18.28	18.34	18.40	18.43	18.46	18.50	18.50	18.53	18.54	18.59	18.66	18.67
GOODS-PRODUCING	18.67	19.33	19.63	19.61	19.65	19.75	19.64	19.64	19.74	19.78	19.83	19.83	19.97	19.99	19.97
Natural resources and mining	20.97	22.50	23.19	22.98	23.31	23.53	23.41	23.19	23.40	23.40	23.10	22.94	23.08	23.05	23.12
Construction	20.95	21.87	22.34	22.28	22.32	22.52	22.32	22.25	22.45	22.44	22.54	22.47	22.68	22.75	22.66
Manufacturing	17.26	17.74	17.84	17.86	17.94	18.06	18.03	18.07	18.09	18.13	18.09	18.12	18.18	18.21	18.34
Durable goods	18.20	18.70	18.80	18.81	18.92	19.06	18.99	19.09	19.17	19.20	19.20	19.22	19.33	19.36	19.49
Wood products	13.68	14.20	14.37	14.44	14.58	14.66	14.69	14.77	14.67	14.72	14.91	14.84	15.03	15.12	15.09
Nonmetallic mineral products	16.93	16.90	16.94	16.92	16.85	16.73	16.82	17.03	17.19	17.37	17.25	17.39	17.44	17.46	17.46
Primary metals	19.66	20.18	20.36	20.01	19.98	20.05	19.80	19.75	19.69	19.98	19.80	19.90	20.18	20.05	20.25
Fabricated metal products	16.53	16.99	17.14	17.18	17.21	17.36	17.24	17.30	17.29	17.41	17.38	17.43	17.47	17.52	17.56
Machinery	17.72	17.97	18.08	18.11	18.18	18.15	18.16	18.17	18.26	18.20	18.36	18.25	18.37	18.36	18.63
Computer and electronic products	19.94	21.03	21.23	21.42	21.37	21.44	21.46	21.42	21.71	21.73	21.70	21.67	21.85	22.03	22.01
Electrical equipment and appliances	15.93	15.78	15.99	15.83	15.74	15.88	15.81	15.93	15.95	15.99	16.15	16.23	16.39	16.39	16.48
Transportation equipment	23.04	23.83	24.05	24.10	24.37	24.58	24.66	24.69	24.80	24.76	24.85	24.95	25.01	24.79	24.82
Furniture and related products	14.32	14.54	14.54	14.55	14.77	14.92	14.95	14.85	15.02	15.00	15.02	15.11	15.22	15.13	15.34
Miscellaneous manufacturing	14.66	15.19	15.31	15.33	15.42	15.60	15.66	15.97	16.02	16.07	16.18	16.08	16.18	16.23	16.39
Nondurable goods	15.67	16.15	16.30	16.32	16.35	16.43	16.51	16.48	16.43	16.51	16.43	16.50	16.51	16.52	16.68
Food manufacturing	13.55	14.00	14.15	14.10	14.17	14.26	14.34	14.30	14.24	14.27	14.26	14.34	14.34	14.44	14.62
Beverages and tobacco products	18.54	19.35	18.97	19.41	19.98	19.95	20.07	20.25	20.40	20.25	20.38	20.20	20.15	20.28	20.30
Textile mills	13.00	13.57	13.72	13.71	13.69	13.80	13.90	13.76	13.88	13.79	13.63	13.62	13.49	13.79	13.90
Textile product mills	11.78	11.73	11.81	11.62	11.59	11.72	11.59	11.53	11.34	11.34	11.34	11.56	11.18	11.37	11.31
Apparel	11.05	11.40	11.48	11.38	11.35	11.38	11.46	11.40	11.26	11.44	11.28	11.38	11.38	11.28	11.45
Leather and allied products	12.04	12.96	12.98	13.14	13.61	13.47	14.10	14.19	14.21	14.34	13.85	14.06	13.69	13.59	13.58
Paper and paper products	18.44	18.88	19.04	19.11	18.89	19.11	19.27	18.99	18.90	19.29	19.09	19.29	19.45	19.06	19.46
Printing and related support activities	16.15	16.75	16.90	16.99	16.86	17.01	16.79	16.79	16.69	16.76	16.61	16.56	16.54	16.76	16.94
Petroleum and coal products	25.21	27.46	28.25	28.69	28.28	28.17	29.13	29.57	29.80	29.26	29.18	29.42	29.69	29.61	29.89
Chemicals	19.55	19.49	19.77	19.67	19.77	19.72	19.89	19.96	19.93	20.02	20.16	20.18	20.35	20.27	20.31
Plastics and rubber products	15.39	15.85	15.94	16.03	16.13	16.24	16.24	16.22	16.20	16.19	16.09	16.06	15.83	15.88	16.01
PRIVATE SERVICE-PROVIDING	17.11	17.77	17.90	17.94	18.10	18.09	18.23	18.33	18.31	18.24	18.18	18.11	18.16	18.29	18.39
Trade, transportation, and utilities	15.78	16.16	16.27	16.24	16.26	16.14	16.37	16.47	16.45	16.42	16.40	16.35	16.39	16.56	16.55
Wholesale trade	19.59	20.14	20.20	20.21	20.41	20.36	20.44	20.65	20.64	20.69	20.78	20.66	20.83	21.04	20.92
Retail trade	12.75	12.87	13.01	12.89	12.85	12.74	12.96	12.99	13.02	13.01	12.99	12.96	12.99	13.12	13.22
Transportation and warehousing	17.72	18.41	18.53	18.55	18.69	18.62	18.68	18.73	18.64	18.58	18.54	18.54	18.64	18.75	18.52
Utilities	27.88	28.84	28.95	29.00	28.96	29.28	29.27	29.70	29.42	29.50	29.50	29.27	29.33	29.56	29.70
Information	23.96	24.77	25.03	25.06	25.03	24.86	25.03	25.12	25.40	25.24	25.41	25.26	25.30	25.66	25.69
Financial activities	19.64	20.27	20.42	20.41	20.54	20.50	20.48	20.68	20.67	20.65	20.72	20.66	20.65	20.87	20.90
Professional and business services	20.15	21.19	21.31	21.45	21.97	22.01	22.16	22.52	22.52	22.28	22.15	22.11	22.25	22.40	22.42
Education and health services	18.11	18.88	19.08	19.04	19.10	19.23	19.26	19.26	19.23	19.33	19.29	19.32	19.47	19.43	19.61
Leisure and hospitality	10.41	10.84	10.89	10.93	10.93	11.05	11.03	11.06	11.00	10.99	10.99	10.97	10.96	11.02	11.10
Other services	15.42	16.08	16.22	16.17	16.24	16.27	16.34	16.34	16.33	16.27	16.29	16.16	16.17	16.30	16.42

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.

16. Average weekly earnings of production or nonsupervisory workers[1] on private nonfarm payrolls, by industry

Industry	Annual average		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
TOTAL PRIVATE	$590.04	$607.99	$613.20	$613.87	$620.08	$610.88	$608.32	$616.52	$614.67	$607.46	$609.51	$609.70	$613.87	$624.96	$614.57
Seasonally adjusted	–	–	611.86	612.38	612.56	612.72	613.72	614.72	612.35	612.35	613.34	611.82	615.33	617.65	616.11
GOODS-PRODUCING	757.34	776.60	791.09	788.32	782.07	778.15	762.03	758.10	763.94	759.55	773.37	779.32	788.82	795.60	776.83
Natural resources and mining	962.64	1,013.78	1,041.23	1,038.70	1,072.26	1,040.03	1,020.68	1,008.77	1,003.86	994.50	990.99	1,000.18	987.82	1,016.51	994.16
CONSTRUCTION	816.66	842.36	869.03	866.69	845.93	840.00	828.07	823.25	837.39	830.28	856.52	858.35	879.98	884.98	827.09
Manufacturing	711.56	724.23	729.66	726.90	726.57	727.82	712.19	708.34	709.13	705.26	710.94	719.36	719.93	730.22	733.60
Durable goods	754.77	767.56	770.80	767.45	766.26	771.93	750.11	748.33	751.46	746.88	752.64	763.03	765.47	778.27	777.65
Wood products	539.34	547.81	561.87	551.61	549.67	538.02	524.43	531.72	531.05	534.34	553.16	571.34	577.15	583.63	574.93
Nonmetallic mineral products	716.78	711.30	725.03	719.10	692.54	677.57	654.30	657.36	673.85	694.80	700.35	721.69	742.94	740.30	731.57
Primary metals	843.26	850.84	861.23	832.42	817.18	818.04	797.94	786.05	793.51	783.22	788.04	796.00	801.15	818.04	807.98
Fabricated metal products	687.20	701.47	707.88	707.82	707.33	706.55	680.98	678.16	670.85	668.54	677.82	685.00	683.08	695.54	690.11
Machinery	754.19	759.92	764.78	760.62	758.11	755.04	740.93	735.89	730.40	720.72	727.06	724.53	723.78	728.89	730.30
Computer and electronic products	808.80	861.43	874.68	876.08	891.13	883.33	866.98	863.23	864.06	860.51	863.66	873.30	869.63	885.61	889.20
Electrical equipment and appliances	656.46	645.60	660.39	645.86	642.19	646.32	621.33	613.31	615.67	615.62	633.08	631.35	631.02	639.21	641.07
Transportation equipment	986.79	999.94	990.86	1,002.56	994.30	1,022.53	993.80	990.07	992.00	985.45	991.52	1,015.47	1,017.91	1,043.66	1,044.92
Furniture and related products	560.84	554.20	549.61	542.72	546.49	563.98	559.13	547.97	563.25	552.00	566.25	578.71	579.88	576.45	566.05
Miscellaneous manufacturing	569.99	591.73	595.56	593.27	593.67	600.60	599.78	603.67	613.57	610.66	614.84	612.65	618.08	631.35	627.74
Nondurable goods	639.99	652.20	663.41	659.33	658.91	657.20	650.49	644.37	644.06	642.24	647.34	656.70	655.45	660.80	670.54
Food manufacturing	551.32	566.91	581.57	575.28	572.47	573.25	569.30	561.99	563.90	555.10	570.40	573.60	569.30	581.93	590.65
Beverages and tobacco products	755.22	750.18	720.86	729.82	767.23	726.18	728.54	741.15	730.32	706.73	754.06	719.12	705.25	726.02	740.95
Textile mills	524.40	524.93	544.68	525.09	520.22	514.74	510.13	493.98	502.46	496.44	497.50	520.28	507.22	525.40	524.03
Textile product mills	467.77	453.12	452.32	438.07	441.58	441.84	423.04	426.61	419.58	417.31	432.05	448.53	429.31	437.75	439.96
Apparel	411.39	415.17	409.84	411.96	414.28	410.82	407.98	403.56	407.61	409.55	408.34	407.40	414.23	402.70	404.19
Leather and allied products	459.50	486.49	486.75	484.87	462.74	476.84	470.94	465.43	470.35	457.45	445.97	451.33	451.77	462.06	441.35
Paper and paper products	795.58	809.21	818.72	812.18	802.83	814.09	797.78	780.49	769.23	792.82	780.78	806.32	816.90	798.61	829.00
Printing and related support activities	632.02	642.50	655.72	659.21	652.48	654.89	627.95	622.91	627.54	625.15	617.89	625.97	628.52	645.26	658.97
Petroleum and coal products	1,112.73	1,224.26	1,302.33	1,322.61	1,275.43	1,256.38	1,307.94	1,286.30	1,290.34	1,258.18	1,254.74	1,285.65	1,309.33	1,308.76	1,330.11
Chemicals	819.54	808.80	820.46	814.34	822.43	814.44	811.51	820.36	815.14	816.82	820.51	835.45	844.53	841.21	844.90
Plastics and rubber products	635.63	649.04	655.13	652.42	658.10	657.72	647.98	639.07	636.66	633.03	635.56	644.01	633.20	643.14	645.20
PRIVATE SERVICE-PROVIDING	554.89	574.31	578.17	577.67	588.25	578.88	579.71	592.06	587.75	580.03	579.94	577.71	582.94	594.43	586.64
Trade, transportation, and utilities	526.07	535.79	543.42	535.92	536.58	531.01	530.39	538.57	537.92	535.29	537.92	536.28	542.51	551.45	547.81
Wholesale trade	748.94	769.91	767.60	772.02	787.83	767.57	770.59	784.70	782.26	775.88	779.25	776.82	776.96	799.52	778.22
Retail trade	385.11	386.39	395.50	384.12	381.65	380.93	378.43	384.50	384.09	385.10	388.40	387.50	393.60	396.22	397.92
Transportation and warehousing	654.95	670.33	676.35	671.51	680.32	679.63	663.14	663.04	665.45	655.87	661.88	663.73	678.50	690.00	685.24
Utilities	1,182.65	1,231.19	1,244.85	1,238.30	1,236.59	1,256.11	1,243.98	1,286.01	1,241.52	1,250.80	1,241.95	1,226.41	1,223.06	1,238.56	1,238.49
Information	874.65	908.44	926.11	924.71	936.12	917.33	921.10	931.95	934.72	911.16	914.76	911.89	920.92	946.85	935.12
Financial activities	705.13	726.37	728.99	728.64	753.82	731.85	735.23	761.02	754.46	739.27	739.70	737.56	737.21	765.93	744.04
Professional and business services	700.82	738.25	739.46	750.75	775.54	761.55	762.30	785.95	785.95	766.43	766.39	767.22	767.63	790.72	766.76
Education and health services	590.09	614.30	620.10	616.90	624.57	621.13	622.10	624.02	623.05	620.49	619.21	620.17	628.88	631.48	631.44
Leisure and hospitality	265.52	273.27	272.25	273.25	273.25	270.73	264.72	275.39	272.80	270.35	271.45	274.25	277.29	282.11	271.95
Other services	477.06	494.99	497.95	496.42	501.82	496.24	498.37	501.64	498.07	494.61	495.22	489.65	493.19	502.04	497.53

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:												
2005	52.6	60.1	54.1	58.1	56.8	58.3	58.5	59.2	54.2	55.9	62.7	57.6
2006	64.9	62.2	63.8	59.8	49.1	51.8	59.2	55.4	55.7	56.3	59.4	60.7
2007	53.5	55.5	52.4	49.4	55.9	48.3	50.7	46.5	55.9	57.2	59.4	57.9
2008	42.1	40.6	44.1	41.1	42.6	36.9	37.6	39.1	34.7	33.0	27.1	20.5
2009	22.1	20.8	19.6	21.8	29.3	25.8	30.3	36.7	37.5			
Over 3-month span:												
2005	51.7	57.2	59.0	59.8	57.9	62.0	60.5	62.9	60.3	55.5	56.3	62.7
2006	67.7	68.6	65.1	65.1	60.5	58.9	55.5	57.0	55.0	54.4	59.0	64.2
2007	62.5	54.8	54.2	54.8	54.1	50.4	52.8	48.7	53.3	53.9	58.3	62.5
2008	57.7	44.8	40.2	39.7	37.3	33.6	33.6	32.8	34.9	33.2	26.9	20.8
2009	18.6	14.2	15.1	15.3	20.3	22.0	22.0	24.5	32.3			
Over 6-month span:												
2005	55.4	57.9	58.1	57.0	58.3	60.9	63.1	63.3	61.6	59.6	61.4	62.5
2006	64.6	63.8	67.5	66.2	65.5	66.6	60.3	61.1	57.9	57.9	62.4	59.0
2007	60.3	57.2	60.5	58.3	55.5	56.5	52.8	52.4	56.6	54.4	56.8	59.0
2008	56.6	53.0	50.7	47.4	40.2	33.4	31.0	33.4	30.6	29.0	26.0	24.4
2009	21.6	17.2	15.1	15.3	15.9	16.6	15.9	20.7	20.8			
Over 12-month span:												
2005	60.9	60.9	60.0	59.2	58.3	60.3	61.3	63.3	60.7	59.2	59.8	61.8
2006	67.2	65.5	65.9	62.9	65.5	66.8	64.8	64.4	66.6	65.9	64.9	66.2
2007	63.3	59.4	61.1	59.6	59.2	58.3	56.8	57.2	59.4	58.9	58.1	59.6
2008	54.4	56.1	52.6	49.1	50.2	47.8	43.7	42.3	38.0	37.8	32.3	28.2
2009	24.0	22.0	19.9	18.1	17.5	17.2	16.2	15.3	16.1			
	Manufacturing payrolls, 84 industries											
Over 1-month span:												
2005	36.7	46.4	42.2	46.4	40.4	33.7	41.0	43.4	45.8	47.6	44.6	47.0
2006	57.8	49.4	53.6	47.0	37.3	50.6	49.4	42.2	40.4	42.8	41.0	44.0
2007	44.6	41.0	30.7	24.7	38.0	32.5	43.4	30.7	39.2	42.8	60.8	48.2
2008	30.7	28.9	37.3	32.5	40.4	25.3	25.9	27.7	22.9	18.7	15.1	10.2
2009	6.0	9.6	10.8	16.3	11.4	12.0	24.1	25.9	22.9			
Over 3-month span:												
2005	36.7	43.4	41.0	41.6	35.5	36.1	34.9	36.7	42.2	44.0	38.6	48.8
2006	56.6	57.2	48.2	48.2	44.6	50.0	43.4	45.2	36.7	33.1	35.5	39.2
2007	40.4	33.1	33.1	28.9	29.5	30.1	31.9	28.9	30.7	30.7	39.2	51.2
2008	48.8	33.7	28.3	29.5	26.5	22.9	19.9	16.9	22.3	21.1	15.1	11.4
2009	6.0	3.6	3.6	7.8	8.4	12.0	8.4	13.9	19.3			
Over 6-month span:												
2005	33.7	39.8	38.0	36.1	35.5	34.9	39.8	36.1	36.1	38.0	36.7	39.8
2006	45.2	45.2	50.6	48.8	50.6	50.0	45.2	47.0	43.4	42.2	39.8	34.3
2007	37.3	33.1	29.5	28.9	30.7	34.9	28.9	26.5	29.5	28.3	33.7	38.0
2008	34.3	30.1	37.3	35.5	25.3	20.5	17.5	18.1	16.9	13.3	11.4	9.6
2009	9.0	4.8	4.8	6.0	4.8	4.8	7.2	7.8	7.8			
Over 12-month span:												
2005	45.2	44.0	42.2	41.0	36.7	35.5	32.5	34.3	33.1	33.7	33.7	38.0
2006	44.0	41.0	41.0	39.8	39.8	45.2	42.2	42.8	47.0	48.8	45.8	44.6
2007	39.8	36.7	37.3	30.7	28.9	29.5	30.7	28.9	33.1	28.9	34.3	35.5
2008	27.7	28.9	25.9	25.3	30.7	27.1	24.7	19.3	21.7	21.7	16.9	15.1
2009	8.4	4.8	4.8	4.8	6.0	6.0	6.6	4.8	4.8			

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[1] (in thousands)							Percent						
	2009							2009						
	Mar.	Apr.	May	June	July	Aug.	Sept.[p]	Mar.	Apr.	May	June	July	Aug.	Sept.[p]
Total[2]	2,633	2,513	2,523	2,513	2,408	2,423	2,480	1.9	1.9	1.9	1.9	1.8	1.8	1.9
Industry														
Total private[2]	2,269	2,042	2,191	2,163	2,090	2,128	2,232	2.0	1.8	2.0	1.9	1.9	1.9	2.0
Construction	51	29	39	56	47	65	62	0.8	0.5	0.6	0.9	0.8	1.1	1.0
Manufacturing	115	95	105	113	110	122	136	0.9	0.8	0.9	0.9	0.9	1.0	1.1
Trade, transportation, and utilities	414	332	466	469	393	422	414	1.6	1.3	1.8	1.8	1.5	1.6	1.6
Professional and business services	428	461	451	445	431	438	455	2.5	2.7	2.6	2.6	2.5	2.6	2.7
Education and health services	537	515	530	531	553	520	547	2.7	2.6	2.7	2.7	2.8	2.6	2.8
Leisure and hospitality	289	322	265	276	256	238	299	2.1	2.4	2.0	2.1	1.9	1.8	2.2
Government	353	461	310	322	314	300	267	1.5	2.0	1.4	1.4	1.4	1.3	1.2
Region[3]														
Northeast	583	520	554	609	508	513	533	2.3	2.0	2.2	2.4	2.0	2.0	2.1
South	1,000	942	888	882	870	911	908	2.0	1.9	1.8	1.8	1.8	1.9	1.9
Midwest	499	512	512	496	509	476	553	1.6	1.7	1.7	1.6	1.7	1.6	1.8
West	556	570	544	561	517	533	519	1.8	1.9	1.8	1.9	1.7	1.8	1.7

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.
[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.
[3] **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.
[p] = preliminary.

19. Hires levels and rates by industry and region, seasonally adjusted

Industry and region	Levels[1] (in thousands)							Percent						
	2009							2009						
	Mar.	Apr.	May	June	July	Aug.	Sept.[p]	Mar.	Apr.	May	June	July	Aug.	Sept.[p]
Total[2]	4,099	4,117	3,942	3,919	4,228	4,040	4,010	3.1	3.1	3.0	3.0	3.2	3.1	3.1
Industry														
Total private[2]	3,799	3,822	3,739	3,654	3,930	3,779	3,758	3.4	3.5	3.4	3.3	3.6	3.5	3.5
Construction	343	341	365	277	355	297	353	5.3	5.4	5.8	4.5	5.8	4.9	5.9
Manufacturing	244	236	206	225	272	243	262	2.0	1.9	1.7	1.9	2.3	2.1	2.2
Trade, transportation, and utilities	883	888	842	744	819	818	832	3.5	3.5	3.3	2.9	3.3	3.3	3.3
Professional and business services	668	733	721	644	686	715	699	4.0	4.4	4.3	3.9	4.1	4.3	4.2
Education and health services	483	475	473	530	522	538	524	2.5	2.5	2.5	2.8	2.7	2.8	2.7
Leisure and hospitality	693	691	695	695	716	695	653	5.3	5.3	5.3	5.3	5.4	5.3	5.0
Government	271	340	273	262	282	261	258	1.2	1.5	1.2	1.2	1.3	1.2	1.2
Region[3]														
Northeast	696	729	712	735	714	720	729	2.8	2.9	2.9	3.0	2.9	2.9	3.0
South	1,458	1,619	1,423	1,428	1,544	1,493	1,468	3.0	3.4	3.0	3.0	3.3	3.2	3.1
Midwest	943	901	867	839	885	947	879	3.1	3.0	2.9	2.8	3.0	3.2	2.9
West	931	949	995	917	1,042	884	912	3.1	3.2	3.4	3.1	3.5	3.0	3.1

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.
[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.
[3] **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.
[p] = preliminary.

20. Total separations levels and rates by industry and region, seasonally adjusted

Industry and region	Levels[1] (in thousands)							Percent						
	2009							2009						
	Mar.	Apr.	May	June	July	Aug.	Sept.[p]	Mar.	Apr.	May	June	July	Aug.	Sept.[p]
Total[2]	4,712	4,641	4,356	4,306	4,430	4,284	4,311	3.5	3.5	3.3	3.3	3.4	3.3	3.3
Industry														
Total private[2]	4,434	4,362	4,066	3,939	4,147	3,976	4,017	4.0	4.0	3.7	3.6	3.8	3.7	3.7
Construction	463	437	411	355	444	342	421	7.2	6.9	6.5	5.7	7.2	5.6	7.0
Manufacturing	401	390	367	352	329	313	316	3.3	3.2	3.1	3.0	2.8	2.7	2.7
Trade, transportation, and utilities	1,001	982	951	816	874	850	864	3.9	3.9	3.8	3.2	3.5	3.4	3.4
Professional and business services	778	839	771	698	738	728	701	4.6	5.0	4.6	4.2	4.4	4.4	4.2
Education and health services	466	462	419	489	500	509	513	2.4	2.4	2.2	2.5	2.6	2.6	2.7
Leisure and hospitality	751	716	684	696	713	704	685	5.7	5.4	5.2	5.3	5.4	5.3	5.2
Government	265	255	288	340	298	293	283	1.2	1.1	1.3	1.5	1.3	1.3	1.3
Region[3]														
Northeast	878	700	774	799	716	759	762	3.5	2.8	3.1	3.2	2.9	3.1	3.1
South	1,741	1,682	1,565	1,535	1,602	1,490	1,518	3.6	3.5	3.3	3.2	3.4	3.1	3.2
Midwest	1,085	1,065	1,016	958	958	951	898	3.6	3.5	3.4	3.2	3.2	3.2	3.0
West	978	1,188	980	1,053	1,181	1,086	1,090	3.3	4.0	3.3	3.6	4.0	3.7	3.7

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.
[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.
[3] **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.
[p]= preliminary

21. Quits levels and rates by industry and region, seasonally adjusted

Industry and region	Levels[1] (in thousands)							Percent						
	2009							2009						
	Mar.	Apr.	May	June	July	Aug.	Sept.[p]	Mar.	Apr.	May	June	July	Aug.	Sept.[p]
Total[2]	1,856	1,777	1,788	1,787	1,778	1,779	1,805	1.4	1.3	1.4	1.4	1.4	1.4	1.4
Industry														
Total private[2]	1,749	1,678	1,682	1,680	1,673	1,680	1,709	1.6	1.5	1.5	1.5	1.5	1.5	1.6
Construction	102	74	84	70	68	67	91	1.6	1.2	1.3	1.1	1.1	1.1	1.5
Manufacturing	81	80	86	93	82	85	91	.7	.7	.7	.8	.7	.7	.8
Trade, transportation, and utilities	444	385	398	391	415	407	435	1.7	1.5	1.6	1.5	1.6	1.6	1.7
Professional and business services	278	272	281	257	265	269	271	1.6	1.6	1.7	1.5	1.6	1.6	1.6
Education and health services	249	228	249	264	235	249	268	1.3	1.2	1.3	1.4	1.2	1.3	1.4
Leisure and hospitality	433	430	396	429	411	413	363	3.3	3.3	3.0	3.3	3.1	3.1	2.8
Government	107	99	107	111	107	106	100	.5	.4	.5	.5	.5	.5	.4
Region[3]														
Northeast	273	263	303	279	234	270	300	1.1	1.1	1.2	1.1	1.0	1.1	1.2
South	751	691	718	693	724	687	704	1.6	1.4	1.5	1.5	1.5	1.5	1.5
Midwest	431	410	397	403	435	374	403	1.4	1.4	1.3	1.3	1.5	1.3	1.4
West	408	453	398	434	404	460	421	1.4	1.5	1.3	1.5	1.4	1.6	1.4

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.
[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.
[3] **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.
[p] = preliminary.

22. Quarterly Census of Employment and Wages: 10 largest counties, first quarter 2009.

County by NAICS supersector	Establishments, first quarter 2009 (thousands)	Employment		Average weekly wage[1]	
		March 2009 (thousands)	Percent change, March 2008-09[2]	First quarter 2009	Percent change, first quarter 2008-09[2]
United States[3]	9,113.9	128,992.2	-4.2	$882	-2.5
Private industry	8,819.8	106,866.1	-5.1	882	-3.3
Natural resources and mining	126.3	1,670.1	-3.8	993	-2.3
Construction	860.9	5,937.8	-15.4	906	.9
Manufacturing	356.4	12,096.6	-10.6	1,062	-1.3
Trade, transportation, and utilities	1,912.2	24,597.3	-5.5	733	-1.6
Information	148.0	2,858.8	-5.0	1,439	-2.0
Financial activities	853.1	7,651.3	-4.4	1,596	-15.9
Professional and business services	1,533.8	16,534.8	-6.4	1,129	-.2
Education and health services	861.3	18,245.7	2.2	776	1.2
Leisure and hospitality	739.1	12,715.3	-3.1	351	-2.2
Other services	1,234.6	4,357.1	-2.1	543	-.5
Government	294.2	22,126.1	.5	884	1.6
Los Angeles, CA	431.2	3,996.3	-4.9	967	-2.4
Private industry	427.3	3,395.0	-5.7	945	-3.0
Natural resources and mining	.5	10.7	-6.2	1,479	-15.8
Construction	14.0	123.3	-17.4	973	.3
Manufacturing	14.4	401.4	-9.3	1,063	-1.8
Trade, transportation, and utilities	54.0	744.8	-7.2	776	-1.5
Information	8.9	197.3	-7.3	1,755	1.8
Financial activities	24.0	223.4	-6.8	1,577	-12.1
Professional and business services	43.3	541.8	-8.3	1,149	-2.1
Education and health services	28.6	499.8	1.1	865	2.4
Leisure and hospitality	27.5	384.1	-3.9	519	-2.4
Other services	202.9	258.5	3.0	424	-3.9
Government	3.9	601.3	-.3	1,090	-.2
Cook, IL	141.1	2,381.5	-4.4	1,084	-5.4
Private industry	139.8	2,069.2	-5.0	1,093	-6.3
Natural resources and mining	.1	.9	-3.7	792	-12.8
Construction	12.3	71.9	-14.4	1,317	.5
Manufacturing	6.9	206.7	-9.5	1,013	-4.1
Trade, transportation, and utilities	27.5	438.8	-6.5	797	-4.3
Information	2.6	53.5	([4])	1,644	-8.7
Financial activities	15.6	197.7	-5.0	2,397	-17.4
Professional and business services	29.1	398.3	-8.0	1,403	-.6
Education and health services	14.1	385.9	3.1	839	1.0
Leisure and hospitality	11.9	216.4	-3.6	404	-2.9
Other services	14.7	94.8	-1.4	729	1.1
Government	1.4	312.3	.0	1,022	1.6
New York, NY	119.1	2,290.3	-3.6	2,149	-23.4
Private industry	118.8	1,837.8	-4.4	2,425	-24.9
Natural resources and mining	.0	.2	1.3	1,967	-16.9
Construction	2.4	34.0	-7.2	1,479	-6.4
Manufacturing	2.9	30.4	-15.3	1,365	-8.3
Trade, transportation, and utilities	21.7	230.7	-6.6	1,136	-5.4
Information	4.5	129.0	-4.7	2,449	-7.9
Financial activities	19.0	355.9	-6.2	6,379	-35.2
Professional and business services	25.4	463.7	-5.6	2,095	-10.2
Education and health services	8.8	293.9	.7	998	.8
Leisure and hospitality	11.9	208.9	-3.0	725	-5.0
Other services	18.2	86.9	-1.3	999	-9.0
Government	.3	452.6	.0	1,017	1.2
Harris, TX	97.9	2,028.4	-1.1	1,143	-2.6
Private industry	97.4	1,766.7	-1.5	1,175	-3.1
Natural resources and mining	1.5	82.8	([4])	3,483	-5.5
Construction	6.7	149.0	-6.5	1,051	.0
Manufacturing	4.6	182.5	-2.0	1,411	-7.0
Trade, transportation, and utilities	22.3	418.9	-1.5	1,029	-3.1
Information	1.4	31.3	-3.4	1,314	-3.2
Financial activities	10.5	116.2	-3.9	1,511	-12.7
Professional and business services	19.6	321.4	-4.5	1,321	2.1
Education and health services	10.4	224.3	3.9	851	1.3
Leisure and hospitality	7.7	179.8	1.2	374	-2.3
Other services	11.9	59.1	.3	628	-.8
Government	.5	261.7	2.2	926	3.7
Maricopa, AZ	104.0	1,671.0	-7.4	854	-1.3
Private industry	103.3	1,444.9	-8.6	852	-1.3
Natural resources and mining	.5	8.5	-1.0	855	-14.2
Construction	10.8	100.5	-30.7	877	-.9
Manufacturing	3.5	111.9	-11.2	1,227	-2.1
Trade, transportation, and utilities	23.2	344.5	-7.7	801	-.7
Information	1.7	29.0	-5.0	1,166	.0
Financial activities	12.8	137.5	-4.9	1,145	-7.5
Professional and business services	23.0	270.4	-11.5	896	3.1
Education and health services	10.3	214.8	3.6	875	.0
Leisure and hospitality	7.5	178.1	-5.2	398	-1.7
Other services	7.3	47.8	-6.5	567	-1.2
Government	.7	226.1	.5	868	-1.3

See footnotes at end of table.

22. Continued—Quarterly Census of Employment and Wages: 10 largest counties, first quarter 2009.

County by NAICS supersector	Establishments, first quarter 2009 (thousands)	Employment		Average weekly wage[1]	
		March 2009 (thousands)	Percent change, March 2008-09[2]	First quarter 2009	Percent change, first quarter 2008-09[2]
Dallas, TX	67.9	1,425.7	-3.3	$1,085	-3.3
Private industry	67.3	1,257.6	-3.8	1,103	-3.9
Natural resources and mining	.6	8.3	([4])	3,066	-13.0
Construction	4.3	76.3	-9.8	942	-.8
Manufacturing	3.1	123.7	-8.2	1,267	-3.8
Trade, transportation, and utilities	15.0	287.9	([4])	964	-4.1
Information	1.7	46.7	-6.5	1,823	([4])
Financial activities	8.7	140.3	([4])	1,632	-13.3
Professional and business services	14.8	255.0	-6.4	1,219	-2.5
Education and health services	6.7	154.6	4.5	920	3.1
Leisure and hospitality	5.4	126.3	([4])	499	-1.4
Other services	6.7	37.7	-3.0	624	.8
Government	.5	168.0	.7	950	3.6
Orange, CA	102.3	1,399.5	-6.8	992	-2.7
Private industry	100.9	1,244.8	-7.4	967	-3.6
Natural resources and mining	.2	5.1	-16.0	561	-3.4
Construction	6.9	78.3	-18.1	1,072	-1.0
Manufacturing	5.3	159.9	-8.8	1,148	-3.1
Trade, transportation, and utilities	17.3	253.7	-8.5	916	-.1
Information	1.4	28.2	-4.8	1,567	.8
Financial activities	10.7	106.7	([4])	1,502	-12.0
Professional and business services	19.4	244.0	-10.4	1,121	-2.4
Education and health services	10.2	150.7	1.7	873	1.6
Leisure and hospitality	7.2	167.0	-4.7	382	-3.3
Other services	19.2	47.7	-3.0	513	-4.6
Government	1.4	154.7	-1.8	1,188	1.5
San Diego, CA	99.6	1,263.0	-4.7	934	-1.1
Private industry	98.3	1,035.8	-5.5	916	-1.9
Natural resources and mining	.7	9.7	-13.8	540	.7
Construction	7.0	64.1	-18.1	975	-.3
Manufacturing	3.1	99.3	([4])	1,309	.2
Trade, transportation, and utilities	14.4	197.1	-7.9	744	([4])
Information	1.3	37.8	-1.2	1,604	-16.1
Financial activities	9.4	71.4	-6.0	1,257	-5.6
Professional and business services	16.5	201.2	-6.9	1,208	2.7
Education and health services	8.3	142.2	3.2	851	1.7
Leisure and hospitality	7.0	152.2	-5.6	393	-6.9
Other services	27.6	57.4	.2	466	-2.1
Government	1.3	227.2	-.4	1,017	2.7
King, WA	75.4	1,135.9	-3.9	1,127	.2
Private industry	74.9	979.2	-4.6	1,136	-.5
Natural resources and mining	.4	2.8	-9.6	1,553	-1.2
Construction	6.4	57.1	-18.7	1,130	4.1
Manufacturing	2.4	104.2	-7.2	1,366	-5.5
Trade, transportation, and utilities	14.7	206.7	-5.7	967	1.5
Information	1.8	80.7	4.0	2,125	-.9
Financial activities	6.8	69.7	-6.7	1,579	-5.0
Professional and business services	13.6	176.9	-6.8	1,311	.2
Education and health services	6.6	130.4	5.1	857	2.4
Leisure and hospitality	6.1	105.0	-4.2	422	-5.8
Other services	16.3	45.8	.6	634	5.8
Government	.5	156.6	.8	1,074	6.0
Miami-Dade, FL	84.7	963.9	-6.1	858	-1.2
Private industry	84.4	813.6	-6.9	818	-1.8
Natural resources and mining	.5	10.0	-8.8	403	-12.6
Construction	6.1	37.7	-25.4	861	6.6
Manufacturing	2.6	38.4	-16.7	783	.3
Trade, transportation, and utilities	23.0	238.8	-6.0	765	-.6
Information	1.5	18.5	-7.1	1,308	-3.5
Financial activities	9.8	63.7	-9.0	1,353	-9.7
Professional and business services	17.7	124.5	-8.7	992	.1
Education and health services	9.4	144.1	1.8	801	1.0
Leisure and hospitality	5.9	102.0	-4.2	471	-1.5
Other services	7.5	35.3	-5.5	529	-.4
Government	.4	150.3	-1.7	1,074	.8

[1] Average weekly wages were calculated using unrounded data.

[2] Percent changes were computed from quarterly employment and pay data adjusted for noneconomic county reclassifications. See Notes on Current Labor Statistics.

[3] Totals for the United States do not include data for Puerto Rico or the Virgin Islands.

[4] Data do not meet BLS or State agency disclosure standards.

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 2009.

State	Establishments, first quarter 2009 (thousands)	Employment		Average weekly wage[1]	
		March 2009 (thousands)	Percent change, March 2008-09	First quarter 2009	Percent change, first quarter 2008-09
United States[2]	9,113.9	128,992.2	-4.2	$882	-2.5
Alabama	119.2	1,844.6	-5.2	736	-.4
Alaska	21.3	303.5	.1	887	2.5
Arizona	164.6	2,459.7	-6.9	807	-1.3
Arkansas	86.4	1,144.5	-2.9	695	4.2
California	1,369.6	14,742.5	-5.0	994	-1.2
Colorado	176.6	2,211.0	-3.9	913	-.8
Connecticut	113.0	1,620.1	-3.8	1,189	-5.6
Delaware	29.3	399.9	-5.1	975	-.8
District of Columbia	33.3	679.2	-.1	1,461	-1.9
Florida	612.2	7,352.2	-7.0	771	-.8
Georgia	274.4	3,835.9	-5.4	831	-1.4
Hawaii	39.2	599.1	-4.9	775	.4
Idaho	56.7	603.4	-6.3	638	.3
Illinois	372.2	5,552.0	-4.2	951	-3.0
Indiana	161.3	2,701.1	-5.6	739	-2.4
Iowa	94.6	1,432.5	-2.5	709	-.1
Kansas	87.3	1,326.2	-2.6	719	-2.3
Kentucky	109.1	1,710.0	-4.6	712	-.3
Louisiana	124.2	1,867.4	-1.1	772	.8
Maine	51.0	563.1	-3.7	688	-1.9
Maryland	164.5	2,452.8	-3.1	964	.1
Massachusetts	213.0	3,102.8	-3.3	1,101	-3.7
Michigan	253.8	3,765.9	-7.2	825	-3.7
Minnesota	168.6	2,538.5	-4.0	882	-2.9
Mississippi	71.0	1,087.9	-4.5	633	-.2
Missouri	173.7	2,618.3	-3.4	771	.1
Montana	42.9	413.9	-4.2	628	.5
Nebraska	59.6	894.8	-2.0	699	1.7
Nevada	76.6	1,150.8	-9.1	810	-3.5
New Hampshire	48.8	601.2	-3.2	837	-3.0
New Jersey	271.3	3,775.1	-4.0	1,100	-2.8
New Mexico	54.9	794.1	-3.5	723	.7
New York	588.1	8,332.4	-2.6	1,207	-13.8
North Carolina	260.6	3,852.4	-5.2	766	-2.8
North Dakota	25.6	341.8	-.4	666	2.0
Ohio	293.6	4,937.1	-4.9	790	-1.0
Oklahoma	100.5	1,517.0	-2.0	709	-.3
Oregon	130.7	1,602.8	-6.3	772	-.6
Pennsylvania	342.4	5,449.4	-2.9	862	-.7
Rhode Island	35.5	441.8	-4.9	831	-2.4
South Carolina	115.3	1,779.4	-5.9	692	-.4
South Dakota	30.6	382.9	-1.7	630	-.3
Tennessee	142.7	2,586.1	-5.7	751	-1.3
Texas	564.9	10,237.9	-1.8	886	-1.9
Utah	85.3	1,162.2	-4.6	726	1.1
Vermont	24.8	291.7	-3.2	719	-2.0
Virginia	232.6	3,541.6	-3.0	920	.1
Washington	216.4	2,810.6	-3.8	906	.8
West Virginia	48.4	690.2	-1.4	704	4.0
Wisconsin	156.8	2,619.0	-4.3	747	-1.6
Wyoming	25.1	272.1	-2.0	778	-.1
Puerto Rico	53.4	967.1	-4.1	496	1.4
Virgin Islands	3.6	44.6	-4.3	685	-3.1

[1] Average weekly wages were calculated using unrounded data.

[2] Totals for the United States do not include data for Puerto Rico or the Virgin Islands.

NOTE: Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. Data are preliminary.

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
	Total covered (UI and UCFE)				
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
2007	8,971,897	135,366,106	6,018,089,108	44,458	855
2008	9,082,049	134,805,659	6,142,159,200	45,563	876
	UI covered				
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
2007	8,908,198	132,639,806	5,841,231,314	44,038	847
2008	9,017,717	132,043,604	5,959,055,276	45,129	868
	Private industry covered				
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
2007	8,681,001	114,012,221	5,057,840,759	44,362	853
2008	8,789,360	113,188,643	5,135,487,891	45,371	873
	State government covered				
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
2007	67,381	4,611,395	211,677,002	45,903	883
2008	67,675	4,642,650	222,754,925	47,980	923
	Local government covered				
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
2007	159,816	14,016,190	571,713,553	40,790	784
2008	160,683	14,212,311	600,812,461	42,274	813
	Federal government covered (UCFE)				
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
2007	63,699	2,726,300	176,857,794	64,871	1,248
2008	64,332	2,762,055	183,103,924	66,293	1,275

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 2008

Industry, establishments, and employment	Total	Size of establishments								
		Fewer than 5 workers[1]	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
Total all industries[2]										
Establishments, first quarter	8,737,209	5,347,059	1,405,989	940,355	649,897	221,242	125,680	30,651	10,833	5,503
Employment, March	112,661,107	7,726,320	9,317,598	12,712,673	19,590,026	15,200,470	18,769,975	10,490,782	7,355,848	11,497,415
Natural resources and mining										
Establishments, first quarter	125,210	70,167	23,540	15,213	10,230	3,338	1,888	574	192	68
Employment, March	1,735,716	113,349	155,594	205,063	309,062	229,769	285,052	198,874	129,465	109,488
Construction										
Establishments, first quarter	884,900	596,761	135,351	80,118	49,933	14,548	6,455	1,305	337	92
Employment, March	7,015,698	820,427	887,949	1,076,415	1,494,411	990,273	953,252	438,169	221,521	133,281
Manufacturing										
Establishments, first quarter	360,128	138,761	61,564	53,932	52,329	25,129	18,998	6,052	2,298	1,065
Employment, March	13,530,440	239,464	413,129	741,464	1,631,131	1,758,241	2,909,766	2,072,004	1,554,107	2,211,134
Trade, transportation, and utilities										
Establishments, first quarter	1,918,453	1,025,889	381,783	253,919	158,449	53,773	34,906	7,571	1,654	509
Employment, March	26,025,160	1,686,285	2,543,460	3,411,060	4,758,401	3,726,557	5,155,843	2,600,592	1,090,853	1,052,109
Information										
Establishments, first quarter	144,342	82,456	21,073	16,279	13,502	5,634	3,580	1,093	490	235
Employment, March	3,007,840	113,866	140,161	222,141	415,963	388,105	542,466	380,246	334,589	470,303
Financial activities										
Establishments, first quarter	866,044	571,395	153,677	80,370	39,542	11,675	6,176	1,823	911	475
Employment, March	8,002,154	880,298	1,013,702	1,059,248	1,176,225	798,971	929,717	631,696	630,185	882,112
Professional and business services										
Establishments, first quarter	1,500,983	1,026,478	199,658	126,947	85,319	32,918	20,556	5,907	2,267	933
Employment, March	17,672,891	1,403,930	1,312,525	1,712,339	2,594,343	2,279,648	3,116,492	2,019,588	1,542,704	1,691,322
Education and health services										
Establishments, first quarter	838,101	403,555	181,824	119,131	77,795	28,219	19,577	4,258	1,933	1,809
Employment, March	17,855,618	715,158	1,208,328	1,604,008	2,344,710	1,961,088	2,946,642	1,449,126	1,343,470	4,283,088
Leisure and hospitality										
Establishments, first quarter	729,550	280,079	122,835	135,822	137,270	40,241	10,754	1,610	642	297
Employment, March	13,121,259	443,453	829,466	1,908,049	4,122,254	2,674,380	1,523,474	547,993	438,685	633,505
Other services										
Establishments, first quarter	1,157,207	946,782	118,658	57,400	25,255	5,738	2,787	458	109	20
Employment, March	4,450,274	1,128,799	775,868	757,235	736,119	391,483	406,934	152,494	70,269	31,073

[1] Includes establishments that reported no workers in March 2008.

[2] Includes data for unclassified establishments, not shown separately.

NOTE: Data are final. Detail may not add to total due to rounding.

26. Average annual wages for 2007 and 2008 for all covered workers[1] by metropolitan area

Metropolitan area[2]	Average annual wages[3]		
	2007	2008	Percent change, 2007-08
Metropolitan areas[4]	$46,139	$47,194	2.3
Abilene, TX	31,567	32,649	3.4
Aguadilla-Isabela-San Sebastian, PR	20,295	20,714	2.1
Akron, OH	39,499	40,376	2.2
Albany, GA	33,378	34,314	2.8
Albany-Schenectady-Troy, NY	42,191	43,912	4.1
Albuquerque, NM	38,191	39,342	3.0
Alexandria, LA	32,757	34,783	6.2
Allentown-Bethlehem-Easton, PA-NJ	41,784	42,500	1.7
Altoona, PA	31,988	32,986	3.1
Amarillo, TX	35,574	38,215	7.4
Ames, IA	37,041	38,558	4.1
Anchorage, AK	45,237	46,935	3.8
Anderson, IN	32,850	31,326	-4.6
Anderson, SC	31,086	32,322	4.0
Ann Arbor, MI	49,427	48,987	-0.9
Anniston-Oxford, AL	34,593	36,227	4.7
Appleton, WI	36,575	37,522	2.6
Asheville, NC	33,406	34,070	2.0
Athens-Clarke County, GA	34,256	35,503	3.6
Atlanta-Sandy Springs-Marietta, GA	48,111	48,064	-0.1
Atlantic City, NJ	39,276	40,337	2.7
Auburn-Opelika, AL	31,554	32,651	3.5
Augusta-Richmond County, GA-SC	36,915	38,068	3.1
Austin-Round Rock, TX	46,458	47,355	1.9
Bakersfield, CA	38,254	39,476	3.2
Baltimore-Towson, MD	47,177	48,438	2.7
Bangor, ME	32,829	33,829	3.0
Barnstable Town, MA	37,691	38,839	3.0
Baton Rouge, LA	39,339	41,961	6.7
Battle Creek, MI	40,628	42,782	5.3
Bay City, MI	35,680	36,489	2.3
Beaumont-Port Arthur, TX	40,682	43,302	6.4
Bellingham, WA	34,239	35,864	4.7
Bend, OR	34,318	35,044	2.1
Billings, MT	35,372	36,155	2.2
Binghamton, NY	36,322	37,731	3.9
Birmingham-Hoover, AL	42,570	43,651	2.5
Bismarck, ND	34,118	35,389	3.7
Blacksburg-Christiansburg-Radford, VA	35,248	35,272	0.1
Bloomington, IN	32,028	33,220	3.7
Bloomington-Normal, IL	42,082	43,918	4.4
Boise City-Nampa, ID	37,553	37,315	-0.6
Boston-Cambridge-Quincy, MA-NH	59,817	61,128	2.2
Boulder, CO	52,745	53,455	1.3
Bowling Green, KY	33,308	34,861	4.7
Bremerton-Silverdale, WA	39,506	40,421	2.3
Bridgeport-Stamford-Norwalk, CT	79,973	80,018	0.1
Brownsville-Harlingen, TX	27,126	28,342	4.5
Brunswick, GA	32,705	34,458	5.4
Buffalo-Niagara Falls, NY	38,218	38,984	2.0
Burlington, NC	33,132	34,283	3.5
Burlington-South Burlington, VT	41,907	43,559	3.9
Canton-Massillon, OH	34,091	34,897	2.4
Cape Coral-Fort Myers, FL	37,658	37,866	0.6
Carson City, NV	42,030	43,858	4.3
Casper, WY	41,105	43,851	6.7
Cedar Rapids, IA	41,059	42,356	3.2
Champaign-Urbana, IL	35,788	37,408	4.5
Charleston, WV	38,687	40,442	4.5
Charleston-North Charleston, SC	36,954	38,035	2.9
Charlotte-Gastonia-Concord, NC-SC	46,975	47,332	0.8
Charlottesville, VA	40,819	41,777	2.3
Chattanooga, TN-GA	36,522	37,258	2.0
Cheyenne, WY	36,191	37,452	3.5
Chicago-Naperville-Joliet, IL-IN-WI	50,823	51,775	1.9
Chico, CA	33,207	34,310	3.3
Cincinnati-Middletown, OH-KY-IN	42,969	43,801	1.9
Clarksville, TN-KY	32,216	32,991	2.4
Cleveland, TN	34,666	35,010	1.0
Cleveland-Elyria-Mentor, OH	42,783	43,467	1.6
Coeur d'Alene, ID	31,035	31,353	1.0
College Station-Bryan, TX	32,630	33,967	4.1
Colorado Springs, CO	39,745	40,973	3.1
Columbia, MO	33,266	34,331	3.2
Columbia, SC	36,293	37,514	3.4
Columbus, GA-AL	34,511	35,067	1.6
Columbus, IN	41,078	42,610	3.7
Columbus, OH	42,655	43,533	2.1
Corpus Christi, TX	37,186	38,771	4.3
Corvallis, OR	41,981	42,343	0.9

See footnotes at end of table.

26. Continued — Average annual wages for 2007 and 2008 for all covered workers[1] by metropolitan area

Metropolitan area[2]	Average annual wages[3]		
	2007	2008	Percent change, 2007-08
Cumberland, MD-WV	$31,373	$32,583	3.9
Dallas-Fort Worth-Arlington, TX	49,627	50,331	1.4
Dalton, GA	34,433	34,403	-0.1
Danville, IL	34,086	35,602	4.4
Danville, VA	30,212	30,580	1.2
Davenport-Moline-Rock Island, IA-IL	39,385	40,425	2.6
Dayton, OH	40,223	40,824	1.5
Decatur, AL	35,931	36,855	2.6
Decatur, IL	41,039	42,012	2.4
Deltona-Daytona Beach-Ormond Beach, FL	32,196	32,938	2.3
Denver-Aurora, CO	50,180	51,270	2.2
Des Moines, IA	42,895	43,918	2.4
Detroit-Warren-Livonia, MI	49,019	50,081	2.2
Dothan, AL	32,367	32,965	1.8
Dover, DE	35,978	36,375	1.1
Dubuque, IA	34,240	35,656	4.1
Duluth, MN-WI	35,202	36,307	3.1
Durham, NC	52,420	53,700	2.4
Eau Claire, WI	32,792	33,549	2.3
El Centro, CA	32,419	33,239	2.5
Elizabethtown, KY	32,701	33,728	3.1
Elkhart-Goshen, IN	36,566	35,858	-1.9
Elmira, NY	34,879	36,984	6.0
El Paso, TX	31,354	31,837	1.5
Erie, PA	34,788	35,992	3.5
Eugene-Springfield, OR	34,329	35,380	3.1
Evansville, IN-KY	37,182	38,304	3.0
Fairbanks, AK	42,345	44,225	4.4
Fajardo, PR	22,075	22,984	4.1
Fargo, ND-MN	35,264	36,745	4.2
Farmington, NM	38,572	41,155	6.7
Fayetteville, NC	33,216	34,619	4.2
Fayetteville-Springdale-Rogers, AR-MO	37,325	39,025	4.6
Flagstaff, AZ	34,473	35,353	2.6
Flint, MI	39,310	39,206	-0.3
Florence, SC	34,305	34,841	1.6
Florence-Muscle Shoals, AL	30,699	32,088	4.5
Fond du Lac, WI	34,664	36,166	4.3
Fort Collins-Loveland, CO	39,335	40,154	2.1
Fort Smith, AR-OK	31,236	32,130	2.9
Fort Walton Beach-Crestview-Destin, FL	35,613	36,454	2.4
Fort Wayne, IN	36,542	36,806	0.7
Fresno, CA	35,111	36,038	2.6
Gadsden, AL	30,979	31,718	2.4
Gainesville, FL	36,243	37,282	2.9
Gainesville, GA	36,994	37,929	2.5
Glens Falls, NY	33,564	34,531	2.9
Goldsboro, NC	30,177	30,607	1.4
Grand Forks, ND-MN	30,745	32,207	4.8
Grand Junction, CO	36,221	39,246	8.4
Grand Rapids-Wyoming, MI	38,953	39,868	2.3
Great Falls, MT	31,009	31,962	3.1
Greeley, CO	37,066	38,700	4.4
Green Bay, WI	37,788	39,247	3.9
Greensboro-High Point, NC	37,213	37,919	1.9
Greenville, NC	33,703	34,672	2.9
Greenville, SC	36,536	37,592	2.9
Guayama, PR	26,094	27,189	4.2
Gulfport-Biloxi, MS	34,971	35,700	2.1
Hagerstown-Martinsburg, MD-WV	35,468	36,472	2.8
Hanford-Corcoran, CA	32,504	35,374	8.8
Harrisburg-Carlisle, PA	41,424	42,330	2.2
Harrisonburg, VA	32,718	34,197	4.5
Hartford-West Hartford-East Hartford, CT	54,188	54,446	0.5
Hattiesburg, MS	30,729	31,629	2.9
Hickory-Lenoir-Morganton, NC	32,364	32,810	1.4
Hinesville-Fort Stewart, GA	33,210	33,854	1.9
Holland-Grand Haven, MI	37,470	37,953	1.3
Honolulu, HI	40,748	42,090	3.3
Hot Springs, AR	28,448	29,042	2.1
Houma-Bayou Cane-Thibodaux, LA	41,604	44,345	6.6
Houston-Baytown-Sugar Land, TX	53,494	55,407	3.6
Huntington-Ashland, WV-KY-OH	33,973	35,717	5.1
Huntsville, AL	45,763	47,427	3.6
Idaho Falls, ID	29,878	30,485	2.0
Indianapolis, IN	42,227	43,128	2.1
Iowa City, IA	37,457	39,070	4.3
Ithaca, NY	39,387	41,689	5.8
Jackson, MI	38,267	38,672	1.1
Jackson, MS	35,771	36,730	2.7

See footnotes at end of table.

26. Continued — Average annual wages for 2007 and 2008 for all covered workers[1] by metropolitan area

Metropolitan area[2]	Average annual wages[3]		
	2007	2008	Percent change, 2007-08
Jackson, TN	$35,059	$35,975	2.6
Jacksonville, FL	41,437	41,524	0.2
Jacksonville, NC	27,005	27,893	3.3
Janesville, WI	36,790	36,906	0.3
Jefferson City, MO	32,903	33,766	2.6
Johnson City, TN	31,985	32,759	2.4
Johnstown, PA	31,384	32,464	3.4
Jonesboro, AR	30,378	31,532	3.8
Joplin, MO	31,068	32,156	3.5
Kalamazoo-Portage, MI	38,402	40,333	5.0
Kankakee-Bradley, IL	33,340	34,451	3.3
Kansas City, MO-KS	42,921	44,155	2.9
Kennewick-Richland-Pasco, WA	40,439	41,878	3.6
Killeen-Temple-Fort Hood, TX	32,915	34,299	4.2
Kingsport-Bristol-Bristol, TN-VA	36,399	37,260	2.4
Kingston, NY	35,018	35,883	2.5
Knoxville, TN	38,386	38,912	1.4
Kokomo, IN	47,269	44,117	-6.7
La Crosse, WI-MN	32,949	34,078	3.4
Lafayette, IN	36,419	37,832	3.9
Lafayette, LA	40,684	42,748	5.1
Lake Charles, LA	37,447	39,982	6.8
Lakeland, FL	34,394	35,195	2.3
Lancaster, PA	37,043	38,127	2.9
Lansing-East Lansing, MI	40,866	42,339	3.6
Laredo, TX	29,009	29,572	1.9
Las Cruces, NM	31,422	32,894	4.7
Las Vegas-Paradise, NV	42,336	43,120	1.9
Lawrence, KS	30,830	32,313	4.8
Lawton, OK	30,617	32,258	5.4
Lebanon, PA	32,876	33,900	3.1
Lewiston, ID-WA	31,961	32,783	2.6
Lewiston-Auburn, ME	33,118	34,396	3.9
Lexington-Fayette, KY	39,290	40,034	1.9
Lima, OH	35,177	35,381	0.6
Lincoln, NE	34,750	35,834	3.1
Little Rock-North Little Rock, AR	39,305	38,902	-1.0
Logan, UT-ID	27,810	29,392	5.7
Longview, TX	36,956	38,902	5.3
Longview, WA	37,101	37,806	1.9
Los Angeles-Long Beach-Santa Ana, CA	50,480	51,520	2.1
Louisville, KY-IN	40,125	40,596	1.2
Lubbock, TX	32,761	33,867	3.4
Lynchburg, VA	34,412	35,207	2.3
Macon, GA	34,243	34,823	1.7
Madera, CA	33,266	34,405	3.4
Madison, WI	41,201	42,623	3.5
Manchester-Nashua, NH	49,235	50,629	2.8
Mansfield, OH	33,109	33,946	2.5
Mayaguez, PR	21,326	22,394	5.0
McAllen-Edinburg-Pharr, TX	27,651	28,498	3.1
Medford, OR	32,877	33,402	1.6
Memphis, TN-MS-AR	42,339	43,124	1.9
Merced, CA	32,351	33,903	4.8
Miami-Fort Lauderdale-Miami Beach, FL	43,428	44,199	1.8
Michigan City-La Porte, IN	32,570	33,507	2.9
Midland, TX	45,574	50,116	10.0
Milwaukee-Waukesha-West Allis, WI	43,261	44,462	2.8
Minneapolis-St. Paul-Bloomington, MN-WI	49,542	51,044	3.0
Missoula, MT	32,233	33,414	3.7
Mobile, AL	36,890	38,180	3.5
Modesto, CA	36,739	37,867	3.1
Monroe, LA	31,992	32,796	2.5
Monroe, MI	41,636	41,849	0.5
Montgomery, AL	36,223	37,552	3.7
Morgantown, WV	35,241	37,082	5.2
Morristown, TN	32,806	32,858	0.2
Mount Vernon-Anacortes, WA	34,620	36,230	4.7
Muncie, IN	31,326	32,420	3.5
Muskegon-Norton Shores, MI	34,982	36,033	3.0
Myrtle Beach-Conway-North Myrtle Beach, SC	28,576	28,450	-0.4
Napa, CA	44,171	45,061	2.0
Naples-Marco Island, FL	41,300	40,178	-2.7
Nashville-Davidson--Murfreesboro, TN	42,728	43,964	2.9
New Haven-Milford, CT	47,039	48,239	2.6
New Orleans-Metairie-Kenner, LA	43,255	45,108	4.3
New York-Northern New Jersey-Long Island, NY-NJ-PA	65,685	66,548	1.3
Niles-Benton Harbor, MI	38,140	38,814	1.8
Norwich-New London, CT	45,463	46,727	2.8
Ocala, FL	31,623	32,579	3.0

See footnotes at end of table.

26. Continued — Average annual wages for 2007 and 2008 for all covered workers[1] by metropolitan area

Metropolitan area[2]	Average annual wages[3]		
	2007	2008	Percent change, 2007-08
Ocean City, NJ	$32,452	$33,529	3.3
Odessa, TX	41,758	44,316	6.1
Ogden-Clearfield, UT	34,067	34,778	2.1
Oklahoma City, OK	37,192	39,363	5.8
Olympia, WA	39,678	40,714	2.6
Omaha-Council Bluffs, NE-IA	39,273	40,097	2.1
Orlando, FL	38,633	39,322	1.8
Oshkosh-Neenah, WI	41,014	41,781	1.9
Owensboro, KY	33,593	34,956	4.1
Oxnard-Thousand Oaks-Ventura, CA	47,669	46,490	-2.5
Palm Bay-Melbourne-Titusville, FL	40,975	42,089	2.7
Panama City-Lynn Haven, FL	33,950	34,361	1.2
Parkersburg-Marietta, WV-OH	33,547	35,102	4.6
Pascagoula, MS	39,131	42,734	9.2
Pensacola-Ferry Pass-Brent, FL	34,165	34,829	1.9
Peoria, IL	43,470	44,562	2.5
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	50,611	51,814	2.4
Phoenix-Mesa-Scottsdale, AZ	43,697	44,482	1.8
Pine Bluff, AR	33,094	34,106	3.1
Pittsburgh, PA	42,910	44,124	2.8
Pittsfield, MA	38,075	38,957	2.3
Pocatello, ID	29,268	30,608	4.6
Ponce, PR	21,019	21,818	3.8
Portland-South Portland-Biddeford, ME	38,497	39,711	3.2
Portland-Vancouver-Beaverton, OR-WA	44,335	45,326	2.2
Port St. Lucie-Fort Pierce, FL	36,375	36,174	-0.6
Poughkeepsie-Newburgh-Middletown, NY	40,793	42,148	3.3
Prescott, AZ	32,048	33,004	3.0
Providence-New Bedford-Fall River, RI-MA	40,674	42,141	3.6
Provo-Orem, UT	34,141	35,516	4.0
Pueblo, CO	32,552	34,055	4.6
Punta Gorda, FL	32,833	32,927	0.3
Racine, WI	40,746	41,232	1.2
Raleigh-Cary, NC	42,801	43,912	2.6
Rapid City, SD	31,119	32,227	3.6
Reading, PA	39,945	40,691	1.9
Redding, CA	34,953	35,655	2.0
Reno-Sparks, NV	41,365	42,167	1.9
Richmond, VA	44,530	45,244	1.6
Riverside-San Bernardino-Ontario, CA	37,846	38,617	2.0
Roanoke, VA	35,419	36,475	3.0
Rochester, MN	44,786	46,196	3.1
Rochester, NY	40,752	41,728	2.4
Rockford, IL	38,304	39,210	2.4
Rocky Mount, NC	32,527	33,110	1.8
Rome, GA	33,041	35,229	6.6
Sacramento--Arden-Arcade--Roseville, CA	46,385	47,924	3.3
Saginaw-Saginaw Township North, MI	37,507	37,549	0.1
St. Cloud, MN	33,996	35,069	3.2
St. George, UT	29,052	29,291	0.8
St. Joseph, MO-KS	31,828	32,651	2.6
St. Louis, MO-IL	42,873	45,419	5.9
Salem, OR	33,986	34,891	2.7
Salinas, CA	39,419	40,235	2.1
Salisbury, MD	34,833	35,901	3.1
Salt Lake City, UT	40,935	41,628	1.7
San Angelo, TX	30,920	32,852	6.2
San Antonio, TX	38,274	38,876	1.6
San Diego-Carlsbad-San Marcos, CA	47,657	49,079	3.0
Sandusky, OH	33,471	33,760	0.9
San Francisco-Oakland-Fremont, CA	64,559	65,100	0.8
San German-Cabo Rojo, PR	19,777	19,875	0.5
San Jose-Sunnyvale-Santa Clara, CA	82,038	80,063	-2.4
San Juan-Caguas-Guaynabo, PR	25,939	26,839	3.5
San Luis Obispo-Paso Robles, CA	36,740	38,134	3.8
Santa Barbara-Santa Maria-Goleta, CA	41,967	42,617	1.5
Santa Cruz-Watsonville, CA	41,540	41,471	-0.2
Santa Fe, NM	37,395	38,646	3.3
Santa Rosa-Petaluma, CA	42,824	43,757	2.2
Sarasota-Bradenton-Venice, FL	36,424	36,781	1.0
Savannah, GA	36,695	37,846	3.1
Scranton--Wilkes-Barre, PA	34,205	34,902	2.0
Seattle-Tacoma-Bellevue, WA	51,924	53,667	3.4
Sheboygan, WI	37,049	37,834	2.1
Sherman-Denison, TX	35,672	36,081	1.1
Shreveport-Bossier City, LA	34,892	36,308	4.1
Sioux City, IA-NE-SD	33,025	34,326	3.9
Sioux Falls, SD	36,056	36,982	2.6
South Bend-Mishawaka, IN-MI	36,266	37,654	3.8
Spartanburg, SC	37,967	39,313	3.5

See footnotes at end of table.

26. Continued — Average annual wages for 2007 and 2008 for all covered workers[1] by metropolitan area

Metropolitan area[2]	Average annual wages[3]		
	2007	2008	Percent change, 2007-08
Spokane, WA	$35,539	$36,792	3.5
Springfield, IL	42,420	44,416	4.7
Springfield, MA	39,487	40,969	3.8
Springfield, MO	31,868	32,971	3.5
Springfield, OH	32,017	33,158	3.6
State College, PA	36,797	38,050	3.4
Stockton, CA	37,906	39,075	3.1
Sumter, SC	30,267	30,842	1.9
Syracuse, NY	39,620	40,554	2.4
Tallahassee, FL	36,543	37,433	2.4
Tampa-St. Petersburg-Clearwater, FL	39,215	40,521	3.3
Terre Haute, IN	32,349	33,562	3.7
Texarkana, TX-Texarkana, AR	34,079	35,002	2.7
Toledo, OH	38,538	39,686	3.0
Topeka, KS	36,109	36,714	1.7
Trenton-Ewing, NJ	56,645	60,135	6.2
Tucson, AZ	38,524	39,973	3.8
Tulsa, OK	38,942	40,205	3.2
Tuscaloosa, AL	36,737	37,949	3.3
Tyler, TX	37,184	38,817	4.4
Utica-Rome, NY	33,916	34,936	3.0
Valdosta, GA	27,842	29,288	5.2
Vallejo-Fairfield, CA	42,932	45,264	5.4
Vero Beach, FL	35,901	36,557	1.8
Victoria, TX	38,317	39,888	4.1
Vineland-Millville-Bridgeton, NJ	39,408	40,709	3.3
Virginia Beach-Norfolk-Newport News, VA-NC	37,734	38,696	2.5
Visalia-Porterville, CA	30,968	32,018	3.4
Waco, TX	34,679	35,698	2.9
Warner Robins, GA	39,220	40,457	3.2
Washington-Arlington-Alexandria, DC-VA-MD-WV	60,711	62,653	3.2
Waterloo-Cedar Falls, IA	35,899	37,363	4.1
Wausau, WI	35,710	36,477	2.1
Weirton-Steubenville, WV-OH	32,893	35,356	7.5
Wenatchee, WA	29,475	30,750	4.3
Wheeling, WV-OH	31,169	32,915	5.6
Wichita, KS	39,662	40,423	1.9
Wichita Falls, TX	32,320	34,185	5.8
Williamsport, PA	32,506	33,340	2.6
Wilmington, NC	34,239	35,278	3.0
Winchester, VA-WV	36,016	37,035	2.8
Winston-Salem, NC	38,921	39,770	2.2
Worcester, MA	44,652	45,955	2.9
Yakima, WA	29,743	30,821	3.6
Yauco, PR	19,380	19,821	2.3
York-Hanover, PA	38,469	39,379	2.4
Youngstown-Warren-Boardman, OH-PA	34,698	34,403	-0.9
Yuba City, CA	35,058	36,538	4.2
Yuma, AZ	30,147	31,351	4.0

[1] Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs.

[2] Includes data for Metropolitan Statistical Areas (MSA) as defined by OMB Bulletin No. 04-03 as of February 18, 2004.

[3] Each year's total is based on the MSA definition for the specific year. Annual changes include differences resulting from changes in MSA definitions.

[4] Totals do not include the six MSAs within Puerto Rico.

27. Annual data: Employment status of the population

[Numbers in thousands]

Employment status	1998[1]	1999[1]	2000[1]	2001[1]	2002	2003	2004	2005	2006	2007	2008
Civilian noninstitutional population	205,220	207,753	212,577	215,092	217,570	221,168	223,357	226,082	228,815	231,867	233,788
Civilian labor force	137,673	139,368	142,583	143,734	144,863	146,510	147,401	149,320	151,428	153,124	154,287
Labor force participation rate	67.1	67.1	67.1	66.8	66.6	66.2	66.0	66.0	66.2	66.0	66.0
Employed	131,463	133,488	136,891	136,933	136,485	137,736	139,252	141,730	144,427	146,047	145,362
Employment-population ratio	64.1	64.3	64.4	63.7	62.7	62.3	62.3	62.7	63.1	63.0	62.2
Unemployed	6,210	5,880	5,692	6,801	8,378	8,774	8,149	7,591	7,001	7,078	8,924
Unemployment rate	4.5	4.2	4.0	4.7	5.8	6.0	5.5	5.1	4.6	4.6	5.8
Not in the labor force	67,547	68,385	69,994	71,359	72,707	74,658	75,956	76,762	77,387	78,743	79,501

[1] Not strictly comparable with prior years.

28. Annual data: Employment levels by industry

[In thousands]

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total private employment	106,021	108,686	110,995	110,708	108,828	108,416	109,814	111,899	114,113	115,420	114,792
Total nonfarm employment	125,930	128,993	131,785	131,826	130,341	129,999	131,435	133,703	136,086	137,623	137,248
Goods-producing	24,354	24,465	24,649	23,873	22,557	21,816	21,882	22,190	22,531	22,221	21,404
Natural resources and mining	645	598	599	606	583	572	591	628	684	723	774
Construction	6,149	6,545	6,787	6,826	6,716	6,735	6,976	7,336	7,691	7,614	7,175
Manufacturing	17,560	17,322	17,263	16,441	15,259	14,510	14,315	14,226	14,155	13,884	13,455
Private service-providing	81,667	84,221	86,346	86,834	86,271	86,600	87,932	89,709	91,582	93,199	93,387
Trade, transportation, and utilities	25,186	25,771	26,225	25,983	25,497	25,287	25,533	25,959	26,276	26,608	26,332
Wholesale trade	5,795	5,893	5,933	5,773	5,652	5,608	5,663	5,764	5,905	6,028	6,012
Retail trade	14,609	14,970	15,280	15,239	15,025	14,917	15,058	15,280	15,353	15,491	15,265
Transportation and warehousing	4,168	4,300	4,410	4,372	4,224	4,185	4,249	4,361	4,470	4,536	4,495
Utilities	613	609	601	599	596	577	564	554	549	553	560
Information	3,218	3,419	3,630	3,629	3,395	3,188	3,118	3,061	3,038	3,029	2,987
Financial activities	7,462	7,648	7,687	7,808	7,847	7,977	8,031	8,153	8,328	8,308	8,192
Professional and business services	15,147	15,957	16,666	16,476	15,976	15,987	16,394	16,954	17,566	17,962	17,863
Education and health services	14,446	14,798	15,109	15,645	16,199	16,588	16,953	17,372	17,826	18,327	18,878
Leisure and hospitality	11,232	11,543	11,862	12,036	11,986	12,173	12,493	12,816	13,110	13,474	13,615
Other services	4,976	5,087	5,168	5,258	5,372	5,401	5,409	5,395	5,438	5,491	5,520
Government	19,909	20,307	20,790	21,118	21,513	21,583	21,621	21,804	21,974	22,203	22,457

29. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Private sector:											
Average weekly hours	34.5	34.3	34.3	34.0	33.9	33.7	33.7	33.8	33.9	33.8	33.6
Average hourly earnings (in dollars)	13.01	13.49	14.02	14.54	14.97	15.37	15.69	16.13	16.76	17.42	18.05
Average weekly earnings (in dollars)	448.56	463.15	481.01	493.79	506.75	518.06	529.09	544.33	567.87	589.72	606.84
Goods-producing:											
Average weekly hours	40.8	40.8	40.7	39.9	39.9	39.8	40.0	40.1	40.5	40.6	40.2
Average hourly earnings (in dollars)	14.23	14.71	15.27	15.78	16.33	16.80	17.19	17.60	18.02	18.67	19.31
Average weekly earnings (in dollars)	580.99	599.99	621.86	630.01	651.61	669.13	688.13	705.31	730.16	757.06	775.28
Natural resources and mining											
Average weekly hours	44.9	44.2	44.4	44.6	43.2	43.6	44.5	45.6	45.6	45.9	45.0
Average hourly earnings (in dollars)	16.20	16.33	16.55	17.00	17.19	17.56	18.07	18.72	19.90	20.96	22.42
Average weekly earnings (in dollars)	727.28	721.74	734.92	757.92	741.97	765.94	803.82	853.71	907.95	961.78	1008.27
Construction:											
Average weekly hours	38.8	39.0	39.2	38.7	38.4	38.4	38.3	38.6	39.0	39.0	38.5
Average hourly earnings (in dollars)	16.23	16.80	17.48	18.00	18.52	18.95	19.23	19.46	20.02	20.95	21.86
Average weekly earnings (in dollars)	629.75	655.11	685.78	695.89	711.82	726.83	735.55	750.22	781.21	816.06	841.46
Manufacturing:											
Average weekly hours	41.4	41.4	41.3	40.3	40.5	40.4	40.8	40.7	41.1	41.2	40.8
Average hourly earnings (in dollars)	13.45	13.85	14.32	14.76	15.29	15.74	16.14	16.56	16.81	17.26	17.72
Average weekly earnings (in dollars)	557.09	573.25	590.77	595.19	618.75	635.99	658.49	673.33	691.02	711.36	723.51
Private service-providing:											
Average weekly hours	32.8	32.7	32.7	32.5	32.5	32.3	32.3	32.4	32.5	32.4	32.3
Average hourly earnings (in dollars)	12.61	13.09	13.62	14.18	14.59	14.99	15.29	15.74	16.42	17.10	17.73
Average weekly earnings (in dollars)	413.50	427.98	445.74	461.08	473.80	484.68	494.22	509.58	532.78	554.78	572.96
Trade, transportation, and utilities:											
Average weekly hours	34.2	33.9	33.8	33.5	33.6	33.6	33.5	33.4	33.4	33.3	33.2
Average hourly earnings (in dollars)	12.39	12.82	13.31	13.70	14.02	14.34	14.58	14.92	15.39	15.79	16.19
Average weekly earnings (in dollars)	423.30	434.31	449.88	459.53	471.27	481.14	488.42	498.43	514.34	526.38	537.00
Wholesale trade:											
Average weekly hours	38.6	38.6	38.8	38.4	38.0	37.9	37.8	37.7	38.0	38.2	38.2
Average hourly earnings (in dollars)	15.07	15.62	16.28	16.77	16.98	17.36	17.65	18.16	18.91	19.59	20.13
Average weekly earnings (in dollars)	582.21	602.77	631.40	643.45	644.38	657.29	667.09	685.00	718.63	748.90	769.74
Retail trade:											
Average weekly hours	30.9	30.8	30.7	30.7	30.9	30.9	30.7	30.6	30.5	30.2	30.0
Average hourly earnings (in dollars)	10.05	10.45	10.86	11.29	11.67	11.90	12.08	12.36	12.57	12.76	12.90
Average weekly earnings (in dollars)	582.21	602.77	631.40	643.45	644.38	657.29	667.09	685.00	718.63	748.90	769.74
Transportation and warehousing:											
Average weekly hours	38.7	37.6	37.4	36.7	36.8	36.8	37.2	37.0	36.9	36.9	36.4
Average hourly earnings (in dollars)	14.12	14.55	15.05	15.33	15.76	16.25	16.52	16.70	17.28	17.73	18.39
Average weekly earnings (in dollars)	546.86	547.97	562.31	562.70	579.75	598.41	614.82	618.58	636.97	654.83	669.44
Utilities:											
Average weekly hours	42.0	42.0	42.0	41.4	40.9	41.1	40.9	41.1	41.4	42.4	42.6
Average hourly earnings (in dollars)	21.48	22.03	22.75	23.58	23.96	24.77	25.61	26.68	27.40	27.87	28.84
Average weekly earnings (in dollars)	902.94	924.59	955.66	977.18	979.09	1017.27	1048.44	1095.90	1135.34	1182.17	1230.08
Information:											
Average weekly hours	36.6	36.7	36.8	36.9	36.5	36.2	36.3	36.5	36.6	36.5	36.7
Average hourly earnings (in dollars)	17.67	18.40	19.07	19.80	20.20	21.01	21.40	22.06	23.23	23.94	24.74
Average weekly earnings (in dollars)	646.34	675.47	700.86	730.88	737.77	760.45	777.25	805.08	850.42	873.63	907.02
Financial activities:											
Average weekly hours	36.0	35.8	35.9	35.8	35.6	35.5	35.5	35.9	35.7	35.9	35.9
Average hourly earnings (in dollars)	13.93	14.47	14.98	15.59	16.17	17.14	17.52	17.95	18.80	19.64	20.28
Average weekly earnings (in dollars)	500.98	517.57	537.37	557.92	575.54	609.08	622.87	644.99	672.21	705.29	727.38
Professional and business services:											
Average weekly hours	34.3	34.4	34.5	34.2	34.2	34.1	34.2	34.2	34.6	34.8	34.8
Average hourly earnings (in dollars)	14.27	14.85	15.52	16.33	16.81	17.21	17.48	18.08	19.13	20.13	21.15
Average weekly earnings (in dollars)	490.00	510.99	535.07	557.84	574.66	587.02	597.56	618.87	662.27	700.15	736.55
Education and health services:											
Average weekly hours	32.2	32.1	32.2	32.3	32.4	32.3	32.4	32.6	32.5	32.6	32.5
Average hourly earnings (in dollars)	13.00	13.44	13.95	14.64	15.21	15.64	16.15	16.71	17.38	18.11	18.78
Average weekly earnings (in dollars)	418.82	431.35	449.29	473.39	492.74	505.69	523.78	544.59	564.94	590.18	611.03
Leisure and hospitality:											
Average weekly hours	26.2	26.1	26.1	25.8	25.8	25.6	25.7	25.7	25.7	25.5	25.2
Average hourly earnings (in dollars)	7.67	7.96	8.32	8.57	8.81	9.00	9.15	9.38	9.75	10.41	10.83
Average weekly earnings (in dollars)	200.82	208.05	217.20	220.73	227.17	230.42	234.86	241.36	250.34	265.45	272.97
Other services:											
Average weekly hours	32.6	32.5	32.5	32.3	32.0	31.4	31.0	30.9	30.9	30.9	30.8
Average hourly earnings (in dollars)	11.79	12.26	12.73	13.27	13.72	13.84	13.98	14.34	14.77	15.42	15.86
Average weekly earnings (in dollars)	384.25	398.77	413.41	428.64	439.76	434.41	433.04	443.37	456.50	476.80	488.22

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,[1] by occupation and industry group

[December 2005 = 100]

Series	2007		2008				2009			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2009	
Civilian workers[2]	106.1	106.7	107.6	108.3	109.2	109.5	109.9	110.3	110.8	0.5	1.5
Workers by occupational group											
Management, professional, and related	106.7	107.2	108.3	109.0	110.1	110.4	110.9	111.1	111.5	.4	1.3
Management, business, and financial	106.2	106.6	108.2	108.9	109.7	109.8	110.0	110.1	110.2	.1	.5
Professional and related	107.0	107.6	108.4	109.0	110.4	110.7	111.3	111.6	112.2	.5	1.6
Sales and office	105.5	106.4	106.8	107.7	108.2	108.3	108.4	108.7	109.4	.6	1.1
Sales and related	104.1	105.2	105.0	106.1	106.0	105.5	104.3	104.5	105.4	.9	-.6
Office and administrative support	106.4	107.1	108.0	108.6	109.5	110.0	110.8	111.3	111.8	.4	2.1
Natural resources, construction, and maintenance	106.1	106.8	107.7	108.4	109.3	109.8	110.1	110.7	111.2	.5	1.7
Construction and extraction	106.5	107.4	108.5	109.6	110.3	110.8	111.0	111.6	112.2	.5	1.7
Installation, maintenance, and repair	105.6	106.2	106.7	107.0	108.0	108.6	109.1	109.5	110.0	.5	1.9
Production, transportation, and material moving	104.2	104.7	105.6	106.2	106.9	107.2	108.0	108.5	109.1	.6	2.1
Production	103.3	104.1	104.8	105.3	105.9	106.2	107.2	107.7	108.1	.4	2.1
Transportation and material moving	105.3	105.6	106.6	107.3	108.1	108.4	108.9	109.5	110.2	.6	1.9
Service occupations	106.9	107.7	108.4	109.1	110.2	110.6	111.5	111.9	112.6	.6	2.2
Workers by industry											
Goods-producing	104.4	105.0	106.1	106.8	107.3	107.5	108.0	108.2	108.5	.3	1.1
Manufacturing	103.2	103.8	104.7	105.1	105.6	105.9	106.5	106.7	106.8	.1	1.1
Service-providing	106.4	107.0	107.8	108.5	109.5	109.8	110.3	110.6	111.3	.6	1.6
Education and health services	107.2	107.9	108.6	109.2	110.8	111.1	111.7	112.2	113.2	.9	2.2
Health care and social assistance	107.1	107.9	108.9	109.6	110.4	110.8	111.7	112.2	112.8	.5	2.2
Hospitals	106.7	107.5	108.4	109.2	110.2	110.8	111.7	112.3	112.9	.5	2.5
Nursing and residential care facilities	105.6	106.3	107.3	108.2	109.0	109.6	110.3	110.8	111.3	.5	2.1
Education services	107.3	107.9	108.3	108.9	111.1	111.3	111.8	112.1	113.5	1.2	2.2
Elementary and secondary schools	107.4	107.9	108.2	108.8	111.1	111.4	111.9	112.1	113.9	1.6	2.5
Public administration[3]	108.0	109.1	109.7	110.1	111.6	112.0	113.0	113.8	114.5	.6	2.6
Private industry workers	105.7	106.3	107.3	108.0	108.7	108.9	109.3	109.6	110.0	.4	1.2
Workers by occupational group											
Management, professional, and related	106.4	106.8	108.1	108.9	109.6	109.9	110.4	110.5	110.6	.1	.9
Management, business, and financial	106.0	106.3	108.0	108.7	109.3	109.5	109.6	109.7	109.7	.0	.4
Professional and related	106.7	107.3	108.3	109.0	109.9	110.3	111.0	111.1	111.4	.3	1.4
Sales and office	105.3	106.1	106.6	107.5	107.9	107.9	107.9	108.3	108.8	.5	.8
Sales and related	104.2	105.2	105.0	106.2	106.0	105.5	104.3	104.5	105.3	.8	-.7
Office and administrative support	106.0	106.7	107.8	108.5	109.2	109.6	110.5	110.9	111.3	.4	1.9
Natural resources, construction, and maintenance	105.9	106.7	107.6	108.3	109.0	109.6	109.9	110.3	110.9	.5	1.7
Construction and extraction	106.5	107.4	108.6	109.7	110.3	110.8	110.9	111.5	112.0	.4	1.5
Installation, maintenance, and repair	105.2	105.8	106.3	106.6	107.4	108.1	108.6	108.9	109.4	.5	1.9
Production, transportation, and material moving	103.9	104.5	105.5	106.0	106.6	106.9	107.7	108.1	108.6	.5	1.9
Production	103.2	104.0	104.8	105.2	105.8	106.1	107.1	107.6	108.0	.4	2.1
Transportation and material moving	104.9	105.3	106.4	107.2	107.7	107.9	108.4	108.9	109.6	.6	1.8
Service occupations	106.4	107.0	107.8	108.7	109.4	109.8	110.7	110.9	111.7	.7	2.1
Workers by industry and occupational group											
Goods-producing industries	104.4	105.0	106.1	106.8	107.2	107.5	107.9	108.2	108.4	.2	1.1
Management, professional, and related	104.3	104.4	106.1	106.6	106.7	106.6	106.8	106.7	106.5	-.2	-.2
Sales and office	104.1	104.8	105.1	106.3	106.7	107.1	107.3	107.4	107.5	.1	.7
Natural resources, construction, and maintenance	106.1	107.0	108.1	109.0	109.8	110.4	110.4	110.9	111.3	.4	1.4
Production, transportation, and material moving	103.3	104.0	104.8	105.3	105.8	106.2	107.0	107.5	107.8	.3	1.9
Construction	106.9	107.6	108.9	110.1	110.6	110.9	110.9	111.2	111.5	.3	.8
Manufacturing	103.2	103.8	104.7	105.1	105.6	105.9	106.5	106.7	106.8	.1	1.1
Management, professional, and related	103.3	103.5	104.9	105.2	105.4	105.4	105.7	105.7	105.4	-.3	.0
Sales and office	103.5	104.3	105.0	106.1	106.7	107.0	107.3	107.1	107.2	.1	.5
Natural resources, construction, and maintenance	102.8	103.9	104.6	104.5	105.3	106.0	106.6	107.1	107.4	.3	2.0
Production, transportation, and material moving	103.1	103.8	104.5	105.0	105.5	105.8	106.7	107.2	107.5	.3	1.9
Service-providing industries	106.1	106.7	107.7	108.5	109.1	109.4	109.8	110.1	110.5	.4	1.3
Management, professional, and related	106.8	107.3	108.5	109.3	110.2	110.6	111.1	111.2	111.4	.2	1.1
Sales and office	105.4	106.3	106.8	107.7	108.0	108.0	108.0	108.4	109.0	.6	.9
Natural resources, construction, and maintenance	105.7	106.2	106.7	107.3	107.8	108.4	109.0	109.5	110.1	.5	2.1
Production, transportation, and material moving	104.7	105.2	106.4	107.0	107.6	107.8	108.5	109.0	109.7	.6	2.0
Service occupations	106.4	107.1	107.9	108.7	109.5	109.8	110.7	111.0	111.7	.6	2.0
Trade, transportation, and utilities	104.7	105.5	106.1	107.3	107.6	107.5	107.8	108.1	108.6	.5	.9

See footnotes at end of table.

30. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[December 2005 = 100]

Series	2007		2008				2009			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2009	
Wholesale trade	104.2	105.3	105.7	107.2	107.1	106.8	107.1	106.9	106.8	-0.1	-0.3
Retail trade	105.1	106.1	106.6	107.6	108.2	108.1	108.3	108.8	109.7	.8	1.4
Transportation and warehousing	104.5	104.5	105.6	106.4	106.8	106.9	107.4	107.9	108.3	.4	1.4
Utilities	105.0	105.6	106.5	108.1	108.1	108.9	109.6	110.9	111.2	.3	2.9
Information	105.8	106.1	106.1	106.2	107.2	107.4	107.7	107.5	108.0	.5	.7
Financial activities	105.4	105.6	106.8	107.3	107.4	107.1	106.8	107.9	108.3	.4	.8
Finance and insurance	105.7	106.1	107.0	107.7	107.6	107.2	106.9	108.1	108.6	.5	.9
Real estate and rental and leasing	104.1	103.7	105.5	105.7	106.4	106.6	106.6	106.9	107.4	.5	.9
Professional and business services	106.9	107.5	109.0	109.9	110.8	111.6	111.9	111.9	112.1	.2	1.2
Education and health services	106.9	107.7	108.6	109.4	110.3	110.6	111.5	111.9	112.6	.6	2.1
Education services	106.7	107.5	108.1	109.1	111.4	111.3	111.9	112.0	113.2	1.1	1.6
Health care and social assistance	106.9	107.8	108.8	109.4	110.1	110.5	111.5	111.9	112.5	.5	2.2
Hospitals	106.5	107.3	108.2	109.1	110.1	110.7	111.5	112.0	112.6	.5	2.3
Leisure and hospitality	107.5	108.1	109.0	109.3	110.6	111.4	112.2	112.0	112.7	.6	1.9
Accommodation and food services	108.1	108.6	109.5	110.0	111.4	112.1	113.0	112.6	113.4	.7	1.8
Other services, except public administration	107.1	107.6	108.7	109.4	109.9	109.9	110.8	110.8	111.8	.9	1.7
State and local government workers	107.6	108.4	108.9	109.4	111.3	111.6	112.3	112.9	114.0	1.0	2.4
Workers by occupational group											
Management, professional, and related	107.5	108.3	108.8	109.3	111.3	111.6	112.0	112.6	113.7	1.0	2.2
Professional and related	107.5	108.2	108.6	109.1	111.1	111.4	111.9	112.4	113.7	1.2	2.3
Sales and office	107.9	108.6	108.8	109.3	111.0	111.3	112.4	113.0	114.3	1.2	3.0
Office and administrative support	108.2	108.9	109.3	109.8	111.4	111.8	112.8	113.3	114.7	1.2	3.0
Service occupations	108.0	109.1	109.7	110.0	111.9	112.4	113.4	114.0	114.9	.8	2.7
Workers by industry											
Education and health services	107.5	108.2	108.6	109.1	111.2	111.5	111.9	112.4	113.7	1.2	2.2
Education services	107.4	108.0	108.4	108.8	111.0	111.2	111.8	112.1	113.5	1.2	2.3
Schools	107.4	108.0	108.4	108.8	111.0	111.2	111.8	112.1	113.5	1.2	2.3
Elementary and secondary schools	107.4	108.0	108.3	108.8	111.1	111.4	112.0	112.2	114.0	1.6	2.6
Health care and social assistance	108.6	109.3	110.1	111.1	112.7	113.2	113.3	114.8	115.3	.4	2.3
Hospitals	107.5	108.2	109.2	109.7	110.8	111.3	112.4	113.5	114.0	.4	2.9
Public administration [3]	108.0	109.1	109.7	110.1	111.6	112.0	113.0	113.8	114.5	.6	2.6

[1] Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] 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	2007		2008				2009			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2009	
Civilian workers[1]	106.0	106.7	107.6	108.4	109.3	109.6	110.0	110.4	110.9	0.5	1.5
Workers by occupational group											
Management, professional, and related	106.6	107.1	108.2	109.0	110.1	110.5	111.0	111.2	111.5	.3	1.3
Management, business, and financial	106.4	106.7	108.2	109.0	109.8	110.1	110.4	110.5	110.6	.1	.7
Professional and related	106.7	107.4	108.3	109.0	110.3	110.7	111.2	111.5	112.1	.5	1.6
Sales and office	105.4	106.2	106.7	107.7	108.1	108.1	108.1	108.6	109.2	.6	1.0
Sales and related	104.3	105.5	105.2	106.6	106.3	105.6	104.3	104.7	105.7	1.0	-.6
Office and administrative support	106.1	106.8	107.8	108.5	109.3	109.8	110.6	111.2	111.6	.4	2.1
Natural resources, construction, and maintenance	106.3	107.1	108.1	109.0	109.9	110.6	110.7	111.2	111.7	.4	1.6
Construction and extraction	106.6	107.7	109.0	109.9	110.7	111.3	111.4	111.8	112.3	.4	1.4
Installation, maintenance, and repair	105.8	106.4	107.0	107.8	108.8	109.6	110.0	110.5	111.1	.5	2.1
Production, transportation, and material moving	104.7	105.1	106.1	106.9	107.7	108.0	108.5	109.0	109.6	.6	1.8
Production	104.3	104.7	105.7	106.5	107.2	107.5	108.2	108.7	109.2	.5	1.9
Transportation and material moving	105.1	105.5	106.6	107.3	108.2	108.5	108.8	109.5	110.2	.6	1.8
Service occupations	106.5	107.3	108.0	108.7	109.9	110.3	111.2	111.6	112.4	.7	2.3
Workers by industry											
Goods-producing	105.4	106.0	107.1	108.0	108.6	109.0	109.2	109.5	109.8	.3	1.1
Manufacturing	104.5	104.9	105.9	106.7	107.4	107.7	108.1	108.4	108.6	.2	1.1
Service-providing	106.2	106.8	107.7	108.5	109.4	109.7	110.2	110.5	111.1	.5	1.6
Education and health services	106.6	107.4	108.0	108.7	110.2	110.5	111.0	111.4	112.3	.8	1.9
Health care and social assistance	107.1	107.9	108.9	109.6	110.4	110.9	111.7	112.2	112.8	.5	2.2
Hospitals	106.7	107.4	108.4	109.4	110.5	111.3	112.0	112.6	113.2	.5	2.4
Nursing and residential care facilities	105.8	106.4	107.4	108.1	109.1	109.7	110.3	110.9	111.4	.5	2.1
Education services	106.2	106.9	107.3	107.9	110.0	110.2	110.5	110.7	111.8	1.0	1.6
Elementary and secondary schools	106.0	106.6	107.0	107.5	109.9	110.1	110.4	110.5	112.0	1.4	1.9
Public administration[2]	106.4	107.4	108.2	108.6	109.9	110.4	111.3	112.3	112.8	.4	2.6
Private industry workers	106.0	106.6	107.6	108.4	109.1	109.4	109.8	110.1	110.6	.5	1.4
Workers by occupational group											
Management, professional, and related	106.7	107.2	108.5	109.3	110.1	110.5	111.1	111.1	111.3	.2	1.1
Management, business, and financial	106.3	106.6	108.2	109.0	109.7	110.0	110.3	110.3	110.4	.1	.6
Professional and related	107.0	107.6	108.7	109.5	110.4	110.9	111.6	111.8	112.1	.3	1.5
Sales and office	105.3	106.2	106.7	107.7	108.0	108.0	107.9	108.3	109.0	.6	.9
Sales and related	104.4	105.5	105.3	106.6	106.4	105.7	104.3	104.7	105.7	1.0	-.7
Office and administrative support	106.0	106.7	107.7	108.5	109.2	109.7	110.6	111.1	111.4	.3	2.0
Natural resources, construction, and maintenance	106.2	107.1	108.1	109.0	109.8	110.5	110.6	111.0	111.6	.5	1.6
Construction and extraction	106.7	107.8	109.2	110.1	110.8	111.5	111.4	111.7	112.3	.5	1.4
Installation, maintenance, and repair	105.6	106.1	106.8	107.6	108.5	109.3	109.7	110.2	110.7	.5	2.0
Production, transportation, and material moving	104.5	105.0	106.0	106.8	107.5	107.8	108.3	108.8	109.4	.6	1.8
Production	104.2	104.6	105.6	106.4	107.2	107.4	108.1	108.5	109.0	.5	1.7
Transportation and material moving	105.0	105.4	106.5	107.4	108.0	108.3	108.5	109.2	109.9	.6	1.8
Service occupations	106.5	107.1	107.9	108.8	109.7	110.1	111.0	111.2	112.1	.8	2.2
Workers by industry and occupational group											
Goods-producing industries	105.4	106.0	107.1	108.0	108.6	109.0	109.2	109.5	109.8	.3	1.1
Management, professional, and related	105.9	106.0	107.7	108.4	108.7	108.8	109.3	109.3	109.4	.1	.6
Sales and office	104.7	105.5	105.8	107.2	107.6	107.9	108.1	108.3	108.4	.1	.7
Natural resources, construction, and maintenance	106.5	107.6	108.8	109.6	110.5	111.3	111.1	111.4	111.9	.4	1.3
Production, transportation, and material moving	104.4	104.8	105.7	106.6	107.3	107.6	108.0	108.5	108.9	.4	1.5
Construction	107.0	107.8	109.0	110.0	110.6	111.1	111.2	111.4	111.7	.3	1.0
Manufacturing	104.5	104.9	105.9	106.7	107.4	107.7	108.1	108.4	108.6	.2	1.1
Management, professional, and related	105.0	105.3	106.7	107.2	107.6	107.8	108.4	108.5	108.6	.1	.9
Sales and office	103.9	104.7	105.5	106.9	107.6	108.1	108.2	108.2	108.3	.1	.7
Natural resources, construction, and maintenance	105.0	105.9	106.8	107.1	108.1	109.0	108.8	109.2	109.7	.5	1.5
Production, transportation, and material moving	104.2	104.5	105.4	106.3	107.1	107.3	107.7	108.2	108.6	.4	1.4
Service-providing industries	106.1	106.8	107.7	108.6	109.3	109.6	110.0	110.3	110.8	.5	1.4
Management, professional, and related	106.8	107.4	108.6	109.4	110.3	110.8	111.4	111.5	111.7	.2	1.3
Sales and office	105.4	106.3	106.8	107.7	108.0	108.0	107.9	108.3	109.0	.6	.9
Natural resources, construction, and maintenance	105.7	106.3	106.9	108.0	108.6	109.3	109.9	110.5	111.2	.6	2.4
Production, transportation, and material moving	104.6	105.2	106.3	107.1	107.8	108.1	108.6	109.3	110.0	.6	2.0
Service occupations	106.6	107.2	108.0	108.8	109.7	110.1	111.0	111.3	112.2	.8	2.3
Trade, transportation, and utilities	104.6	105.5	105.9	107.2	107.5	107.4	107.8	108.2	108.7	.5	1.1

31. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[December 2005 = 100]

Series	2007		2008				2009			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2009	
Wholesale trade	104.0	105.2	105.2	107.2	106.8	106.4	106.8	106.5	106.2	-0.3	-0.6
Retail trade	105.1	106.1	106.4	107.6	108.1	108.1	108.3	108.9	110.0	1.0	1.8
Transportation and warehousing	104.1	104.2	105.0	106.0	106.7	106.9	107.2	107.9	108.3	.4	1.5
Utilities	106.1	106.8	108.0	109.3	109.3	109.6	111.0	112.0	112.2	.2	2.7
Information	105.2	105.3	105.3	106.3	107.3	107.5	107.8	108.1	108.7	.6	1.3
Financial activities	106.0	105.9	107.2	107.7	107.7	107.2	106.8	107.9	108.5	.6	.7
Finance and insurance	106.5	106.6	107.9	108.4	108.2	107.6	107.1	108.5	109.0	.5	.7
Real estate and rental and leasing	103.6	103.1	104.5	104.7	105.3	105.7	105.6	105.8	106.3	.5	.9
Professional and business services	106.7	107.5	109.1	110.0	111.0	111.9	112.3	112.2	112.3	.1	1.2
Education and health services	106.9	107.7	108.6	109.2	110.2	110.6	111.4	111.8	112.5	.6	2.1
Education services	106.4	107.4	107.9	108.6	110.8	110.8	111.1	111.2	112.2	.9	1.3
Health care and social assistance	107.0	107.8	108.7	109.4	110.1	110.6	111.5	111.9	112.5	.5	2.2
Hospitals	106.5	107.2	108.2	109.2	110.3	111.1	111.8	112.3	112.9	.5	2.4
Leisure and hospitality	108.1	108.8	109.7	109.9	111.4	112.3	113.1	112.8	113.7	.8	2.1
Accommodation and food services	108.4	109.0	110.0	110.4	111.9	112.8	113.7	113.2	114.2	.9	2.1
Other services, except public administration	107.3	107.9	109.2	109.9	110.4	110.4	111.4	111.4	112.5	1.0	1.9
State and local government workers	106.4	107.1	107.7	108.2	110.1	110.4	110.9	111.5	112.4	.8	2.1
Workers by occupational group											
Management, professional, and related	106.3	107.0	107.6	108.2	110.1	110.4	110.7	111.2	112.1	.8	1.8
Professional and related	106.3	107.0	107.5	108.1	110.1	110.3	110.6	111.1	112.1	.9	1.8
Sales and office	106.3	107.0	107.4	107.9	109.3	109.7	110.5	111.2	112.1	.8	2.6
Office and administrative support	106.5	107.3	107.8	108.3	109.7	110.1	111.0	111.6	112.6	.9	2.6
Service occupations	106.5	107.7	108.3	108.6	110.4	110.9	112.0	112.7	113.3	.5	2.6
Workers by industry											
Education and health services	106.3	107.1	107.5	108.1	110.2	110.5	110.7	111.1	112.1	.9	1.7
Education services	106.1	106.8	107.2	107.7	109.9	110.1	110.4	110.7	111.7	.9	1.6
Schools	106.1	106.8	107.2	107.7	109.9	110.1	110.4	110.7	111.7	.9	1.6
Elementary and secondary schools	106.0	106.6	106.9	107.5	109.8	110.1	110.3	110.5	112.0	1.4	2.0
Health care and social assistance	108.2	109.2	110.1	111.0	112.8	113.4	113.1	114.8	115.2	.3	2.1
Hospitals	107.6	108.6	109.8	110.3	111.4	112.1	112.8	114.0	114.4	.4	2.7
Public administration [2]	106.4	107.4	108.2	108.6	109.9	110.4	111.3	112.3	112.8	.4	2.6

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] 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	2007		2008				2009			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2009	
Civilian workers	106.1	106.8	107.6	108.1	108.9	109.1	109.7	110.0	110.6	0.5	1.6
Private industry workers	105.0	105.6	106.5	107.0	107.5	107.7	108.2	108.4	108.7	.3	1.1
Workers by occupational group											
Management, professional, and related	105.6	106.0	107.3	107.9	108.5	108.5	108.8	108.8	108.9	.1	.4
Sales and office	105.2	106.0	106.5	107.0	107.6	107.8	108.0	108.1	108.5	.4	.8
Natural resources, construction, and maintenance	105.3	105.9	106.5	107.0	107.5	107.7	108.2	108.8	109.3	.5	1.7
Production, transportation, and material moving	102.7	103.7	104.4	104.5	104.8	105.1	106.4	106.8	107.1	.3	2.2
Service occupations	106.0	106.7	107.6	108.5	108.7	108.8	109.7	110.0	110.4	.4	1.6
Workers by industry											
Goods-producing	102.4	103.2	104.0	104.4	104.6	104.7	105.4	105.7	105.7	.0	1.1
Manufacturing	100.7	101.7	102.3	102.2	102.3	102.5	103.5	103.6	103.4	-.2	1.1
Service-providing	106.0	106.6	107.6	108.1	108.7	108.9	109.3	109.5	109.9	.4	1.1
State and local government workers	110.3	111.0	111.4	111.8	113.9	114.2	115.2	115.8	117.5	1.5	3.2

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	2007		2008				2009			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2009	
COMPENSATION											
Workers by bargaining status[1]											
Union	104.4	105.1	105.9	106.7	107.4	108.0	109.1	109.8	110.5	0.6	2.9
Goods-producing	103.1	104.0	104.6	105.6	106.2	106.9	108.0	108.9	109.5	.6	3.1
Manufacturing	100.0	101.0	101.4	101.7	102.1	102.8	104.4	104.8	105.4	.6	3.2
Service-providing	105.4	106.0	107.0	107.5	108.3	108.8	109.9	110.6	111.3	.6	2.8
Nonunion	105.9	106.5	107.5	108.3	108.9	109.1	109.4	109.6	109.9	.3	.9
Goods-producing	104.8	105.4	106.5	107.1	107.6	107.7	107.9	108.0	108.0	.0	.4
Manufacturing	104.1	104.6	105.6	106.2	106.6	106.8	107.1	107.3	107.3	.0	.7
Service-providing	106.2	106.8	107.7	108.6	109.2	109.4	109.8	110.0	110.4	.4	1.1
Workers by region[1]											
Northeast	106.2	106.8	107.4	108.1	108.7	109.5	109.8	110.2	110.7	.5	1.8
South	106.1	106.7	107.8	108.5	109.1	109.3	109.8	110.1	110.6	.5	1.4
Midwest	104.6	105.3	106.0	107.0	107.4	107.6	107.9	108.1	108.4	.3	.9
West	105.7	106.5	107.8	108.4	109.3	109.4	109.9	110.1	110.3	.2	.9
WAGES AND SALARIES											
Workers by bargaining status[1]											
Union	104.4	104.7	105.5	106.7	107.4	108.1	108.8	109.6	110.2	.5	2.6
Goods-producing	104.3	104.3	105.2	106.4	107.1	107.7	108.2	108.8	109.5	.6	2.2
Manufacturing	102.9	102.6	103.4	104.4	104.9	105.5	106.0	106.4	107.0	.6	2.0
Service-providing	104.6	104.9	105.8	106.9	107.7	108.3	109.2	110.1	110.8	.6	2.9
Nonunion	106.2	106.9	107.9	108.7	109.4	109.6	110.0	110.2	110.6	.4	1.1
Goods-producing	105.8	106.4	107.7	108.4	109.0	109.3	109.5	109.7	109.9	.2	.8
Manufacturing	104.9	105.5	106.6	107.3	108.0	108.2	108.6	108.9	109.1	.2	1.0
Service-providing	106.3	107.0	107.9	108.8	109.4	109.7	110.1	110.3	110.8	.5	1.3
Workers by region[1]											
Northeast	106.1	106.6	107.5	108.2	108.7	109.6	109.9	110.3	110.8	.5	1.9
South	106.5	107.0	108.1	109.1	109.8	110.0	110.4	110.7	111.3	.5	1.4
Midwest	105.0	105.6	106.3	107.5	107.9	108.0	108.4	108.6	108.9	.3	.9
West	106.2	107.0	108.3	108.9	109.9	110.1	110.5	110.8	111.2	.4	1.2

[1] 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 [1]
All retirement					
Percentage of workers with access					
All workers	57	59	60	60	61
White-collar occupations [2]	67	69	70	69	-
Management, professional, and related	-	-	-	-	76
Sales and office	-	-	-	-	64
Blue-collar occupations [2]	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
Percentage of workers participating					
All workers	49	50	50	51	51
White-collar occupations [2]	59	61	61	60	-
Management, professional, and related	-	-	-	-	69
Sales and office	-	-	-	-	54
Blue-collar occupations [2]	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
Take-up rate (all workers) [3]	-	-	85	85	84
Defined Benefit					
Percentage of workers with access					
All workers	20	21	22	21	21
White-collar occupations [2]	23	24	25	23	-
Management, professional, and related	-	-	-	-	29
Sales and office	-	-	-	-	19
Blue-collar occupations [2]	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 [1]
Percentage of workers participating					
All workers	20	21	21	20	20
White-collar occupations[2]	22	24	24	22	-
Management, professional, and related	-	-	-	-	28
Sales and office	-	-	-	-	17
Blue-collar occupations[2]	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
Take-up rate (all workers)[3]	-	-	97	96	95
Defined Contribution					
Percentage of workers with access					
All workers	51	53	53	54	55
White-collar occupations[2]	62	64	64	65	-
Management, professional, and related	-	-	-	-	71
Sales and office	-	-	-	-	60
Blue-collar occupations[2]	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
Percentage of workers participating					
All workers	40	42	42	43	43
White-collar occupations[2]	51	53	53	53	-
Management, professional, and related	-	-	-	-	60
Sales and office	-	-	-	-	47
Blue-collar occupations[2]	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
Take-up rate (all workers)[3]	-	-	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 [1]
Employee Contribution Requirement					
Employee contribution required	-	-	61	61	65
Employee contribution not required	-	-	31	33	35
Not determinable	-	-	8	6	0
Percent of establishments					
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

[1] 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.

[2] The white-collar and blue-collar occupation series were discontinued effective 2007.

[3] 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 [1]
Medical insurance					
Percentage of workers with access					
All workers	60	69	70	71	71
White-collar occupations [2]	65	76	77	77	-
Management, professional, and related	-	-	-	-	85
Sales and office	-	-	-	-	71
Blue-collar occupations [2]	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
Percentage of workers participating					
All workers	45	53	53	52	52
White-collar occupations [2]	50	59	58	57	-
Management, professional, and related	-	-	-	-	67
Sales and office	-	-	-	-	48
Blue-collar occupations [2]	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
Take-up rate (all workers) [3]	-	-	75	74	73
Dental					
Percentage of workers with access					
All workers	40	46	46	46	46
White-collar occupations [2]	47	53	54	53	-
Management, professional, and related	-	-	-	-	62
Sales and office	-	-	-	-	47
Blue-collar occupations [2]	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, particpation, and selected series, 2003-2007

Series	Year				
	2003	2004	2005	2006	2007 [1]
Percentage of workers participating					
All workers	32	37	36	36	36
White-collar occupations[2]	37	43	42	41	-
Management, professional, and related	-	-	-	-	51
Sales and office	-	-	-	-	33
Blue-collar occupations[2]	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
Take-up rate (all workers)[3]	-	-	78	78	77
Vision care					
Percentage of workers with access	25	29	29	29	29
Percentage of workers participating	19	22	22	22	22
Outpatient Prescription drug coverage					
Percentage of workers with access	-	-	64	67	68
Percentage of workers participating	-	-	48	49	49
Percent of estalishments offering healthcare benefits	58	61	63	62	60
Percentage of medical premium paid by					
Employer and Employee					
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

[1] 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.

[2] The white-collar and blue-collar occupation series were discontinued effective 2007.

[3] 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 disabilty 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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.[p]
Number of stoppages:															
Beginning in period	21	15	2	1	0	0	0	0	0	0	0	1	1	1	0
In effect during period	23	16	2	2	1	0	0	0	0	0	0	1	2	1	1
Workers involved:															
Beginning in period (in thousands)	189.2	72.2	28.2	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.5	1.9	0.0
In effect during period (in thousands)	220.9	136.8	28.2	33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	4.0	1.9	1.9
Days idle:															
Number (in thousands)	1264.8	1954.1	469.8	600.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	43.5	5.7	15.2
Percent of estimated working time [1]	0.01	0.01	0.02	0.02	0	0	0	0	0	0	0	0	0	0	0

[1] 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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS															
All items	207.342	215.303	218.783	216.573	212.425	210.228	211.143	212.193	212.709	213.240	213.856	215.693	215.351	215.834	215.969
All items (1967 = 100)	621.106	644.951	655.376	648.758	636.332	629.751	632.491	635.637	637.182	638.771	640.616	646.121	645.096	646.544	646.948
Food and beverages	203.300	214.225	217.672	218.705	218.752	218.839	219.729	219.333	218.794	218.364	218.076	218.030	217.608	217.701	217.617
Food	202.916	214.106	217.696	218.738	218.749	218.805	219.675	219.205	218.600	218.162	217.826	217.740	217.257	217.350	217.218
Food at home	201.245	214.125	218.629	219.660	219.086	218.683	219.744	218.389	217.110	215.783	215.088	214.824	213.815	213.722	213.227
Cereals and bakery products	222.107	244.853	250.924	252.832	252.723	253.063	254.445	254.187	253.698	252.709	252.714	253.008	253.391	252.382	251.231
Meats, poultry, fish, and eggs	195.616	204.653	209.937	210.706	209.602	208.890	208.616	207.963	206.348	205.699	203.789	204.031	201.743	202.911	201.755
Dairy and related products[1]	194.770	210.396	213.533	212.733	213.102	210.838	209.632	204.537	199.687	197.124	196.055	194.197	193.118	192.381	193.353
Fruits and vegetables	262.628	278.932	285.986	285.484	283.677	281.706	282.601	278.721	274.759	274.297	274.006	272.608	270.940	267.309	267.609
Nonalcoholic beverages and beverage materials	153.432	160.045	161.499	163.727	163.015	162.750	164.882	164.213	165.656	162.889	162.803	162.571	162.069	162.953	162.911
Other foods at home	173.275	184.166	187.944	189.348	189.301	190.203	192.492	192.404	192.234	191.352	191.144	191.328	190.967	191.317	190.571
Sugar and sweets	176.772	186.577	189.929	190.515	191.756	193.312	197.429	196.676	197.137	197.301	196.403	197.009	195.126	195.430	196.998
Fats and oils	172.921	196.751	206.274	208.300	205.806	206.710	206.886	205.359	204.776	200.464	200.679	201.127	201.031	200.578	200.009
Other foods	188.244	198.103	201.388	202.993	203.058	203.902	206.343	206.621	206.367	205.734	205.587	205.654	205.544	206.064	204.728
Other miscellaneous foods[1,2]	115.105	119.924	121.144	122.699	123.543	123.791	124.012	122.580	122.402	122.883	122.838	122.224	121.990	121.892	122.099
Food away from home[1]	206.659	215.769	218.225	219.290	220.043	220.684	221.319	221.968	222.216	222.905	223.023	223.163	223.345	223.675	224.003
Other food away from home[1,2]	144.068	150.640	152.040	153.544	153.978	154.062	153.402	154.726	154.414	155.099	155.099	155.841	156.570	156.697	157.302
Alcoholic beverages	207.026	214.484	216.055	216.972	217.492	217.975	219.113	219.682	219.999	219.671	220.005	220.477	220.850	220.946	221.474
Housing	209.586	216.264	218.184	217.383	216.467	216.073	216.928	217.180	217.374	217.126	216.971	218.071	218.085	217.827	217.178
Shelter	240.611	246.666	247.737	247.844	247.463	247.085	248.292	248.878	249.597	249.855	249.779	250.243	250.310	250.248	249.501
Rent of primary residence	234.679	243.271	244.926	245.855	246.681	247.278	247.974	248.305	248.639	248.899	249.069	249.092	248.994	249.029	248.965
Lodging away from home	142.813	143.664	143.597	141.140	133.555	129.157	133.559	135.809	137.715	137.700	135.680	138.318	139.424	137.454	133.706
Owners' equivalent rent of primary residence[3]	246.235	252.426	253.493	253.902	254.669	254.875	255.500	255.779	256.321	256.622	256.875	256.981	256.872	257.155	256.865
Tenants' and household insurance[1,2]	117.004	118.843	119.944	119.916	120.232	120.019	120.402	120.683	120.737	120.675	120.728	121.083	121.298	121.830	122.170
Fuels and utilities	200.632	220.018	228.450	221.199	216.285	215.184	215.232	213.520	210.501	207.175	206.358	212.677	212.961	212.661	211.618
Fuels	181.744	200.808	209.501	201.176	195.599	194.335	194.149	192.168	188.736	184.903	183.783	190.647	190.534	189.735	188.509
Fuel oil and other fuels	251.453	334.405	349.164	318.667	281.869	256.209	247.163	242.264	230.837	228.107	225.164	232.638	230.192	237.521	236.616
Gas (piped) and electricity	186.262	202.212	210.950	203.503	199.435	199.487	199.791	197.886	194.752	190.686	189.619	196.754	196.767	195.475	194.176
Household furnishings and operations	126.875	127.800	128.584	128.789	128.554	128.535	128.761	129.170	129.669	129.654	129.644	129.623	129.267	128.304	128.201
Apparel	118.998	118.907	121.168	122.243	121.262	117.078	114.764	118.825	122.545	123.208	121.751	118.799	115.620	117.130	122.476
Men's and boys' apparel	112.368	113.032	112.720	115.067	114.239	110.767	110.797	115.202	117.748	117.195	117.146	112.849	109.744	110.835	112.933
Women's and girls' apparel	110.296	107.460	111.774	111.833	110.588	105.456	100.638	105.777	111.079	111.871	109.460	106.455	101.688	103.991	112.535
Infants' and toddlers' apparel[1]	113.948	113.762	113.494	116.158	116.010	112.568	112.321	113.544	115.548	117.084	114.142	113.915	111.022	113.673	116.309
Footwear	122.374	124.157	124.907	126.442	126.788	124.093	122.363	124.301	126.707	128.057	127.519	125.515	124.405	125.292	128.670
Transportation	184.682	195.549	203.861	192.709	173.644	164.628	166.738	169.542	169.647	171.987	175.997	183.735	182.798	184.386	183.932
Private transportation	180.778	191.039	199.153	187.976	168.527	159.411	161.788	164.871	165.023	167.516	171.757	179.649	178.330	179.987	179.466
New and used motor vehicles[2]	94.303	93.291	92.480	92.071	91.618	91.408	91.831	92.224	92.109	92.381	92.701	93.020	93.413	93.126	93.440
New vehicles	136.254	134.194	132.399	132.264	132.359	132.308	133.273	134.186	134.611	134.863	135.162	135.719	136.055	134.080	134.576
Used cars and trucks[1]	135.747	133.951	132.916	129.733	126.869	125.883	124.863	122.837	121.061	121.213	122.650	124.323	125.061	128.028	129.369
Motor fuel	239.070	279.652	315.078	268.537	187.189	149.132	156.604	167.395	168.404	177.272	193.609	225.021	217.860	225.089	220.690
Gasoline (all types)	237.959	277.457	313.535	266.382	184.235	146.102	154.488	166.118	167.826	176.704	193.727	225.526	217.945	225.179	220.542
Motor vehicle parts and equipment	121.583	128.747	131.048	131.917	132.947	133.077	133.414	134.108	134.484	134.640	134.347	134.270	133.729	133.531	133.406
Motor vehicle maintenance and repair	222.963	233.859	237.121	238.227	239.048	239.356	241.076	241.689	242.118	242.649	242.488	242.683	243.031	243.494	244.493
Public transportation	230.002	250.549	261.318	252.323	243.385	237.638	234.394	231.529	230.735	229.827	228.878	232.540	238.932	238.997	239.855
Medical care	351.054	364.065	365.036	365.746	366.613	367.133	369.830	372.405	373.189	374.170	375.026	375.093	375.739	376.537	377.727
Medical care commodities	289.999	296.045	295.461	295.791	297.317	298.361	299.998	302.184	302.908	303.979	304.697	304.683	304.229	305.797	307.671
Medical care services	369.302	384.943	386.579	387.440	387.992	388.267	391.365	394.047	394.837	395.753	396.648	396.750	397.868	398.303	399.160
Professional services	300.792	310.968	312.527	312.914	313.328	313.886	315.603	316.992	317.460	317.661	319.333	319.652	320.076	320.252	320.756
Hospital and related services	498.922	533.953	537.728	540.853	543.183	543.585	551.305	558.373	560.995	564.785	564.112	564.406	568.315	570.150	572.991
Recreation[2]	111.443	113.254	114.032	114.169	114.078	113.674	113.822	114.461	114.625	114.261	114.264	114.643	114.619	114.755	114.629
Video and audio[1,2]	102.949	102.632	102.706	102.193	101.831	101.629	101.347	101.704	102.000	102.300	101.947	101.871	101.614	101.474	100.801
Education and communication[2]	119.577	123.631	125.505	125.686	125.758	125.921	126.151	126.190	126.187	126.273	126.467	126.519	126.914	128.128	129.035
Education[2]	171.388	181.277	186.148	186.669	186.733	186.916	187.175	187.256	187.298	187.416	187.853	188.179	189.184	193.161	195.595
Educational books and supplies	420.418	450.187	462.787	463.825	462.694	464.544	468.432	469.996	472.185	472.507	472.588	476.974	481.768	490.102	493.636
Tuition, other school fees, and child care	494.079	522.098	536.082	537.606	537.906	538.309	538.765	538.878	538.813	539.149	540.498	541.119	543.810	555.402	562.635
Communication[1,2]	83.367	84.185	84.524	84.535	84.601	84.737	84.928	84.945	84.922	84.985	85.049	84.975	85.056	84.913	85.044
Information and information processing[1,2]	80.720	81.352	81.635	81.652	81.723	81.886	82.030	82.052	82.022	82.090	82.038	81.909	81.991	81.835	81.969
Telephone services[1,2]	98.247	100.451	101.311	101.407	101.538	101.688	101.880	101.895	101.991	102.072	102.267	102.182	102.643	102.674	102.968
Information and information processing other than telephone services[1,4]	10.597	10.061	9.901	9.874	9.867	9.906	9.919	9.926	9.872	9.881	9.775	9.731	9.604	9.499	9.467
Personal computers and peripheral equipment[1,2]	108.411	94.944	90.797	89.945	88.984	88.529	88.522	87.696	86.213	85.714	84.366	83.476	80.838	78.576	77.997
Other goods and services	333.328	345.381	348.166	349.276	349.040	349.220	350.259	351.223	361.156	370.606	369.901	370.595	372.894	372.699	374.219
Tobacco and smoking products	554.184	588.682	597.581	599.744	599.820	602.644	607.403	611.549	679.078	742.443	740.311	746.283	762.907	763.634	771.089
Personal care[1]	195.622	201.279	202.486	203.107	202.921	202.774	203.080	203.391	204.117	204.896	204.578	204.503	204.571	204.352	204.751
Personal care products[1]	158.285	159.290	159.643	159.826	161.000	161.397	162.588	162.508	162.696	163.777	163.051	162.301	162.887	162.476	162.372
Personal care services[1]	216.559	223.669	224.614	225.564	226.197	226.281	225.734	225.895	227.982	227.913	227.607	227.572	227.325	227.580	228.286

See footnotes at end of table.

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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Miscellaneous personal services	324.984	338.921	343.431	343.131	340.174	339.698	340.608	341.188	341.570	342.641	343.051	344.232	344.367	345.137	345.515
Commodity and service group:															
Commodities	167.509	174.764	179.117	175.257	167.673	163.582	164.360	165.891	166.645	167.816	169.060	171.593	170.483	171.081	171.559
Food and beverages	203.300	214.225	217.672	218.705	218.752	218.839	219.729	219.333	218.794	218.364	218.076	218.030	217.608	217.701	217.617
Commodities less food and beverages	147.515	153.034	157.621	151.874	141.397	135.720	136.427	138.702	139.962	141.753	143.587	147.099	145.742	146.528	147.222
Nondurables less food and beverages	182.526	196.192	206.919	195.127	173.346	161.681	162.938	167.560	170.200	173.855	177.480	184.581	181.755	184.366	185.544
Apparel	118.998	118.907	121.168	122.243	121.262	117.078	114.764	118.825	122.545	123.208	121.751	118.799	115.620	117.130	122.476
Non durables less food, beverages, and apparel	226.224	248.809	265.100	244.935	209.569	192.948	196.490	201.554	203.557	209.177	216.090	229.692	227.038	230.396	228.954
Durables	112.473	110.877	110.077	109.677	109.191	108.811	109.025	109.221	109.264	109.404	109.650	109.983	109.924	109.129	109.387
Services	246.848	255.498	258.059	257.559	256.967	256.731	257.780	258.328	258.597	258.466	258.433	259.544	259.992	260.355	260.136
Rent of shelter[3]	250.813	257.152	258.255	258.368	257.961	257.567	258.830	259.440	260.197	260.469	260.388	260.869	260.935	260.858	260.064
Transportation services	233.731	244.074	248.047	247.762	247.030	246.287	247.006	248.114	247.912	248.696	248.628	249.194	251.184	252.234	253.001
Other services	285.559	295.780	299.598	299.923	299.996	300.067	300.614	301.471	302.024	301.668	302.132	303.000	303.761	305.890	307.161
Special indexes:															
All items less food	208.098	215.528	218.991	216.250	211.421	208.855	209.777	211.076	211.775	212.464	213.236	215.389	215.069	215.617	215.795
All items less shelter	196.639	205.453	209.936	206.776	201.075	198.127	198.936	200.184	200.626	201.271	202.171	204.578	204.069	204.776	205.263
All items less medical care	200.080	207.777	211.321	209.021	204.721	202.442	203.281	204.265	204.766	205.275	205.876	207.764	207.388	207.855	207.949
Commodities less food	149.720	155.310	159.825	154.250	144.055	138.536	139.258	141.491	142.728	144.464	146.261	149.697	148.386	149.155	149.846
Nondurables less food	184.012	197.297	207.483	196.442	175.979	165.032	166.282	170.665	173.167	176.587	180.017	186.726	184.090	186.552	187.691
Nondurables less food and apparel	223.411	244.443	259.278	241.183	209.344	194.403	197.704	202.323	204.159	209.195	215.459	227.768	225.410	228.446	227.195
Nondurables	193.468	205.901	213.274	207.435	195.773	189.557	190.649	192.943	194.105	195.864	197.673	201.461	199.746	201.191	201.783
Services less rent of shelter[3]	260.764	273.000	277.615	276.297	275.425	275.370	276.227	276.739	276.407	275.752	275.777	277.777	278.747	279.697	280.194
Services less medical care services	236.847	244.987	247.563	246.997	246.351	246.090	247.013	247.439	247.675	247.490	247.406	248.557	248.963	249.316	249.043
Energy	207.723	236.666	258.020	231.561	189.938	171.158	174.622	178.741	177.454	179.704	186.909	205.408	201.938	204.971	202.243
All items less energy	208.925	214.751	216.397	216.695	216.417	215.930	216.586	217.325	218.033	218.388	218.323	218.440	218.421	218.642	219.076
All items less food and energy	210.729	215.572	216.862	217.023	216.690	216.100	216.719	217.685	218.639	219.143	219.128	219.283	219.350	219.596	220.137
Commodities less food and energy	140.053	140.246	140.528	140.659	140.236	139.228	139.111	140.270	141.662	142.489	142.360	141.990	141.463	141.310	142.729
Energy commodities	241.018	284.352	318.918	272.921	193.395	155.745	162.395	172.428	172.787	181.102	196.528	226.881	219.922	227.204	222.961
Services less energy	253.058	261.017	262.980	263.156	262.901	262.636	263.759	264.547	265.147	265.399	265.466	265.993	266.484	267.008	266.894
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items	202.767	211.053	214.935	212.182	207.296	204.813	205.700	206.708	207.218	207.925	208.774	210.972	210.526	211.156	211.322
All items (1967 = 100)	603.982	628.661	640.226	632.025	617.472	610.075	612.719	615.719	617.239	619.344	621.875	628.422	627.093	628.970	629.462
Food and beverages	202.531	213.546	217.098	218.141	218.178	218.269	219.123	218.645	218.119	217.653	217.308	217.258	216.805	216.957	216.734
Food	202.134	213.376	217.090	218.120	218.114	218.155	218.998	218.449	217.855	217.376	216.975	216.890	216.384	216.539	216.313
Food at home	200.273	213.017	217.594	218.600	217.956	217.498	218.485	217.111	215.922	214.654	213.876	213.657	212.628	212.623	212.010
Cereals and bakery products	222.409	245.472	251.448	253.561	253.498	253.759	255.055	254.775	254.395	253.556	253.430	253.701	253.969	252.932	251.754
Meats, poultry, fish, and eggs	195.193	204.255	209.515	210.314	209.297	208.639	208.161	207.656	206.094	205.527	203.409	203.503	201.261	202.483	201.087
Dairy and related products[1]	194.474	209.773	212.841	211.808	212.184	209.922	208.530	203.023	198.048	195.714	194.694	192.898	191.783	191.048	192.048
Fruits and vegetables	260.484	276.759	284.612	283.549	281.279	278.835	279.906	275.884	271.727	271.771	271.530	270.653	269.316	265.730	265.810
Nonalcoholic beverages and beverage materials	152.786	159.324	160.850	163.265	162.472	162.280	164.514	163.821	165.437	162.464	162.468	162.167	161.650	162.433	162.396
Other foods at home	172.630	183.637	187.467	188.806	188.685	189.527	191.782	191.620	191.594	190.650	190.401	190.657	190.235	190.704	189.892
Sugar and sweets	175.323	185.494	188.914	189.574	190.501	192.120	195.867	195.395	196.015	195.858	194.928	195.773	194.005	194.511	196.027
Fats and oils	173.640	197.512	207.069	208.973	206.870	207.439	207.400	206.185	205.693	201.474	201.470	202.004	201.666	201.199	200.621
Other foods	188.405	198.303	201.632	203.138	203.126	203.937	206.490	206.547	206.468	205.820	205.641	205.759	205.549	206.210	204.823
Other miscellaneous foods[1,2]	115.356	120.348	121.589	123.026	123.837	124.144	124.477	122.994	122.837	123.112	123.126	122.537	122.119	122.217	122.496
Food away from home[1]	206.412	215.613	218.147	219.219	220.107	220.847	221.497	222.101	222.336	222.957	223.082	223.186	223.408	223.789	224.102
Other food away from home[1,2]	143.462	149.731	151.321	152.910	153.464	153.646	153.397	154.520	154.054	154.414	154.409	155.091	156.904	156.769	157.132
Alcoholic beverages	207.097	214.579	215.728	216.953	217.626	218.445	219.458	220.029	220.500	220.243	220.729	221.179	221.517	221.618	221.454
Housing	204.795	211.839	213.954	213.156	212.591	212.452	213.078	213.192	213.213	212.885	212.881	214.034	214.029	213.824	213.391
Shelter	232.998	239.128	240.163	240.517	240.740	240.752	241.651	242.051	242.605	242.857	242.941	243.238	243.248	243.279	242.816
Rent of primary residence	233.806	242.196	243.741	244.624	245.425	246.026	246.696	246.991	247.285	247.517	247.710	247.691	247.573	247.601	247.500
Lodging away from home[2]	142.339	143.164	142.591	140.763	133.747	129.982	134.235	136.255	138.008	138.008	136.113	139.246	140.873	138.543	134.803
Owners' equivalent rent of primary residence[3]	223.175	228.758	229.670	230.028	230.743	230.926	231.503	231.746	232.235	232.503	232.739	232.837	232.723	232.977	232.731
Tenants' and household insurance[1,2]	117.366	119.136	120.279	120.258	120.589	120.360	120.715	120.960	121.099	121.084	121.160	121.529	121.765	122.254	122.644
Fuels and utilities	198.863	217.883	226.709	219.325	214.700	213.861	213.882	212.353	209.400	205.840	205.270	211.929	212.276	211.808	210.796
Fuels	179.031	197.537	206.544	198.191	193.000	192.050	191.852	190.110	186.809	182.795	181.977	189.108	189.082	188.125	186.967
Fuel oil and other fuels	251.121	331.784	345.907	317.012	283.747	260.185	251.976	246.781	236.237	232.068	229.019	235.869	233.018	239.435	238.006
Gas (piped) and electricity	184.357	200.265	209.442	201.651	197.507	197.545	197.703	196.040	192.922	188.735	187.982	195.445	195.547	194.211	193.013
Household furnishings and operations	122.477	123.635	124.500	124.719	124.466	124.314	124.454	124.865	125.337	125.458	125.589	125.526	125.160	124.219	124.351
Apparel	118.518	118.735	120.990	121.957	121.149	117.006	114.969	118.766	122.162	122.709	121.364	118.547	115.516	117.095	122.176
Men's and boys' apparel	112.224	113.490	112.973	115.495	114.651	111.232	111.879	116.332	118.735	117.834	117.687	113.416	110.558	111.629	113.682
Women's and girls' apparel	110.202	107.489	112.304	111.880	110.612	105.413	100.751	105.538	110.380	110.990	108.637	105.676	101.289	103.727	112.086
Infants' and toddlers' apparel[1]	116.278	116.266	115.764	118.496	118.611	115.003	114.775	116.001	117.944	119.873	116.912	116.645	113.744	116.482	119.075
Footwear	122.062	124.102	124.873	126.352	126.689	124.152	122.753	124.494	126.858	128.312	127.802	126.150	125.046	125.880	128.988
Transportation	184.344	195.692	204.785	192.198	170.870	160.914	163.215	165.976	165.978	168.539	173.055	181.730	180.419	182.541	182.024
Private transportation	181.496	192.492	201.476	188.871	167.301	157.272	159.719	162.645	162.659	165.299	169.957	178.734	177.197	179.368	178.801
New and used motor vehicles[2]	93.300	92.146	91.305	90.530	89.783	89.482	89.774	89.728	89.418	89.620	90.039	90.588	90.973	91.129	91.599

See footnotes at end of table.

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		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
New vehicles	137.415	135.338	133.504	133.351	133.380	133.317	134.490	135.248	135.744	135.911	136.113	136.800	137.082	135.130	135.672
Used cars and trucks [1]	136.586	134.731	133.669	130.444	127.540	126.526	125.485	123.443	121.669	121.850	123.339	125.056	125.817	128.781	130.122
Motor fuel	239.900	280.817	316.717	269.639	187.770	149.650	157.265	168.028	169.060	177.982	194.339	225.876	218.560	225.797	221.241
Gasoline (all types)	238.879	278.728	315.324	267.580	184.855	146.644	155.204	166.831	168.574	177.510	194.569	226.515	218.757	226.007	221.197
Motor vehicle parts and equipment	121.356	128.776	131.072	132.088	133.125	133.295	133.645	134.264	134.485	134.614	134.439	134.273	133.787	133.587	133.504
Motor vehicle maintenance and repair	225.535	236.353	239.571	240.688	241.509	241.855	243.594	244.219	244.650	245.180	245.036	245.129	245.421	245.871	246.850
Public transportation	228.531	247.865	258.142	249.168	240.496	235.199	232.422	229.404	229.034	228.525	227.522	230.926	236.963	237.029	238.225
Medical care	350.882	364.208	365.250	366.000	366.800	367.301	370.001	372.630	373.541	374.599	375.420	375.479	376.161	377.007	378.263
Medical care commodities	282.558	287.970	287.397	287.725	289.046	290.080	291.710	293.917	294.728	295.699	296.431	296.369	295.871	297.379	299.098
Medical care services	370.111	386.317	388.036	388.947	389.493	389.744	392.831	395.563	396.489	397.553	398.387	398.497	399.677	400.204	401.217
Professional services	303.169	313.446	314.977	315.458	315.825	316.435	318.110	319.663	320.231	320.407	322.043	322.346	322.759	322.964	323.577
Hospital and related services	493.740	530.193	534.394	537.382	539.864	540.101	547.655	554.390	557.167	561.516	560.906	561.337	565.448	567.545	570.697
Recreation [2]	108.572	110.143	110.904	110.947	110.826	110.487	110.630	111.257	111.436	111.182	111.152	111.471	111.416	111.453	111.205
Video and audio [1,2]	102.559	102.654	102.819	102.267	101.974	101.810	101.488	101.857	102.153	102.516	102.214	102.193	101.982	101.867	101.228
Education and communication [2]	116.301	119.827	121.439	121.569	121.636	121.819	122.025	122.092	122.087	122.152	122.293	122.333	122.699	123.579	124.322
Education [2]	169.280	178.892	183.613	184.091	184.115	184.352	184.642	184.765	184.824	184.892	185.291	185.626	186.596	190.222	192.552
Educational books and supplies	423.730	452.880	465.570	466.885	465.576	467.179	471.061	473.012	474.880	474.950	475.213	480.024	485.218	493.615	496.691
Tuition, other school fees, and child care	477.589	504.163	517.389	518.726	518.938	519.500	519.987	520.159	520.146	520.348	521.550	522.076	524.523	534.825	541.688
Communication [1,2]	85.782	86.807	87.224	87.226	87.300	87.444	87.599	87.640	87.615	87.671	87.712	87.652	87.780	87.667	87.810
Information and information processing [1,2]	83.928	84.828	85.208	85.214	85.292	85.454	85.581	85.624	85.595	85.655	85.624	85.524	85.653	85.532	85.676
Telephone services [1,2]	98.373	100.502	101.350	101.436	101.564	101.720	101.876	101.890	101.977	102.048	102.231	102.153	102.587	102.613	102.896
Information and information processing other than telephone services [1,4]	11.062	10.567	10.414	10.375	10.367	10.406	10.418	10.442	10.378	10.385	10.271	10.238	10.113	10.012	9.975
Personal computers and peripheral equipment [1,2]	108.164	94.863	90.722	89.690	88.631	88.176	88.178	87.622	86.004	85.406	84.017	83.278	80.736	78.480	77.835
Other goods and services	344.004	357.906	361.125	362.354	362.550	362.986	364.333	365.522	380.208	394.902	394.061	395.052	398.448	398.228	400.245
Tobacco and smoking products	555.502	591.100	600.293	602.533	602.881	605.662	610.503	615.012	682.115	747.906	746.009	752.078	768.005	768.483	776.198
Personal care [1]	193.590	199.170	200.284	200.930	201.036	200.918	201.209	201.426	202.099	203.010	202.631	202.406	202.490	202.221	202.576
Personal care products [1]	158.268	159.410	159.730	159.914	160.994	161.295	162.683	162.543	162.516	163.911	163.119	162.165	162.767	162.415	162.312
Personal care services [1]	216.823	223.978	224.910	225.800	226.433	226.578	225.951	226.088	228.201	228.119	227.829	227.800	227.512	227.751	228.480
Miscellaneous personal services	326.100	340.533	345.175	344.622	342.853	342.530	343.022	343.443	344.021	345.016	345.326	346.411	346.525	347.402	347.658
Commodity and service group:															
Commodities	169.554	177.618	182.647	177.906	168.926	164.233	165.151	166.673	167.514	169.005	170.532	173.662	172.493	173.379	173.777
Food and beverages	202.531	213.546	217.098	218.141	218.178	218.269	219.123	218.645	218.119	217.653	217.308	217.258	216.805	216.957	216.734
Commodities less food and beverages	150.865	157.481	162.971	155.982	143.544	137.015	137.932	140.235	141.615	143.871	146.125	150.477	149.046	150.209	150.851
Nondurables less food and beverages	189.507	205.279	217.828	203.762	178.209	164.879	166.694	171.698	174.838	179.415	183.813	192.478	189.436	192.365	193.225
Apparel	118.518	118.735	120.990	121.957	121.149	117.006	114.969	118.766	122.162	122.709	121.364	118.547	115.516	117.095	122.176
Nondurables less food, beverages, and apparel	237.858	263.756	283.056	259.204	217.500	198.108	202.400	208.255	211.287	218.502	226.621	242.726	239.626	243.461	241.657
Durables	112.640	111.217	110.451	109.782	109.038	108.576	108.689	108.592	108.413	108.596	108.933	109.430	109.432	109.039	109.470
Services	241.696	250.272	252.861	252.369	252.144	252.176	253.033	253.456	253.591	253.403	253.482	254.624	255.003	255.342	255.244
Rent of shelter [3]	224.617	230.555	231.541	231.885	232.096	232.112	232.981	233.365	233.903	234.148	234.229	234.511	234.515	234.537	234.079
Transporatation services	233.420	242.563	245.722	246.003	246.126	245.881	246.931	248.029	247.862	248.809	248.795	249.312	250.811	251.880	252.805
Other services	275.218	284.319	287.792	287.898	288.082	288.227	288.627	289.432	290.043	289.738	290.116	290.845	291.573	293.266	294.190
Special indexes:															
All items less food	202.698	210.452	214.361	210.949	205.214	202.292	203.186	204.465	205.167	206.081	207.148	209.744	209.308	210.021	210.255
All items less shelter	193.940	203.102	208.068	204.149	197.342	193.918	194.811	196.052	196.551	197.432	198.571	201.488	200.871	201.726	202.123
All items less medical care	196.564	204.626	208.563	205.726	200.707	198.153	198.978	199.928	200.421	201.112	201.955	204.200	203.723	204.341	204.472
Commodities less food	152.875	159.538	164.937	158.132	145.985	139.620	140.543	142.809	144.172	146.371	148.589	152.856	151.466	152.606	153.229
Nondurables less food	190.698	206.047	218.010	204.734	180.533	167.933	169.708	174.484	177.487	181.815	186.012	194.254	191.387	194.170	194.978
Nondurables less food and apparel	234.201	258.423	276.112	254.473	216.516	198.909	202.906	208.291	211.094	217.649	225.091	239.808	237.011	240.515	238.857
Nondurables	196.772	210.333	218.725	211.680	198.009	190.910	192.284	194.740	196.174	198.408	200.601	205.219	203.377	205.017	205.374
Services less rent of shelter [3]	230.876	241.567	245.787	244.331	243.599	243.646	244.376	244.791	244.413	243.718	243.784	245.833	246.622	247.308	247.664
Services less medical care services	232.195	240.275	242.868	242.316	242.058	242.079	242.819	243.128	243.223	242.980	243.022	244.196	244.531	244.857	244.707
Energy	208.066	237.414	259.864	232.106	188.375	168.726	172.463	177.033	175.947	178.485	186.321	205.662	201.967	205.144	202.287
All items less energy	203.002	208.719	210.325	210.649	210.541	210.168	210.707	211.279	211.989	212.472	212.462	212.552	212.505	212.823	213.363
All items less food and energy	203.554	208.147	209.329	209.511	209.383	208.925	209.404	210.203	211.178	211.857	211.926	212.051	212.097	212.449	213.144
Commodities less food and energy	140.612	141.084	141.428	141.375	140.793	139.731	139.614	140.554	142.077	143.237	143.170	142.943	142.526	142.634	144.148
Energy commodities	241.257	284.270	319.507	272.894	192.494	154.744	161.781	171.978	172.563	181.021	196.706	227.444	220.264	227.506	223.048
Services less energy	247.888	255.598	257.411	257.774	258.008	258.039	258.976	259.643	260.158	260.439	260.615	261.014	261.425	261.960	261.990

[1] Not seasonally adjusted.

[2] Indexes on a December 1997 = 100 base.

[3] Indexes on a December 1982 = 100 base.

[4] 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 schedule[1]	All Urban Consumers 2009						Urban Wage Earners 2009					
		Apr.	May	June	July	Aug.	Sept.	Apr.	May	June	July	Aug.	Sept.
U.S. city average	M	213.240	213.856	215.693	215.351	215.834	215.969	207.925	208.774	210.972	210.526	211.156	211.322
Region and area size[2]													
Northeast urban	M	227.840	228.136	229.930	230.154	230.883	231.200	224.252	224.748	226.695	226.714	227.598	228.158
Size A—More than 1,500,000	M	230.400	230.611	232.058	232.416	233.314	233.695	225.214	225.657	227.337	227.550	228.472	229.067
Size B/C—50,000 to 1,500,000[3]	M	134.547	134.857	136.488	136.417	136.598	136.691	134.951	135.329	136.888	136.626	137.109	137.400
Midwest urban[4]	M	202.327	203.195	205.350	204.814	205.632	205.601	196.933	197.971	200.487	199.824	200.723	200.658
Size A—More than 1,500,000	M	203.463	204.443	206.308	205.656	206.591	206.459	197.192	198.271	200.356	199.611	200.710	200.566
Size B/C—50,000 to 1,500,000[3]	M	129.604	129.967	131.640	131.366	131.748	131.812	128.968	129.524	131.554	131.096	131.481	131.497
Size D—Nonmetropolitan (less than 50,000)	M	197.644	198.911	201.157	200.908	201.823	201.918	194.651	196.047	198.674	198.455	199.404	199.416
South urban	M	206.657	207.265	209.343	208.819	209.000	208.912	202.619	203.500	205.968	205.415	205.867	205.726
Size A—More than 1,500,000	M	208.934	209.235	211.390	211.034	211.436	211.212	205.733	206.271	208.909	208.492	208.995	208.677
Size B/C—50,000 to 1,500,000[3]	M	131.370	131.777	133.056	132.736	132.729	132.722	129.309	129.885	131.382	131.063	131.302	131.284
Size D—Nonmetropolitan (less than 50,000)	M	207.898	209.563	211.815	210.491	210.899	210.911	206.921	208.989	211.721	210.341	211.088	210.922
West urban	M	217.910	218.567	219.865	219.484	219.884	220.294	211.386	212.263	213.973	213.541	213.988	214.490
Size A—More than 1,500,000	M	221.790	222.659	223.908	223.498	224.072	224.412	213.646	214.734	216.395	215.955	216.539	217.000
Size B/C—50,000 to 1,500,000[3]	M	131.912	131.990	132.952	132.774	132.756	133.128	131.103	131.389	132.517	132.314	132.407	132.773
Size classes:													
A[5]	M	195.207	195.745	197.214	196.987	197.614	197.724	192.861	193.597	195.414	195.096	195.796	195.957
B/C[3]	M	131.557	131.876	133.220	132.975	133.069	133.165	130.361	130.847	132.384	132.069	132.341	132.450
D	M	205.421	206.717	208.543	207.784	208.369	208.503	202.351	203.883	206.327	205.504	206.271	206.341
Selected local areas[6]													
Chicago–Gary–Kenosha, IL–IN–WI	M	207.886	209.809	211.010	210.906	211.441	211.345	200.607	202.464	203.691	203.554	204.246	204.278
Los Angeles–Riverside–Orange County, CA	M	221.693	222.522	223.906	224.010	224.507	225.226	213.405	214.446	216.145	216.128	216.628	217.302
New York, NY–Northern NJ–Long Island, NY–NJ–CT–PA	M	235.582	235.975	237.172	237.600	238.282	238.568	229.639	230.307	231.916	232.177	232.841	233.502
Boston–Brockton–Nashua, MA–NH–ME–CT	1	–	231.891	–	233.018	–	236.596	–	231.420	–	232.535	–	235.744
Cleveland–Akron, OH	1	–	200.196	–	200.558	–	201.836	–	191.297	–	191.494	–	192.800
Dallas–Ft Worth, TX	1	–	199.311	–	200.663	–	201.802	–	200.955	–	203.075	–	204.298
Washington–Baltimore, DC–MD–VA–WV[7]	1	–	139.311	–	140.810	–	140.945	–	138.510	–	140.434	–	140.701
Atlanta, GA	2	199.210	–	203.585	–	203.351	–	197.676	–	202.632	–	202.276	–
Detroit–Ann Arbor–Flint, MI	2	202.373	–	204.537	–	204.673	–	197.239	–	199.977	–	200.169	–
Houston–Galveston–Brazoria, TX	2	189.701	–	192.325	–	191.687	–	186.970	–	189.979	–	189.503	–
Miami–Ft. Lauderdale, FL	2	220.740	–	221.485	–	221.306	–	217.900	–	219.091	–	219.000	–
Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD	2	221.686	–	223.810	–	226.039	–	220.732	–	223.361	–	225.481	–
San Francisco–Oakland–San Jose, CA	2	223.854	–	225.692	–	225.801	–	218.587	–	220.996	–	221.279	–
Seattle–Tacoma–Bremerton, WA	2	225.918	–	227.257	–	227.138	–	220.208	–	221.993	–	221.873	–

[1] 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.

[2] Regions defined as the four Census regions.

[3] Indexes on a December 1996 = 100 base.

[4] The "North Central" region has been renamed the "Midwest" region by the Census Bureau. It is composed of the same geographic entities.

[5] Indexes on a December 1986 = 100 base.

[6] 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; Cincinnatti, OH–KY–IN; Kansas City, MO–KS; Milwaukee–Racine, WI; Minneapolis–St. Paul, MN–WI; Pittsburgh, PA; Port-land–Salem, OR–WA; St Louis, MO–IL; San Diego, CA; Tampa–St. Petersburg–Clearwater, FL.

[7] 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	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Consumer Price Index for All Urban Consumers:											
All items:											
Index	163.0	166.6	172.2	177.1	179.9	184.0	188.9	195.3	201.6	207.342	215.303
Percent change	1.6	2.2	3.4	2.8	1.6	2.3	2.7	3.4	3.2	2.8	3.8
Food and beverages:											
Index	161.1	164.6	168.4	173.6	176.8	180.5	186.6	191.2	195.7	203.300	214.225
Percent change	2.2	2.2	2.3	3.1	1.8	2.1	3.3	2.5	2.4	3.9	5.4
Housing:											
Index	160.4	163.9	169.6	176.4	180.3	184.8	189.5	195.7	203.2	209.586	216.264
Percent change	2.3	2.2	3.5	4.0	2.2	2.5	2.5	3.3	3.8	3.1	3.2
Apparel:											
Index	133.0	131.3	129.6	127.3	124.0	120.9	120.4	119.5	119.5	118.998	118.907
Percent change	.1	–1.3	–1.3	–1.8	–2.6	–2.5	–.4	–.7	.0	-0.4	-0.1
Transportation:											
Index	141.6	144.4	153.3	154.3	152.9	157.6	163.1	173.9	180.9	184.682	195.549
Percent change	–1.9	2.0	6.2	0.7	–.9	3.1	3.5	6.6	4.0	2.1	5.9
Medical care:											
Index	242.1	250.6	260.8	272.8	285.6	297.1	310.1	323.2	336.2	351.054	364.065
Percent change	3.2	3.5	4.1	4.6	4.7	4.0	4.4	4.2	4.0	4.4	3.7
Other goods and services:											
Index	237.7	258.3	271.1	282.6	293.2	298.7	304.7	313.4	321.7	333.328	345.381
Percent change	5.7	8.7	5.0	4.2	3.8	1.9	2.0	2.9	2.6	3.6	3.6
Consumer Price Index for Urban Wage Earners and Clerical Workers:											
All items:											
Index	159.7	163.2	168.9	173.5	175.9	179.8	184.5	191.0	197.1	202.767	211.053
Percent change	1.3	2.2	3.5	2.7	1.4	2.2	5.1	1.1	3.2	2.9	4.1

41. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		2008				2009								
	2007	2008	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[p]	July[p]	Aug.[p]	Sept.[p]
Finished goods	166.6	177.1	182.2	177.4	172.0	168.8	170.4	169.9	169.1	170.3	171.1	174.3	172.6	174.3	173.4
Finished consumer goods	173.5	186.3	193.0	185.5	178.2	173.7	175.8	175.2	174.2	176.0	177.3	181.7	179.6	181.8	180.6
Finished consumer foods	167.0	178.3	181.5	180.7	179.8	177.7	177.7	175.0	173.8	175.9	174.0	176.1	173.4	173.9	173.9
Finished consumer goods excluding foods	175.6	189.1	197.2	187.0	177.0	171.5	174.4	174.5	173.5	175.2	177.5	182.7	180.7	183.5	181.9
Nondurable goods less food	191.7	210.5	223.4	205.4	190.6	182.1	186.5	186.6	185.2	187.7	191.2	198.7	196.5	200.6	198.4
Durable goods	138.3	141.2	140.3	144.8	144.2	144.4	144.3	144.3	144.1	144.4	144.2	144.7	143.3	143.7	143.1
Capital equipment	149.5	153.8	154.3	157.0	156.9	157.2	157.4	157.2	156.9	156.8	156.3	156.6	156.0	156.4	156.1
Intermediate materials, supplies, and components	170.7	188.3	198.6	189.0	179.2	171.6	171.4	169.7	168.0	168.6	170.2	172.7	172.4	174.9	175.3
Materials and components for manufacturing	162.4	177.2	186.7	180.3	171.1	163.7	162.7	161.0	159.5	158.9	160.1	160.9	161.4	163.7	165.6
Materials for food manufacturing	161.4	180.4	185.2	179.4	175.5	170.8	167.3	164.3	163.2	164.2	166.2	166.0	163.4	164.0	164.4
Materials for nondurable manufacturing	184.0	214.3	234.7	222.4	200.6	185.0	186.8	185.6	182.3	182.6	187.4	190.1	191.8	195.7	199.3
Materials for durable manufacturing	189.8	203.3	214.5	202.2	190.0	178.6	172.8	168.2	165.8	163.2	162.1	162.7	163.7	169.0	173.7
Components for manufacturing	136.3	140.3	142.4	142.5	142.3	141.9	141.7	141.5	141.3	140.8	140.8	140.7	140.6	140.9	141.0
Materials and components for construction	192.5	205.4	214.0	212.2	210.2	207.9	207.0	204.8	204.2	203.2	202.8	202.0	201.7	201.6	201.8
Processed fuels and lubricants	173.9	206.2	224.5	193.9	168.7	151.2	153.4	150.7	146.5	151.4	156.5	167.0	165.2	172.6	170.0
Containers	180.3	191.8	198.4	199.1	199.0	198.1	200.8	199.5	198.4	197.6	196.1	195.4	194.5	193.3	193.5
Supplies	161.7	173.8	179.0	177.0	175.3	173.4	172.9	172.3	171.9	172.0	172.3	172.8	172.2	172.1	172.1
Crude materials for further processing	207.1	251.8	254.2	212.0	183.3	172.6	170.2	160.7	160.1	163.9	171.5	179.8	172.8	178.0	174.1
Foodstuffs and feedstuffs	146.7	163.4	167.6	147.9	144.2	135.5	136.1	133.3	131.0	136.5	140.5	141.0	133.2	129.8	127.3
Crude nonfood materials	246.3	313.9	314.2	253.9	203.2	191.6	186.5	171.5	172.6	174.6	184.7	199.8	194.3	207.2	202.3
Special groupings:															
Finished goods, excluding foods	166.2	176.6	182.1	176.3	169.6	166.1	168.0	168.0	167.2	168.3	169.7	173.1	171.7	173.6	172.5
Finished energy goods	156.3	178.7	197.0	167.8	144.1	130.6	136.4	136.3	133.2	137.2	142.9	154.4	150.5	156.6	153.5
Finished goods less energy	162.8	169.8	171.2	173.1	172.7	172.3	172.7	172.1	171.9	172.4	171.7	172.4	171.5	171.8	171.5
Finished consumer goods less energy	168.7	176.9	178.7	180.2	179.7	179.0	179.4	178.6	178.5	179.2	178.5	179.4	178.3	178.6	178.3
Finished goods less food and energy	161.7	167.2	167.9	170.8	170.6	170.8	171.3	171.3	171.4	171.4	171.1	171.4	171.0	171.2	170.9
Finished consumer goods less food and energy	170.0	176.4	177.2	180.2	180.0	180.1	180.7	181.0	181.4	181.5	181.3	181.7	181.4	181.5	181.1
Consumer nondurable goods less food and energy	197.0	206.8	209.7	210.7	210.9	211.0	212.4	212.9	214.0	213.8	213.7	213.9	214.8	214.7	214.6
Intermediate materials less foods and feeds	171.5	188.7	199.1	189.5	179.4	171.8	171.8	170.1	168.4	168.9	170.4	172.9	172.8	175.5	176.1
Intermediate foods and feeds	154.4	181.6	190.0	179.9	174.7	167.9	165.8	164.6	163.5	164.5	167.3	169.3	166.4	166.8	165.7
Intermediate energy goods	174.6	208.1	227.5	197.4	167.3	147.7	152.2	149.3	144.1	149.5	157.2	167.8	166.4	174.9	172.0
Intermediate goods less energy	167.6	180.9	188.8	184.5	179.8	175.3	174.0	172.7	171.9	171.2	171.3	171.8	171.7	172.6	173.9
Intermediate materials less foods and energy	168.4	180.9	188.8	184.8	180.2	175.9	174.6	173.4	172.6	171.8	171.6	171.9	172.2	173.2	174.7
Crude energy materials	232.8	309.4	303.7	244.4	194.9	181.1	173.0	152.1	153.3	155.0	164.2	181.2	172.5	184.2	174.3
Crude materials less energy	182.6	205.4	211.7	182.0	167.6	159.8	161.2	158.8	156.4	161.2	166.9	168.9	163.5	163.8	163.7
Crude nonfood materials less energy	282.6	324.4	337.5	276.7	224.8	221.3	225.2	224.9	222.9	224.4	234.9	242.6	247.6	262.0	271.1

p = preliminary.

42. Producer Price Indexes for the net output of major industry groups

[December 2003 = 100, unless otherwise indicated]

NAICS	Industry	2008				2009								
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[p]	July[p]	Aug.[p]	Sept.[p]
	Total mining industries (December 1984=100)	273.4	223.3	184.9	174.8	173.4	159.0	159.1	160.5	166.0	180.2	175.0	187.0	180.7
211	Oil and gas extraction (December 1985=100)	341.2	259.4	199.5	184.1	180.3	154.1	154.1	157.0	168.6	192.2	183.3	201.7	190.8
212	Mining, except oil and gas	188.9	184.1	174.7	173.0	178.4	184.7	186.1	187.9	185.0	185.9	188.2	188.5	191.3
213	Mining support activities	177.6	179.3	179.9	177.0	174.0	172.0	168.7	162.9	156.2	154.3	150.1	154.9	152.3
	Total manufacturing industries (December 1984=100)	182.9	176.8	169.4	164.1	164.7	163.9	162.9	164.2	165.8	168.4	167.2	169.4	168.6
311	Food manufacturing (December 1984=100)	179.2	176.4	173.4	171.1	170.1	168.7	167.6	168.6	170.5	171.4	169.7	169.8	169.7
312	Beverage and tobacco manufacturing	115.2	116.1	116.0	116.3	117.6	119.2	120.3	119.6	119.2	119.4	119.7	119.9	119.6
313	Textile mills	114.9	114.9	114.7	113.5	113.4	113.0	112.3	112.1	111.8	112.1	112.3	112.0	112.2
315	Apparel manufacturing	102.7	103.0	103.2	103.2	103.5	103.5	103.5	103.5	103.3	103.3	103.6	103.6	103.3
316	Leather and allied product manufacturing (December 1984=100)	154.8	154.6	154.3	154.3	154.3	154.7	154.7	153.9	153.9	153.6	153.5	154.3	153.8
321	Wood products manufacturing	109.1	107.6	106.7	106.2	105.0	104.0	103.2	102.8	102.4	102.3	103.2	103.5	103.7
322	Paper manufacturing	126.6	127.3	127.2	127.0	126.7	126.0	125.5	124.5	123.1	122.5	122.0	121.4	121.6
323	Printing and related support activities	110.4	110.3	110.2	110.3	110.2	109.6	109.6	109.4	109.2	109.0	108.5	108.1	108.9
324	Petroleum and coal products manufacturing (December 1984=100)	382.6	300.0	221.4	167.0	178.6	176.4	168.0	186.2	206.5	238.1	227.0	250.4	240.7
325	Chemical manufacturing (December 1984=100)	240.4	239.3	234.5	229.7	226.7	225.1	224.6	223.6	222.8	222.4	224.9	223.9	226.2
326	Plastics and rubber products manufacturing (December 1984=100)	166.9	167.8	166.9	165.0	163.4	161.6	161.2	160.9	160.6	160.3	160.3	160.8	161.4
331	Primary metal manufacturing (December 1984=100)	228.9	214.9	199.9	185.6	177.6	173.3	169.5	164.7	162.8	163.8	164.3	173.2	178.5
332	Fabricated metal product manufacturing (December 1984=100)	179.6	179.6	179.3	178.5	178.9	177.7	177.0	175.5	175.0	174.4	173.5	173.5	173.4
333	Machinery manufacturing	118.8	119.4	119.9	120.0	120.5	120.4	120.4	120.3	120.2	120.2	120.5	120.4	120.5
334	Computer and electronic products manufacturing	92.7	92.7	92.6	92.4	92.5	92.4	92.4	92.3	92.3	92.1	92.4	92.4	92.1
335	Electrical equipment, appliance, and components manufacturing	129.8	129.4	127.3	126.9	126.8	126.8	127.3	127.9	128.5	128.3	128.4	129.4	129.7
336	Transportation equipment manufacturing	106.6	110.4	110.0	110.1	110.0	109.9	109.4	109.3	108.9	109.5	108.6	109.0	108.7
337	Furniture and related product manufacturing (December 1984=100)	174.3	175.1	175.3	175.7	176.1	177.0	176.8	176.7	176.9	176.8	177.1	177.0	177.0
339	Miscellaneous manufacturing	110.4	110.6	110.4	110.8	111.4	111.4	111.6	111.7	111.3	111.4	111.7	111.6	111.4
	Retail trade													
441	Motor vehicle and parts dealers	117.6	116.8	118.5	117.1	116.9	118.4	118.0	119.0	118.1	118.4	118.2	118.1	119.0
442	Furniture and home furnishings stores	121.1	121.0	120.8	120.6	120.8	121.0	120.8	121.4	123.0	122.6	120.2	119.5	120.2
443	Electronics and appliance stores	110.8	108.9	108.1	107.8	107.8	103.7	105.4	104.9	104.2	104.8	104.3	105.2	102.6
446	Health and personal care stores	134.0	134.6	136.4	136.4	136.0	136.0	136.3	138.7	138.1	137.2	135.4	138.0	139.7
447	Gasoline stations (June 2001=100)	81.7	76.8	76.3	77.7	68.9	71.0	63.1	59.7	59.4	69.5	75.7	62.9	64.6
454	Nonstore retailers	150.6	148.7	154.1	155.2	150.9	153.9	156.1	148.0	142.2	143.6	148.4	145.6	150.9
	Transportation and warehousing													
481	Air transportation (December 1992=100)	208.6	209.3	203.8	198.5	198.4	190.5	187.6	187.2	179.5	182.2	184.5	188.1	183.7
483	Water transportation	135.1	135.0	130.6	128.0	122.4	118.5	117.7	115.2	111.3	111.9	113.4	113.4	114.5
491	Postal service (June 1989=100)	180.5	180.5	180.5	180.5	180.5	181.6	181.6	181.6	186.8	186.8	186.8	186.8	186.8
	Utilities													
221	Utilities	140.8	136.0	133.4	133.1	133.9	132.9	130.4	128.1	128.0	129.0	131.8	131.8	130.6
	Health care and social assistance													
6211	Office of physicians (December 1996=100)	123.7	124.0	124.3	124.2	125.6	125.6	125.9	125.9	126.3	126.5	126.6	126.8	126.9
6215	Medical and diagnostic laboratories	107.6	107.7	107.7	107.8	108.3	108.7	108.9	108.8	108.6	108.4	108.9	108.9	108.6
6216	Home health care services (December 1996=100)	126.5	127.3	127.3	127.4	127.2	127.6	127.7	127.7	127.7	127.5	127.6	127.7	128.2
622	Hospitals (December 1992=100)	163.0	164.9	164.9	165.3	166.5	166.8	167.0	166.9	167.2	167.3	167.2	167.5	167.9
6231	Nursing care facilities	119.8	120.6	120.6	120.7	122.0	122.2	122.3	122.6	122.6	122.7	123.5	123.9	123.9
62321	Residential mental retardation facilities	118.9	119.1	119.2	119.2	120.3	120.3	120.5	121.4	122.3	122.4	120.8	121.6	124.1
	Other services industries													
511	Publishing industries, except Internet	110.2	110.9	111.1	110.7	111.9	111.9	111.6	111.7	111.7	111.8	111.2	111.4	111.3
515	Broadcasting, except Internet	107.0	112.0	111.5	109.3	107.9	108.1	107.5	105.5	107.4	106.4	103.4	101.2	102.3
517	Telecommunications	101.5	101.2	101.2	101.4	101.2	101.1	101.1	100.8	101.1	101.1	101.3	101.8	101.2
5182	Data processing and related services	101.1	101.3	101.3	101.3	101.0	100.9	100.9	100.9	101.0	101.0	101.0	101.0	100.9
523	Security, commodity contracts, and like activity	120.5	117.7	115.8	115.2	113.5	111.7	109.2	109.1	109.2	108.8	109.5	110.0	111.5
53112	Lessors or nonresidental buildings (except miniwarehouse)	111.7	111.5	111.7	112.8	111.0	109.0	109.5	108.8	108.8	108.8	109.4	110.0	110.4
5312	Offices of real estate agents and brokers	103.8	103.1	103.0	102.8	101.6	101.6	101.6	101.9	102.1	102.2	102.0	102.0	102.0
5313	Real estate support activities	108.6	109.2	108.2	109.8	109.9	108.6	109.9	109.2	109.7	107.3	109.0	108.7	109.1
5321	Automotive equipment rental and leasing (June 2001=100)	131.3	128.2	126.9	123.7	128.3	133.0	133.1	135.1	134.0	137.6	142.5	142.5	140.6
5411	Legal services (December 1996=100)	162.6	163.2	163.2	163.2	164.8	165.5	166.0	166.2	166.3	166.3	166.2	166.4	166.5
541211	Offices of certified public accountants	115.4	115.6	115.0	115.7	115.3	115.2	115.3	115.3	115.3	114.3	115.3	115.2	115.0
5413	Architectural, engineering, and related services (December 1996=100)	141.6	141.8	141.8	141.9	142.9	142.9	142.8	143.0	143.0	143.0	142.9	142.9	142.9
54181	Advertising agencies	106.3	106.3	106.3	106.3	105.6	105.4	105.3	105.3	105.4	105.4	105.3	105.3	105.2
5613	Employment services (December 1996=100)	123.1	123.6	124.1	124.2	123.8	124.0	123.6	123.9	123.5	123.6	123.2	123.4	123.2
56151	Travel agencies	101.4	101.4	101.4	101.4	101.4	101.8	102.2	100.2	100.2	98.6	100.3	100.5	100.4
56172	Janitorial services	109.4	109.4	109.4	109.1	109.6	109.7	109.8	109.7	109.7	109.7	109.9	110.2	111.1
5621	Waste collection	114.0	113.0	113.3	111.3	112.2	113.3	114.9	115.0	115.6	114.9	116.5	116.8	117.1
721	Accommodation (December 1996=100)	146.9	145.6	144.3	141.6	140.6	139.9	141.3	141.5	141.0	143.7	150.5	148.3	138.0

p = preliminary.

43. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Finished goods											
Total	130.7	133.0	138.0	140.7	138.9	143.3	148.5	155.7	160.4	166.6	177.1
Foods	134.3	135.1	137.2	141.3	140.1	145.9	152.7	155.7	156.7	167.0	178.3
Energy	75.1	78.8	94.1	96.7	88.8	102.0	113.0	132.6	145.9	156.3	178.7
Other	143.7	146.1	148.0	150.0	150.2	150.5	152.7	156.4	158.7	161.7	167.2
Intermediate materials, supplies, and components											
Total	123.0	123.2	129.2	129.7	127.8	133.7	142.6	154.0	164.0	170.7	188.3
Foods	123.2	120.8	119.2	124.3	123.2	134.4	145.0	146.0	146.2	161.4	180.4
Energy	80.8	84.3	101.7	104.1	95.9	111.9	123.2	149.2	162.8	174.6	208.1
Other	133.5	133.1	136.6	136.4	135.8	138.5	146.5	154.6	163.8	168.4	180.9
Crude materials for further processing											
Total	96.8	98.2	120.6	121.0	108.1	135.3	159.0	182.2	184.8	207.1	251.8
Foods	103.9	98.7	100.2	106.1	99.5	113.5	127.0	122.7	119.3	146.7	163.4
Energy	68.6	78.5	122.1	122.3	102.0	147.2	174.6	234.0	226.9	232.8	309.4
Other	84.5	91.1	118.0	101.5	101.0	116.9	149.2	176.7	210.0	238.7	308.5

44. U.S. export price indexes by end-use category

[2000 = 100]

Category	2008				2009								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
ALL COMMODITIES	124.9	122.3	118.4	115.8	116.6	116.3	115.5	116.1	116.6	117.8	117.4	118.1	117.9
Foods, feeds, and beverages	190.4	175.0	164.8	155.1	165.4	162.1	156.7	162.8	167.3	174.8	164.9	164.5	158.1
Agricultural foods, feeds, and beverages	195.6	178.3	166.9	156.6	167.6	164.1	158.3	165.0	170.3	178.6	167.6	167.3	160.6
Nonagricultural (fish, beverages) food products	145.5	147.8	148.3	143.5	147.9	145.7	144.4	145.3	141.4	141.5	142.2	140.8	137.3
Industrial supplies and materials	169.4	161.8	148.2	139.6	139.0	137.9	136.5	136.9	137.7	140.4	140.6	143.6	143.9
Agricultural industrial supplies and materials	157.4	148.5	134.2	126.1	125.6	126.2	122.9	123.6	130.2	131.0	134.9	137.9	142.0
Fuels and lubricants	267.2	239.2	193.4	166.8	165.8	156.2	146.9	156.9	160.2	175.2	166.0	181.6	170.9
Nonagricultural supplies and materials, excluding fuel and building materials	160.8	155.5	145.6	138.8	138.2	138.2	138.2	137.1	137.3	138.5	139.8	141.2	142.8
Selected building materials	115.4	116.6	115.6	115.1	115.5	115.3	114.0	113.5	112.5	113.0	112.8	113.7	114.0
Capital goods	101.8	101.7	101.6	101.5	102.1	102.3	102.3	102.8	103.0	103.1	103.2	103.4	103.5
Electric and electrical generating equipment	109.5	109.7	109.2	109.0	107.3	106.7	106.8	106.8	107.0	107.2	107.0	107.3	107.5
Nonelectrical machinery	93.9	93.6	93.5	93.3	93.7	94.0	93.8	94.3	94.4	94.4	94.5	94.7	94.9
Automotive vehicles, parts, and engines	107.9	108.2	108.1	108.0	108.4	108.1	108.2	108.1	108.1	108.0	107.9	108.0	108.0
Consumer goods, excluding automotive	109.3	109.9	109.1	109.0	109.2	109.3	108.5	107.5	107.9	108.4	108.9	109.1	109.2
Nondurables, manufactured	109.0	108.9	107.4	107.2	108.8	109.0	107.1	107.2	107.8	108.5	108.7	109.0	109.3
Durables, manufactured	108.7	109.9	109.8	109.7	109.7	109.8	109.9	107.6	107.9	108.1	109.5	109.6	109.5
Agricultural commodities	188.3	172.5	160.6	150.8	159.7	157.0	151.6	157.2	162.8	169.7	161.3	161.6	156.8
Nonagricultural commodities	120.4	118.7	115.4	113.2	113.5	113.3	112.9	113.1	113.4	114.1	114.2	115.0	115.1

45. U.S. import price indexes by end-use category

[2000 = 100]

Category	2008				2009								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
ALL COMMODITIES	137.8	129.6	120.0	114.5	113.0	113.0	113.6	114.8	116.8	120.0	119.3	121.1	121.3
Foods, feeds, and beverages	147.9	146.0	139.5	142.3	142.3	137.8	137.0	138.9	139.2	139.8	138.2	140.0	140.7
Agricultural foods, feeds, and beverages	165.1	162.8	154.4	159.4	159.0	153.0	151.3	154.3	155.0	155.5	153.2	155.7	156.9
Nonagricultural (fish, beverages) food products	109.1	108.0	105.8	103.8	104.5	103.4	104.8	104.1	103.6	104.4	104.2	104.5	104.1
Industrial supplies and materials	248.9	213.5	174.6	150.4	143.7	144.9	149.3	154.3	163.0	177.3	174.4	182.4	182.8
Fuels and lubricants	346.3	274.1	197.8	153.9	146.6	150.5	162.3	174.4	191.5	222.1	216.3	231.3	227.8
Petroleum and petroleum products	371.5	288.9	201.6	150.8	143.8	151.6	168.5	185.5	206.1	241.5	235.8	253.6	251.4
Paper and paper base stocks	119.9	116.4	115.1	113.2	110.3	108.8	106.6	104.6	103.3	101.8	99.1	98.6	99.2
Materials associated with nondurable supplies and materials	162.4	160.2	155.0	148.5	138.8	137.1	136.7	135.3	139.2	137.5	132.3	133.3	135.2
Selected building materials	122.7	120.4	118.8	118.1	117.2	116.5	116.2	115.2	114.5	116.0	118.0	119.3	119.0
Unfinished metals associated with durable goods	255.4	236.7	209.3	185.7	176.5	175.9	171.6	171.1	172.8	178.3	184.8	190.6	205.3
Nonmetals associated with durable goods	111.4	110.9	110.4	109.0	107.1	106.2	105.2	104.3	103.4	103.0	102.8	103.4	104.2
Capital goods	93.3	93.3	92.9	92.7	92.7	92.3	91.8	91.9	91.9	91.9	91.9	91.9	91.9
Electric and electrical generating equipment	112.9	112.3	111.8	111.4	111.1	110.3	109.4	109.1	109.8	110.0	110.2	110.3	110.2
Nonelectrical machinery	88.2	88.1	87.7	87.5	87.5	87.2	86.6	86.8	86.7	86.5	86.5	86.4	86.5
Automotive vehicles, parts, and engines	108.1	108.3	107.9	107.8	108.0	107.9	107.7	107.7	107.9	108.0	108.2	108.5	108.7
Consumer goods, excluding automotive	105.1	105.1	104.6	104.4	104.4	104.4	103.9	104.1	104.2	104.3	104.1	104.0	104.0
Nondurables, manufactured	108.2	108.1	108.0	108.2	108.9	108.9	108.4	108.3	108.1	108.1	107.8	107.8	107.8
Durables, manufactured	101.8	101.8	101.1	100.7	100.1	100.0	99.8	100.0	100.5	100.6	100.6	100.4	100.5
Nonmanufactured consumer goods	106.6	105.9	103.2	103.6	102.7	104.4	101.2	102.7	101.3	101.4	101.3	100.8	101.2

46. U.S. international price Indexes for selected categories of services

[2000 = 100, unless indicated otherwise]

Category	2007		2008				2009		
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Import air freight	134.2	141.8	144.4	158.7	157.1	138.5	132.9	132.8	134.4
Export air freight	119.8	127.1	132.0	140.8	144.3	135.0	124.1	117.4	121.6
Import air passenger fares (Dec. 2006 = 100)	140.2	135.3	131.3	171.6	161.3	157.3	134.9	147.3	137.9
Export air passenger fares (Dec. 2006 = 100)	154.6	155.7	156.4	171.4	171.9	164.6	141.7	138.2	141.3

47. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	2006		2007				2008				2009		
	III	IV	I	II	III	IV	I	II	III	IV	I	II	III
Business													
Output per hour of all persons	138.0	138.7	139.0	140.2	142.1	142.6	142.7	143.8	143.9	144.2	144.3	146.7	150.1
Compensation per hour	169.7	173.3	175.2	176.5	177.8	179.6	180.3	181.0	183.0	184.2	182.0	182.1	183.9
Real compensation per hour	119.7	122.5	122.7	122.4	122.6	122.1	121.2	120.4	119.9	123.3	122.6	122.2	122.4
Unit labor costs	123.0	124.9	126.0	125.9	125.1	125.9	126.3	125.9	127.2	127.7	126.1	124.1	122.5
Unit nonlabor payments	137.3	135.1	136.7	139.4	141.9	141.9	141.7	143.8	145.4	143.6	148.1	151.2	154.5
Implicit price deflator	128.3	128.7	130.0	130.9	131.4	131.9	132.1	132.5	134.0	133.6	134.3	134.2	134.4
Nonfarm business													
Output per hour of all persons	137.0	137.8	138.2	139.2	141.1	141.8	141.7	142.8	142.8	143.1	143.2	145.6	148.9
Compensation per hour	168.6	172.3	174.2	175.1	176.3	178.5	179.2	179.8	181.8	183.1	180.9	181.1	182.8
Real compensation per hour	118.9	121.8	122.1	121.4	121.5	121.3	120.5	119.6	119.1	122.6	121.9	121.6	121.6
Unit labor costs	123.0	125.0	126.0	125.8	125.0	125.9	126.4	125.9	127.3	128.0	126.3	124.3	122.7
Unit nonlabor payments	139.5	136.9	138.2	140.9	143.3	143.0	142.5	144.9	146.6	145.3	150.5	153.6	157.3
Implicit price deflator	129.1	129.3	130.5	131.4	131.7	132.2	132.3	132.9	134.4	134.3	135.2	135.1	135.4
Nonfinancial corporations													
Output per hour of all employees	143.4	143.6	143.5	144.5	144.1	145.9	145.0	147.4	148.6	148.0	145.3	147.6	–
Compensation per hour	159.8	162.5	164.2	165.2	166.2	168.3	168.6	169.7	171.8	173.7	171.6	172.4	–
Real compensation per hour	112.7	114.9	115.0	114.6	114.5	114.4	113.4	112.9	112.5	116.3	115.6	115.7	–
Total unit costs	113.5	115.3	116.8	117.2	118.6	118.7	119.8	118.9	119.4	121.8	123.8	122.6	–
Unit labor costs	111.4	113.2	114.4	114.4	115.3	115.3	116.3	115.1	115.6	117.3	118.1	116.8	–
Unit nonlabor costs	119.1	120.9	123.1	124.9	127.4	127.9	129.1	129.2	129.8	134.1	139.1	138.5	–
Unit profits	191.4	175.8	171.2	171.8	155.6	149.9	133.0	134.7	145.3	129.5	127.5	134.3	–
Unit nonlabor payments	138.7	135.9	136.2	137.7	135.1	133.9	130.2	130.7	134.0	132.8	135.9	137.4	–
Implicit price deflator	120.6	120.8	121.8	122.2	122.0	121.6	121.0	120.4	121.8	122.5	124.1	123.7	–
Manufacturing													
Output per hour of all persons	174.4	175.3	176.9	178.2	180.1	181.6	182.8	181.6	180.3	178.1	177.0	179.9	185.8
Compensation per hour	165.5	169.5	172.9	172.9	172.9	175.6	175.7	176.9	178.8	183.9	183.7	186.0	188.5
Real compensation per hour	116.7	119.9	121.1	119.9	119.2	119.4	118.1	117.6	117.1	123.1	123.7	124.9	125.4
Unit labor costs	94.9	96.7	97.7	97.0	96.0	96.7	96.1	97.4	99.2	103.2	103.8	103.4	101.5

NOTE: Dash indicates data not available.

48. Annual indexes of multifactor productivity and related measures, selected years

[2000 = 100, unless otherwise indicated]

Item	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Private business													
Productivity:													
Output per hour of all persons	90.0	91.7	94.3	97.2	100.0	102.8	107.1	111.2	114.5	116.6	117.6	119.5	122.7
Output per unit of capital services	105.3	105.3	103.8	102.3	100.0	96.0	94.7	95.5	97.2	98.1	98.4	97.7	95.6
Multifactor productivity	95.3	96.2	97.4	98.8	100.0	100.4	102.5	105.4	108.2	109.7	110.3	110.7	112.0
Output	82.8	87.2	91.5	96.2	100.0	100.5	102.0	105.2	109.7	113.6	117.1	119.5	120.4
Inputs:													
Labor input	90.8	94.4	96.5	98.8	100.0	98.2	96.2	95.8	96.9	98.8	101.2	102.3	100.3
Capital services	78.7	82.9	88.2	94.1	100.0	104.6	107.7	110.2	112.9	115.8	119.1	122.3	125.9
Combined units of labor and capital input	86.9	90.7	93.9	97.4	100.0	100.0	99.5	99.9	101.4	103.6	106.2	108.0	107.6
Capital per hour of all persons	85.5	87.1	90.9	95.0	100.0	107.0	113.1	116.5	117.8	118.9	119.6	122.3	128.3
Private nonfarm business													
Productivity:													
Output per hour of all persons	90.5	92.0	94.5	97.3	100.0	102.7	107.1	111.1	114.2	116.1	117.2	118.9	122.3
Output per unit of capital services	106.1	105.8	104.2	102.6	100.0	96.0	94.5	95.2	96.9	97.7	97.9	97.0	95.1
Multifactor productivity	95.8	96.5	97.7	99.0	100.0	100.4	102.5	105.2	108.0	109.3	109.9	110.1	111.4
Output	82.8	87.2	91.5	96.3	100.0	100.5	102.1	105.2	109.6	113.5	117.1	119.4	120.4
Inputs:													
Labor input	90.4	94.0	96.3	98.8	100.0	98.4	96.4	96.0	97.1	99.1	101.6	102.8	100.9
Capital services	78.1	82.4	87.8	93.9	100.0	104.7	107.9	110.5	113.1	116.1	119.6	123.1	126.7
Combined units of labor and capital input	86.5	90.4	93.7	97.3	100.0	100.2	99.6	100.0	101.5	103.8	106.6	108.4	108.1
Capital per hour of all persons	85.3	86.9	90.7	94.8	100.0	107.0	113.2	116.7	117.8	118.9	119.7	122.6	128.8
Manufacturing [1996 = 100]													
Productivity:													
Output per hour of all persons	82.7	87.3	92.0	96.1	100.0	101.6	108.6	115.3	117.9	123.5	125.0	–	–
Output per unit of capital services	98.0	100.6	100.7	100.4	100.0	93.5	92.3	93.2	95.4	98.9	100.2	–	–
Multifactor productivity	91.2	93.8	95.9	96.7	100.0	98.7	102.4	105.2	108.0	108.4	110.1	–	–
Output	83.1	89.2	93.8	97.4	100.0	94.9	94.3	95.2	96.9	100.4	102.3	–	–
Inputs:												–	–
Hours of all persons	100.4	102.2	101.9	101.3	100.0	93.5	86.8	82.6	82.2	81.3	81.8	–	–
Capital services	84.8	88.7	93.2	97.0	100.0	101.5	102.1	102.1	101.6	101.5	102.0	–	–
Energy	110.4	108.2	105.4	105.5	100.0	90.6	89.3	84.4	84.0	91.6	86.6	–	–
Nonenergy materials	86.0	92.9	97.7	102.6	100.0	93.3	88.4	87.7	87.3	92.4	91.5	–	–
Purchased business services	88.5	92.1	95.0	100.0	100.0	100.7	98.2	99.1	97.0	104.5	106.6	–	–
Combined units of all factor inputs	91.1	95.1	97.8	100.7	100.0	96.2	92.1	90.5	89.7	92.7	92.9	–	–

NOTE: Dash indicates data not available.

49. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[1992 = 100]

Item	1963	1973	1983	1993	2000	2001	2002	2003	2004	2005	2006	2007	2008
Business													
Output per hour of all persons	55.0	73.4	83.0	100.4	116.1	119.1	123.9	128.7	132.4	134.8	136.1	138.2	141.9
Compensation per hour	15.6	28.9	66.3	102.2	134.7	140.3	145.3	151.2	157.0	163.2	169.4	176.5	182.8
Real compensation per hour	66.6	85.1	90.5	99.8	112.0	113.5	115.7	117.7	119.0	119.7	120.3	121.9	121.6
Unit labor costs	28.4	39.4	79.8	101.8	116.0	117.9	117.3	117.5	118.5	121.0	124.5	127.7	128.8
Unit nonlabor payments	26.6	37.5	76.3	102.6	107.2	110.0	114.2	118.3	124.6	130.5	134.8	137.7	142.1
Implicit price deflator	27.7	38.7	78.5	102.1	112.7	114.9	116.1	117.8	120.8	124.6	128.3	131.4	133.8
Nonfarm business													
Output per hour of all persons	57.8	75.3	84.5	100.4	115.7	118.6	123.5	128.0	131.6	133.9	135.1	137.0	140.9
Compensation per hour	16.1	29.1	66.6	102.0	134.2	139.5	144.6	150.4	156.0	162.1	168.3	175.2	181.7
Real compensation per hour	68.7	85.5	91.1	99.5	111.6	112.8	115.1	117.1	118.2	118.9	119.5	121.0	120.8
Unit labor costs	27.8	38.6	78.9	101.6	116.0	117.7	117.1	117.5	118.5	121.1	124.5	127.9	129.0
Unit nonlabor payments	26.3	35.3	76.1	103.1	108.7	111.6	116.0	119.6	125.5	132.1	136.8	138.4	143.3
Implicit price deflator	27.3	37.4	77.9	102.1	113.3	115.4	116.7	118.3	121.1	125.1	129.1	131.7	134.2
Nonfinancial corporations													
Output per hour of all employees	62.6	74.8	85.7	100.3	122.5	124.7	129.7	134.6	139.7	143.4	146.0	147.1	151.2
Compensation per hour	17.9	31.0	68.9	101.8	133.0	138.6	143.6	149.5	154.0	159.6	165.4	172.2	178.9
Real compensation per hour	76.4	91.2	94.2	99.3	110.6	112.1	114.3	116.4	116.8	117.1	117.5	118.9	119.0
Total unit costs	27.2	39.9	80.7	101.0	107.4	111.6	110.7	111.0	110.0	111.7	113.6	117.4	119.1
Unit labor costs	28.6	41.4	80.4	101.4	108.6	111.2	110.7	111.0	110.3	111.3	113.3	117.1	118.3
Unit nonlabor costs	23.4	35.7	81.6	99.9	104.2	112.6	110.8	111.1	109.3	112.7	114.6	118.3	121.3
Unit profits	57.3	54.9	91.2	114.1	108.7	82.2	98.0	109.9	144.8	163.0	183.5	167.3	149.9
Unit nonlabor payments	32.5	40.8	84.2	103.7	105.4	104.5	107.4	110.7	118.8	126.2	133.0	131.4	129.0
Implicit price deflator	29.9	41.2	81.7	102.2	107.5	108.9	109.6	110.9	113.1	116.3	119.9	121.9	121.9
Manufacturing													
Output per hour of all persons	–	–	–	102.6	139.1	141.2	151.0	160.4	164.0	171.9	173.7	179.2	180.7
Compensation per hour	–	–	–	102.0	134.7	137.8	147.8	158.2	161.5	164.5	171.2	177.4	184.7
Real compensation per hour	–	–	–	99.6	112.0	111.5	117.7	123.2	122.5	120.7	121.6	122.5	122.8
Unit labor costs	–	–	–	99.5	96.9	97.6	97.9	98.7	98.5	95.7	98.6	99.0	102.2
Unit nonlabor payments	–	–	–	101.1	103.5	102.0	100.3	102.9	110.2	122.2	126.6	–	–
Implicit price deflator	–	–	–	100.6	101.4	100.6	99.5	101.5	106.4	113.5	117.4	–	–

Dash indicates data not available.

50. Annual indexes of output per hour for selected NAICS industries

[1997=100]

NAICS	Industry	1987	1992	1997	2000	2001	2002	2003	2004	2005	2006	2007	2008
	Mining												
21	Mining	85.3	95.0	100.0	111.0	109.1	113.5	116.0	106.8	96.0	87.3	81.7	-
211	Oil and gas extraction	80.1	81.6	100.0	119.4	121.6	123.8	130.1	111.7	107.8	100.4	97.0	-
2111	Oil and gas extraction	80.1	81.6	100.0	119.4	121.6	123.8	130.1	111.7	107.8	100.4	97.0	-
212	Mining, except oil and gas	69.3	86.8	100.0	106.3	109.0	110.7	113.8	116.2	114.2	111.0	105.2	-
2121	Coal mining	57.8	75.0	100.0	115.8	114.3	111.7	113.4	113.4	107.8	99.8	101.0	-
2122	Metal ore mining	71.0	91.2	100.0	121.5	132.2	138.2	142.2	137.1	129.9	123.1	104.2	-
2123	Nonmetallic mineral mining and quarrying	88.0	96.4	100.0	96.1	99.4	103.6	108.3	114.3	118.4	120.0	109.8	-
213	Support activities for mining	79.4	90.7	100.0	100.9	110.4	103.5	136.3	170.3	144.9	147.0	156.8	-
2131	Support activities for mining	79.4	90.7	100.0	100.9	110.4	103.5	136.3	170.3	144.9	147.0	156.8	-
	Utilities												
2211	Power generation and supply	65.6	74.5	100.0	107.0	106.4	102.9	105.1	107.5	114.3	115.4	113.3	-
2212	Natural gas distribution	67.8	76.1	100.0	113.2	110.1	115.4	114.1	118.3	122.2	119.1	119.7	-
	Manufacturing												
311	Food	94.1	97.7	100.0	107.1	109.5	113.8	116.8	117.3	123.3	121.1	-	-
3111	Animal food	83.6	90.5	100.0	109.7	131.4	142.7	165.8	149.5	165.5	150.4	-	-
3112	Grain and oilseed milling	81.1	91.1	100.0	113.1	119.5	122.4	123.9	130.3	133.0	130.7	-	-
3113	Sugar and confectionery products	87.6	89.2	100.0	109.9	108.6	108.0	112.5	118.2	130.7	129.2	-	-
3114	Fruit and vegetable preserving and specialty	92.4	91.9	100.0	111.8	121.4	126.9	123.0	126.2	132.0	126.9	-	-
3115	Dairy products	82.7	95.2	100.0	95.9	97.1	105.0	110.5	107.4	109.6	110.2	-	-
3116	Animal slaughtering and processing	97.4	101.8	100.0	102.6	103.7	107.3	106.6	108.0	117.4	116.9	-	-
3117	Seafood product preparation and packaging	123.1	117.8	100.0	140.5	153.0	169.8	173.2	162.2	186.1	203.8	-	-
3118	Bakeries and tortilla manufacturing	100.9	97.1	100.0	108.3	109.9	108.9	109.3	113.8	115.4	110.5	-	-
3119	Other food products	97.5	97.6	100.0	112.6	106.2	111.9	118.8	119.3	116.2	116.3	-	-
312	Beverages and tobacco products	78.1	91.3	100.0	88.3	89.5	82.6	90.9	94.7	100.5	94.0	-	-
3121	Beverages	77.1	94.9	100.0	90.8	92.7	99.4	108.3	114.1	120.3	112.0	-	-
3122	Tobacco and tobacco products	71.9	77.8	100.0	95.9	98.2	67.0	78.7	82.4	93.1	94.9	-	-
313	Textile mills	73.7	81.9	100.0	106.7	109.5	125.3	136.1	138.6	152.8	150.5	-	-
3131	Fiber, yarn, and thread mills	66.5	80.2	100.0	101.3	109.1	133.3	148.8	154.1	143.5	139.7	-	-
3132	Fabric mills	68.0	81.4	100.0	110.1	110.3	125.4	137.3	138.6	164.1	170.5	-	-
3133	Textile and fabric finishing mills	91.3	83.5	100.0	104.4	108.5	119.8	125.1	127.7	139.8	126.2	-	-
314	Textile product mills	93.0	92.9	100.0	107.1	104.5	107.3	112.7	123.4	128.0	121.1	-	-
3141	Textile furnishings mills	91.2	92.7	100.0	104.5	103.1	105.5	114.4	122.3	125.7	117.3	-	-
3149	Other textile product mills	92.2	91.8	100.0	108.9	103.1	105.1	104.2	120.4	128.9	126.1	-	-
315	Apparel	71.9	76.8	100.0	116.8	116.5	102.9	112.4	103.4	110.9	114.0	-	-
3151	Apparel knitting mills	76.2	93.3	100.0	108.9	105.6	112.0	105.6	96.6	120.0	123.7	-	-
3152	Cut and sew apparel	69.8	72.9	100.0	119.8	119.5	103.9	117.2	108.4	113.5	117.6	-	-
3159	Accessories and other apparel	97.8	98.6	100.0	98.3	105.2	76.1	78.7	70.8	74.0	67.3	-	-
316	Leather and allied products	71.6	78.5	100.0	120.3	122.4	97.7	99.8	109.5	123.6	132.5	-	-
3161	Leather and hide tanning and finishing	94.0	84.7	100.0	100.1	100.3	81.2	82.2	93.5	118.7	118.1	-	-
3162	Footwear	76.7	83.9	100.0	122.3	130.7	102.7	104.8	100.7	105.6	115.4	-	-
3169	Other leather products	92.3	94.7	100.0	122.8	117.6	96.2	100.3	127.7	149.7	174.6	-	-
321	Wood products	95.0	100.8	100.0	102.7	106.1	113.6	114.7	115.6	123.1	124.9	-	-
3211	Sawmills and wood preservation	77.6	85.8	100.0	105.4	108.8	114.4	121.3	118.2	127.3	129.7	-	-
3212	Plywood and engineered wood products	99.7	114.3	100.0	98.8	105.2	110.3	107.0	102.9	110.2	117.4	-	-
3219	Other wood products	103.0	103.0	100.0	103.0	104.7	113.9	113.9	119.6	126.3	125.3	-	-
322	Paper and paper products	85.8	90.6	100.0	106.3	106.8	114.2	118.9	123.4	124.5	127.3	-	-
3221	Pulp, paper, and paperboard mills	81.7	87.9	100.0	116.3	119.9	133.1	141.4	148.0	147.7	151.1	-	-
3222	Converted paper products	89.0	94.0	100.0	101.1	100.5	105.6	109.6	112.9	114.8	116.6	-	-
323	Printing and related support activities	97.6	101.7	100.0	104.6	105.3	110.2	111.1	114.5	119.5	121.1	-	-
3231	Printing and related support activities	97.6	101.7	100.0	104.6	105.3	110.2	111.1	114.5	119.5	121.1	-	-
324	Petroleum and coal products	71.1	78.4	100.0	113.5	112.1	118.0	119.2	123.4	123.8	122.8	-	-
3241	Petroleum and coal products	71.1	78.4	100.0	113.5	112.1	118.0	119.2	123.4	123.8	122.8	-	-
325	Chemicals	85.9	86.9	100.0	106.6	105.3	114.2	118.4	125.8	134.1	137.5	-	-
3251	Basic chemicals	94.6	90.2	100.0	117.5	108.8	123.8	136.0	154.4	165.2	169.3	-	-
3252	Resin, rubber, and artificial fibers	77.4	80.4	100.0	109.8	106.2	123.1	122.2	121.9	130.5	134.9	-	-
3253	Agricultural chemicals	80.4	82.1	100.0	92.1	90.0	99.2	108.4	117.4	132.5	130.7	-	-
3254	Pharmaceuticals and medicines	87.3	87.5	100.0	95.6	99.5	97.4	101.5	104.1	110.0	115.0	-	-
3255	Paints, coatings, and adhesives	89.3	89.6	100.0	100.8	105.6	108.9	115.2	119.1	120.8	115.4	-	-
3256	Soap, cleaning compounds, and toiletries	84.4	85.0	100.0	102.8	106.0	124.1	118.2	135.3	153.1	162.9	-	-
3259	Other chemical products and preparations	75.4	85.8	100.0	119.7	110.4	120.8	123.0	121.3	123.5	118.1	-	-
326	Plastics and rubber products	80.9	89.3	100.0	110.2	112.3	120.8	126.0	128.7	132.6	132.8	-	-
3261	Plastics products	83.1	90.8	100.0	112.3	114.6	123.8	129.5	131.9	135.6	133.8	-	-
3262	Rubber products	75.5	84.7	100.0	101.7	102.3	107.1	111.0	114.4	118.7	124.9	-	-
327	Nonmetallic mineral products	87.6	90.8	100.0	102.5	100.0	104.6	111.2	108.7	115.3	114.6	-	-
3271	Clay products and refractories	86.9	92.0	100.0	102.9	98.4	99.7	103.5	109.2	114.6	111.9	-	-

50. Continued - Annual indexes of output per hour for selected NAICS industries

[1997=100]

NAICS	Industry	1987	1992	1997	2000	2001	2002	2003	2004	2005	2006	2007	2008
3272	Glass and glass products	82.4	83.9	100.0	108.1	102.9	107.5	115.3	113.8	123.1	132.9	-	-
3273	Cement and concrete products	93.6	96.2	100.0	101.6	98.0	102.4	108.3	102.8	106.5	103.1	-	-
3274	Lime and gypsum products	88.2	89.3	100.0	98.5	101.8	99.0	107.1	104.7	119.3	116.5	-	-
3279	Other nonmetallic mineral products	83.0	90.3	100.0	96.6	98.6	106.9	113.6	110.6	118.9	116.3	-	-
331	Primary metals	81.0	88.2	100.0	101.3	101.0	115.2	118.2	132.0	135.5	134.3	-	-
3311	Iron and steel mills and ferroalloy production	64.8	74.7	100.0	106.0	104.4	125.1	130.4	164.9	163.1	163.5	-	-
3312	Steel products from purchased steel	79.7	90.1	100.0	96.4	97.9	96.8	93.9	88.6	90.8	86.1	-	-
3313	Alumina and aluminum production	90.5	95.8	100.0	96.6	96.2	124.5	126.8	137.3	154.4	151.7	-	-
3314	Other nonferrous metal production	96.8	99.7	100.0	102.3	99.5	107.6	120.6	123.1	122.3	115.7	-	-
3315	Foundries	81.4	86.4	100.0	103.6	107.4	116.7	116.3	123.9	128.6	131.8	-	-
332	Fabricated metal products	87.3	91.9	100.0	104.8	104.8	110.9	114.4	113.4	116.9	119.7	-	-
3321	Forging and stamping	85.4	92.2	100.0	121.1	120.7	125.0	133.1	142.0	147.6	152.7	-	-
3322	Cutlery and handtools	86.3	87.4	100.0	105.9	110.3	113.4	113.2	107.6	114.1	116.6	-	-
3323	Architectural and structural metals	88.7	92.7	100.0	100.6	101.6	106.0	108.8	105.4	109.2	113.5	-	-
3324	Boilers, tanks, and shipping containers	86.0	95.4	100.0	94.2	94.4	98.9	101.6	93.6	95.7	96.6	-	-
3325	Hardware	88.7	87.3	100.0	114.3	113.5	115.5	125.4	126.0	131.8	131.1	-	-
3326	Spring and wire products	82.2	90.8	100.0	112.6	111.9	125.7	135.3	133.8	143.2	140.6	-	-
3327	Machine shops and threaded products	76.9	87.4	100.0	108.2	108.8	114.8	115.7	114.6	116.3	117.1	-	-
3328	Coating, engraving, and heat treating metals	75.5	86.6	100.0	105.5	107.3	116.1	118.3	125.3	136.5	135.5	-	-
3329	Other fabricated metal products	91.0	90.4	100.0	99.9	96.7	106.5	111.6	111.2	112.5	117.7	-	-
333	Machinery	82.3	86.7	100.0	111.5	109.0	116.6	125.2	127.0	134.1	137.4	-	-
3331	Agriculture, construction, and mining machinery	74.6	79.0	100.0	100.3	100.3	103.7	116.1	125.4	129.4	129.1	-	-
3332	Industrial machinery	75.1	79.9	100.0	130.0	105.8	117.6	117.0	126.5	122.4	135.3	-	-
3333	Commercial and service industry machinery	87.0	100.4	100.0	101.3	94.5	97.8	104.7	106.5	115.1	122.3	-	-
3334	HVAC and commercial refrigeration equipment	84.0	91.5	100.0	107.9	110.8	118.6	130.0	132.8	137.1	133.4	-	-
3335	Metalworking machinery	85.1	89.2	100.0	106.1	103.3	112.7	115.2	117.1	127.3	128.3	-	-
3336	Turbine and power transmission equipment	80.2	80.9	100.0	114.9	126.9	130.7	143.0	126.4	132.5	128.5	-	-
3339	Other general purpose machinery	83.5	85.4	100.0	113.7	110.5	117.9	128.1	127.1	138.4	143.8	-	-
334	Computer and electronic products	28.4	43.3	100.0	181.8	181.4	188.0	217.2	244.3	259.6	282.2	-	-
3341	Computer and peripheral equipment	11.0	21.4	100.0	235.0	252.2	297.4	373.4	415.1	543.3	715.7	-	-
3342	Communications equipment	39.8	60.6	100.0	164.1	152.9	128.2	143.1	148.4	143.7	178.2	-	-
3343	Audio and video equipment	61.7	93.6	100.0	126.3	128.4	150.1	171.0	239.3	230.2	240.7	-	-
3344	Semiconductors and electronic components	17.0	29.9	100.0	232.2	230.0	263.1	321.6	360.0	381.6	380.4	-	-
3345	Electronic instruments	70.2	85.9	100.0	116.7	119.3	118.1	125.3	145.4	146.6	150.6	-	-
3346	Magnetic media manufacturing and reproduction	85.7	90.9	100.0	105.8	99.8	110.4	126.1	142.6	142.1	137.7	-	-
335	Electrical equipment and appliances	75.5	82.2	100.0	111.5	111.4	113.3	117.2	123.3	130.0	129.4	-	-
3351	Electric lighting equipment	91.1	94.1	100.0	102.0	106.7	112.4	111.4	122.7	130.3	136.7	-	-
3352	Household appliances	73.3	82.1	100.0	117.2	124.6	132.3	146.7	159.6	164.5	173.2	-	-
3353	Electrical equipment	68.7	79.0	100.0	99.4	101.0	101.8	103.4	110.8	118.5	118.1	-	-
3359	Other electrical equipment and components	78.8	82.2	100.0	119.7	113.1	114.0	116.2	115.6	121.6	115.7	-	-
336	Transportation equipment	81.6	88.0	100.0	109.4	113.6	127.4	137.5	134.9	140.9	142.4	-	-
3361	Motor vehicles	75.4	90.8	100.0	109.7	110.0	126.0	140.7	142.1	148.4	163.8	-	-
3362	Motor vehicle bodies and trailers	85.0	88.4	100.0	98.8	88.7	105.4	109.8	110.7	114.2	110.9	-	-
3363	Motor vehicle parts	78.7	82.3	100.0	112.3	114.8	130.5	137.0	138.0	144.1	143.7	-	-
3364	Aerospace products and parts	87.2	96.5	100.0	103.4	115.7	118.6	119.0	113.2	125.0	117.9	-	-
3365	Railroad rolling stock	55.6	81.7	100.0	118.5	126.1	146.1	139.8	131.5	137.3	148.0	-	-
3366	Ship and boat building	95.5	99.4	100.0	121.9	121.5	131.0	133.9	138.7	131.7	127.3	-	-
3369	Other transportation equipment	73.7	89.5	100.0	132.4	140.2	150.9	163.0	168.3	184.1	197.8	-	-
337	Furniture and related products	84.8	89.5	100.0	101.4	103.4	112.6	117.0	118.4	125.0	127.8	-	-
3371	Household and institutional furniture	85.2	92.5	100.0	101.9	105.5	111.8	114.7	113.6	120.8	124.0	-	-
3372	Office furniture and fixtures	85.8	86.4	100.0	100.2	98.0	115.9	125.2	130.7	134.9	134.4	-	-
3379	Other furniture related products	86.3	87.6	100.0	99.5	105.0	110.2	110.0	121.3	128.3	130.8	-	-
339	Miscellaneous manufacturing	81.1	90.0	100.0	114.7	116.6	124.2	132.7	134.9	144.6	149.8	-	-
3391	Medical equipment and supplies	76.3	89.2	100.0	115.5	120.7	129.1	138.9	139.5	148.5	152.8	-	-
3399	Other miscellaneous manufacturing	85.4	90.3	100.0	113.6	111.8	118.0	124.7	128.6	137.8	143.2	-	-
	Wholesale trade												
42	Wholesale trade	73.2	86.5	100.0	116.4	117.6	123.1	127.4	134.2	134.7	136.6	136.5	136.1
423	Durable goods	62.3	75.4	100.0	124.9	128.8	140.0	146.4	161.1	166.4	172.0	170.5	171.2
4231	Motor vehicles and parts	74.5	84.1	100.0	116.7	120.1	133.4	137.6	143.5	146.7	159.3	152.2	140.5
4232	Furniture and furnishings	80.5	95.4	100.0	112.4	110.6	115.8	123.8	129.9	127.0	130.9	121.9	102.4
4233	Lumber and construction supplies	109.1	110.4	100.0	107.7	116.6	123.9	133.0	139.3	140.1	134.9	128.1	126.6
4234	Commercial equipment	28.0	47.1	100.0	181.9	217.8	264.7	298.9	352.5	399.9	442.5	477.7	521.4
4235	Metals and minerals	101.7	108.0	100.0	93.9	94.4	96.3	97.5	106.3	103.5	99.1	91.6	83.8
4236	Electric goods	42.8	56.0	100.0	152.7	147.5	159.4	165.7	194.1	202.9	218.9	229.8	235.9
4237	Hardware and plumbing	82.2	94.1	100.0	103.6	100.4	102.4	103.8	107.1	103.5	103.9	98.9	91.7
4238	Machinery and supplies	74.1	80.7	100.0	105.4	102.7	100.2	103.2	112.2	117.2	120.0	115.7	123.2

50. Continued - Annual indexes of output per hour for selected NAICS industries

[1997=100]

NAICS	Industry	1987	1992	1997	2000	2001	2002	2003	2004	2005	2006	2007	2008
4239	Miscellaneous durable goods	89.8	108.5	100.0	114.4	117.0	124.7	119.8	134.4	133.4	120.6	117.0	120.3
424	Nondurable goods	91.0	101.8	100.0	105.0	105.0	105.7	110.4	113.5	113.9	111.9	111.0	110.5
4241	Paper and paper products	85.6	96.4	100.0	100.8	104.5	116.4	119.6	130.7	141.4	136.4	144.9	132.5
4242	Druggists' goods	70.7	88.5	100.0	85.8	84.8	89.7	100.1	105.7	112.0	109.1	101.6	108.8
4243	Apparel and piece goods	86.3	96.1	100.0	108.8	115.2	122.8	125.9	131.0	140.9	141.2	139.4	145.8
4244	Grocery and related products	87.9	104.5	100.0	102.3	101.8	98.5	104.8	104.0	103.1	102.9	105.6	101.9
4245	Farm product raw materials	81.6	83.2	100.0	105.2	102.2	98.2	98.3	109.3	111.4	118.3	117.7	119.8
4246	Chemicals	90.4	105.2	100.0	87.9	85.3	89.0	92.1	91.1	86.8	82.8	82.5	83.2
4247	Petroleum	84.4	113.5	100.0	138.0	140.5	153.5	151.0	163.0	151.4	147.0	141.2	143.6
4248	Alcoholic beverages	99.3	104.2	100.0	108.5	106.5	106.8	108.0	103.2	104.1	107.6	107.7	103.2
4249	Miscellaneous nondurable goods	111.2	98.1	100.0	114.7	111.8	106.1	109.8	120.5	123.5	120.3	115.6	107.7
425	Electronic markets and agents and brokers	64.3	84.5	100.0	120.1	110.7	109.8	104.6	98.2	87.3	92.4	100.3	97.7
4251	Electronic markets and agents and brokers	64.3	84.5	100.0	120.1	110.7	109.8	104.6	98.2	87.3	92.4	100.3	97.7
	Retail trade												
44-45	Retail trade	79.2	85.2	100.0	116.1	120.1	125.6	131.6	137.9	141.3	146.7	150.7	148.0
441	Motor vehicle and parts dealers	78.4	88.1	100.0	114.3	116.0	119.9	124.3	127.3	126.7	129.0	130.7	119.1
4411	Automobile dealers	79.2	89.6	100.0	113.7	115.5	117.2	119.5	124.7	123.5	125.4	128.0	116.2
4412	Other motor vehicle dealers	74.1	84.8	100.0	115.3	124.6	133.6	133.8	143.3	134.7	142.9	144.7	147.1
4413	Auto parts, accessories, and tire stores	71.8	82.8	100.0	108.4	101.3	107.7	115.1	110.1	115.5	116.5	113.7	109.2
442	Furniture and home furnishings stores	75.2	86.3	100.0	115.9	122.4	129.3	134.6	146.7	150.5	156.5	165.6	166.1
4421	Furniture stores	77.3	91.2	100.0	112.0	119.7	125.2	128.8	139.2	142.3	149.9	154.2	152.2
4422	Home furnishings stores	71.5	79.5	100.0	121.0	126.1	134.9	142.6	156.8	161.1	165.9	180.7	184.1
443	Electronics and appliance stores	38.0	56.4	100.0	173.7	196.7	233.5	292.7	334.1	369.2	414.0	469.5	544.0
4431	Electronics and appliance stores	38.0	56.4	100.0	173.7	196.7	233.5	292.7	334.1	369.2	414.0	469.5	544.0
444	Building material and garden supply stores	75.8	81.6	100.0	113.2	116.8	120.8	127.0	134.4	134.5	137.6	141.1	142.2
4441	Building material and supplies dealers	77.6	82.8	100.0	115.0	116.6	121.3	127.4	133.9	134.9	137.7	138.8	135.9
4442	Lawn and garden equipment and supplies stores	66.9	75.1	100.0	103.1	118.4	118.3	125.7	140.1	132.2	138.0	160.9	194.5
445	Food and beverage stores	110.9	106.7	100.0	101.0	103.8	104.7	107.2	112.8	117.9	120.6	123.8	121.5
4451	Grocery stores	111.1	106.9	100.0	101.0	103.3	104.8	106.7	112.2	116.8	118.3	120.6	118.9
4452	Specialty food stores	138.5	111.8	100.0	98.5	108.2	105.3	112.2	120.3	125.0	138.1	147.5	135.5
4453	Beer, wine, and liquor stores	93.6	94.5	100.0	105.7	107.1	110.1	117.0	127.8	139.8	145.9	155.3	147.7
446	Health and personal care stores	84.0	89.9	100.0	112.2	116.2	122.9	129.5	134.3	133.8	138.9	137.8	138.3
4461	Health and personal care stores	84.0	89.9	100.0	112.2	116.2	122.9	129.5	134.3	133.8	138.9	137.8	138.3
447	Gasoline stations	83.9	87.8	100.0	107.7	112.9	125.1	119.9	122.2	124.4	123.8	126.9	126.1
4471	Gasoline stations	83.9	87.8	100.0	107.7	112.9	125.1	119.9	122.2	124.4	123.8	126.9	126.1
448	Clothing and clothing accessories stores	66.3	75.7	100.0	123.5	126.4	131.3	138.9	139.1	147.5	161.2	173.8	179.4
4481	Clothing stores	67.1	78.9	100.0	125.0	130.3	136.0	141.8	140.9	152.8	167.8	183.6	196.2
4482	Shoe stores	65.3	75.0	100.0	110.0	111.5	125.2	132.5	124.8	132.1	145.5	142.3	140.6
4483	Jewelry, luggage, and leather goods stores	64.5	63.1	100.0	130.5	123.9	118.7	132.9	144.3	138.8	147.3	159.3	144.7
451	Sporting goods, hobby, book, and music stores	74.9	86.4	100.0	121.1	127.1	127.6	131.5	151.1	163.6	170.0	167.4	172.7
4511	Sporting goods and musical instrument stores	73.2	86.3	100.0	129.4	134.5	136.0	141.1	166.0	179.6	190.6	186.4	192.8
4512	Book, periodical, and music stores	78.9	86.6	100.0	105.8	113.0	111.6	113.7	123.6	134.0	132.3	132.5	135.9
452	General merchandise stores	73.5	83.0	100.0	120.2	124.8	129.1	136.9	140.7	145.1	149.9	150.6	149.5
4521	Department stores	87.5	91.5	100.0	106.0	103.6	102.1	106.5	109.7	111.2	113.7	106.4	99.3
4529	Other general merchandise stores	54.6	69.7	100.0	147.6	165.2	179.1	189.5	191.7	198.2	203.9	215.4	220.6
453	Miscellaneous store retailers	65.1	73.7	100.0	114.1	112.6	119.1	126.1	130.8	139.1	153.0	159.4	163.0
4531	Florists	77.6	83.7	100.0	115.2	102.7	113.8	108.9	103.4	123.4	142.8	134.4	159.9
4532	Office supplies, stationery and gift stores	61.4	74.4	100.0	127.3	132.3	141.5	153.9	172.8	182.4	202.5	214.8	208.6
4533	Used merchandise stores	64.5	81.7	100.0	116.5	121.9	142.0	149.7	152.6	156.7	167.0	187.3	211.1
4539	Other miscellaneous store retailers	68.3	71.2	100.0	104.4	96.9	94.4	99.9	96.9	101.4	112.3	116.1	114.4
454	Nonstore retailers	50.7	61.1	100.0	152.2	163.6	182.1	195.5	215.5	220.9	255.7	277.5	281.8
4541	Electronic shopping and mail-order houses	39.4	50.2	100.0	160.2	179.6	212.7	243.6	273.0	290.2	341.7	375.8	362.8
4542	Vending machine operators	95.5	92.7	100.0	111.1	95.7	91.2	102.3	110.5	114.7	127.4	129.9	146.8
4543	Direct selling establishments	70.8	78.9	100.0	122.5	127.9	135.0	127.0	130.3	120.0	129.4	134.9	134.3
	Transportation and warehousing												
481	Air transportation	78.0	81.3	100.0	97.7	92.5	101.7	112.1	126.3	135.9	142.9	145.4	-
482111	Line-haul railroads	58.9	82.3	100.0	114.3	121.9	131.9	138.5	141.4	136.3	144.2	137.7	-
48412	General freight trucking, long-distance	85.7	97.8	100.0	101.9	103.2	107.0	110.7	110.7	113.3	113.3	115.3	-
48421	Used household and office goods moving	106.7	112.5	100.0	94.8	84.0	81.6	86.2	88.6	88.5	88.9	93.2	-
491	U.S. Postal service	90.9	95.2	100.0	105.5	106.3	106.4	107.8	110.0	111.2	111.3	112.0	-
4911	U.S. Postal service	90.9	95.2	100.0	105.5	106.3	106.4	107.8	110.0	111.2	111.3	112.0	-
492	Couriers and messengers	148.3	155.8	100.0	128.8	132.6	143.2	146.4	138.5	136.5	140.3	132.5	-
493	Warehousing and storage	-	76.2	100.0	109.3	115.3	122.1	124.8	122.5	123.5	119.4	115.5	-
4931	Warehousing and storage	-	76.2	100.0	109.3	115.3	122.1	124.8	122.5	123.5	119.4	115.5	-
49311	General warehousing and storage	-	61.2	100.0	115.8	126.3	136.1	138.9	130.9	132.0	130.1	124.2	-
49312	Refrigerated warehousing and storage	-	93.0	100.0	95.4	85.4	87.2	92.2	99.3	88.8	80.4	85.1	-

50. Continued - Annual indexes of output per hour for selected NAICS industries

[1997=100]

NAICS	Industry	1987	1992	1997	2000	2001	2002	2003	2004	2005	2006	2007	2008
	Information												
511	Publishing industries, except internet	64.1	73.2	100.0	117.1	116.6	117.2	126.4	130.7	136.7	144.3	150.1	-
5111	Newspaper, book, and directory publishers	105.0	96.0	100.0	107.7	105.8	104.7	109.6	106.7	107.9	112.2	114.1	-
5112	Software publishers	10.2	43.1	100.0	119.2	117.4	122.1	138.1	160.6	173.5	178.7	184.6	-
51213	Motion picture and video exhibition	90.7	104.0	100.0	106.5	101.6	99.8	100.4	103.6	102.4	107.3	110.6	-
515	Broadcasting, except internet	99.5	102.9	100.0	103.6	99.2	104.0	107.9	112.5	116.1	123.1	132.8	-
5151	Radio and television broadcasting	98.1	104.3	100.0	92.1	89.6	95.1	94.6	96.6	99.0	106.8	110.8	-
5152	Cable and other subscription programming	105.6	96.4	100.0	141.2	128.1	129.8	146.0	158.7	163.7	168.1	192.5	-
5171	Wired telecommunications carriers	56.9	72.1	100.0	122.7	116.7	124.1	130.5	131.9	138.3	142.4	142.2	-
5172	Wireless telecommunications carriers	75.6	74.4	100.0	152.8	191.9	217.9	242.6	292.4	381.9	431.6	456.5	-
5175	Cable and other program distribution	105.2	96.1	100.0	91.6	87.7	95.0	101.3	113.8	110.5	110.7	123.8	-
	Finance and insurance												
52211	Commercial banking	73.6	83.9	100.0	104.8	102.4	106.9	111.7	117.8	119.3	122.7	123.8	-
	Real estate and rental and leasing												
532111	Passenger car rental	92.7	104.8	100.0	112.3	111.1	114.6	121.1	118.2	109.8	111.4	130.1	-
53212	Truck, trailer, and RV rental and leasing	60.3	66.9	100.0	121.8	113.5	114.0	116.3	137.7	147.1	168.9	173.8	-
53223	Video tape and disc rental	77.0	102.2	100.0	134.9	133.3	130.3	148.5	154.5	144.2	176.2	223.0	-
	Professional and technical services												
541213	Tax preparation services	82.9	87.5	100.0	100.9	94.4	111.4	110.0	99.9	103.7	103.2	117.4	-
54131	Architectural services	90.0	100.6	100.0	107.6	111.0	107.6	112.6	118.3	119.8	118.9	124.5	-
54133	Engineering services	90.2	97.3	100.0	102.0	100.1	100.5	100.5	107.8	112.3	113.1	110.0	-
54181	Advertising agencies	95.9	112.7	100.0	107.5	106.9	113.1	121.1	133.4	132.9	134.1	139.1	-
541921	Photography studios, portrait	98.1	96.3	100.0	108.9	102.2	97.6	104.2	93.1	93.6	98.8	104.5	-
	Administrative and waste services												
56131	Employment placement agencies	-	-	100.0	89.8	99.6	116.8	115.4	119.8	116.0	123.8	132.8	-
56151	Travel agencies	89.3	92.4	100.0	119.4	115.2	127.6	147.2	167.2	179.2	183.4	190.6	-
56172	Janitorial services	75.1	92.1	100.0	101.0	102.1	105.6	118.8	116.6	120.7	116.1	122.3	-
	Health care and social assistance												
6215	Medical and diagnostic laboratories	-	-	100.0	131.9	135.3	137.6	140.8	140.8	137.8	139.7	136.0	-
621511	Medical laboratories	-	-	100.0	127.4	127.7	123.1	128.6	130.7	125.8	127.3	130.0	-
621512	Diagnostic imaging centers	-	-	100.0	139.9	148.3	163.3	160.0	153.5	154.1	156.8	138.9	-
	Arts, entertainment, and recreation												
71311	Amusement and theme parks	111.9	95.8	100.0	106.0	93.0	106.5	113.2	101.4	109.9	97.7	103.2	-
71395	Bowling centers	106.0	104.6	100.0	93.4	94.3	96.4	102.4	107.9	106.5	102.6	122.8	-
	Accommodation and food services												
72	Accommodation and food services	93.1	98.4	100.0	105.8	104.7	105.7	107.3	109.0	108.6	108.7	107.9	-
721	Accommodation	85.8	90.7	100.0	110.3	107.9	112.0	113.1	119.2	114.3	110.8	109.0	-
7211	Traveler accommodation	84.8	90.2	100.0	111.2	108.4	112.2	113.2	119.4	114.9	110.9	109.0	-
722	Food services and drinking places	96.0	101.2	100.0	103.5	103.8	104.4	106.3	107.0	107.9	109.1	108.7	107.9
7221	Full-service restaurants	92.1	97.6	100.0	103.0	103.6	104.4	104.2	104.8	105.2	105.5	104.1	104.6
7222	Limited-service eating places	96.5	102.8	100.0	102.0	102.5	102.7	105.4	106.8	107.4	109.1	109.2	105.8
7223	Special food services	89.9	100.8	100.0	115.0	115.3	114.9	117.6	118.0	119.2	117.9	119.6	121.8
7224	Drinking places, alcoholic beverages	136.7	119.1	100.0	100.6	97.6	102.9	118.6	112.2	120.6	134.2	137.6	143.3
	Other services												
8111	Automotive repair and maintenance	85.9	90.1	100.0	109.4	108.9	103.7	104.1	112.0	112.1	111.4	110.4	-
81142	Reupholstery and furniture repair	105.3	107.5	100.0	105.5	105.0	102.0	97.2	99.8	101.4	100.0	105.8	-
81211	Hair, nail, and skin care services	83.5	86.5	100.0	108.2	114.6	110.4	119.7	125.0	130.0	129.8	134.5	-
81221	Funeral homes and funeral services	103.7	106.1	100.0	94.8	91.8	94.6	95.7	92.9	93.1	99.5	97.0	-
8123	Drycleaning and laundry services	97.1	95.8	100.0	107.6	110.9	112.5	103.8	110.6	121.1	119.7	114.6	-
81292	Photofinishing	95.8	111.8	100.0	73.8	81.2	100.5	100.5	102.0	112.4	111.3	110.2	-

NOTE: Dash indicates data are not available.

51. Unemployment rates adjusted to U.S. concepts, 10 countries, seasonally adjusted

[Percent]

Country	2007	2008	2007 I	2007 II	2007 III	2007 IV	2008 I	2008 II	2008 III	2008 IV	2009 I	2009 II
United States	4.6	5.8	4.5	4.5	4.7	4.8	4.9	5.4	6.0	6.9	8.1	9.2
Canada	5.3	5.3	5.4	5.2	5.2	5.2	5.2	5.3	5.3	5.6	6.7	7.5
Australia	4.4	4.2	4.5	4.3	4.3	4.4	4.0	4.2	4.2	4.5	5.3	5.7
Japan	3.9	4.0	4.0	3.8	3.8	3.9	3.9	4.1	4.1	4.1	4.5	5.3
France	8.1	7.5	8.6	8.2	8.1	7.7	7.2	7.4	7.5	8.0	8.7	9.3
Germany	8.7	7.5	9.2	8.8	8.6	8.2	7.8	7.6	7.4	7.4	7.7	8.0
Italy	6.2	6.8	6.2	6.1	6.3	6.4	6.6	6.8	6.9	7.1	7.3	7.4
Netherlands	3.2	2.8	3.6	3.2	3.0	3.0	2.9	2.8	2.6	2.8	3.1	3.3
Sweden	6.2	6.2	6.3	6.1	5.8	5.8	5.7	5.8	5.9	6.5	7.4	8.2
United Kingdom	5.4	5.7	5.5	5.4	5.3	5.2	5.3	5.4	5.9	6.3	7.0	7.8

Quarterly figures for France, Germany, Italy, 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. For further qualifications and historical annual data, see the BLS report *International Comparisons of Annual Labor Force Statistics, Adjusted to U.S. Concepts, 10 Countries* (on the internet at **http://www.bls.gov/ilc/flscomparelf.htm**).

For monthly unemployment rates, as well as the quarterly and annual rates published in this table, see the BLS report *International Unemployment Rates and Employment Indexes, Seasonally Adjusted* (on the Internet at **http://www.bls.gov/ilc/intl_unemployment_rates_monthly.htm**).

Unemployment rates may differ between the two reports mentioned, because the former is updated annually, 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, adjusted to U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Civilian labor force											
United States	137,673	139,368	142,583	143,734	144,863	146,510	147,401	149,320	151,428	153,124	154,287
Canada	15,135	15,403	15,637	15,891	16,366	16,733	16,955	17,108	17,351	17,696	17,987
Australia	9,339	9,414	9,590	9,746	9,901	10,085	10,213	10,529	10,771	11,021	11,254
Japan	67,240	67,090	66,990	66,860	66,240	66,010	65,770	65,850	65,960	66,080	65,900
France	25,277	25,705	25,951	26,217	26,448	26,624	26,758	26,926	27,169	27,305	27,541
Germany	39,752	39,375	39,302	39,459	39,413	39,276	39,711	40,760	41,250	41,416	41,623
Italy	23,004	23,176	23,361	23,524	23,728	24,020	24,084	24,179	24,395	24,459	24,829
Netherlands	7,744	7,881	8,052	8,199	8,345	8,379	8,439	8,459	8,541	8,686	8,780
Sweden	4,403	4,429	4,490	4,530	4,545	4,565	4,579	4,700	4,752	4,827	4,887
United Kingdom	28,474	28,786	28,962	29,092	29,343	29,565	29,802	30,137	30,598	30,778	31,125
Participation rate[1]											
United States	67.1	67.1	67.1	66.8	66.6	66.2	66.0	66.0	66.2	66.0	66.0
Canada	65.4	65.9	66.0	66.1	67.1	67.7	67.7	67.4	67.4	67.7	67.9
Australia	64.3	64.0	64.4	64.4	64.3	64.6	64.6	65.4	65.8	66.2	66.6
Japan	62.8	62.4	62.0	61.6	60.8	60.3	60.0	60.0	60.0	60.0	59.8
France	55.6	56.2	56.3	56.4	56.4	56.3	56.2	56.1	56.3	56.2	56.3
Germany	57.7	56.9	56.7	56.7	56.4	56.0	56.4	57.6	58.2	58.4	58.6
Italy	47.7	47.9	48.1	48.3	48.5	49.1	49.1	48.7	48.9	48.6	49.0
Netherlands	61.8	62.5	63.4	64.0	64.7	64.6	64.8	64.7	65.1	65.9	66.3
Sweden	62.8	62.7	63.7	63.7	63.9	63.9	63.6	64.9	65.0	65.4	65.2
United Kingdom	62.4	62.8	62.8	62.7	62.9	62.9	63.0	63.1	63.5	63.4	63.6
Employed											
United States	131,463	133,488	136,891	136,933	136,485	137,736	139,252	141,730	144,427	146,047	145,362
Canada	13,973	14,331	14,681	14,866	15,223	15,586	15,861	16,080	16,393	16,767	17,025
Australia	8,618	8,762	8,989	9,088	9,271	9,485	9,662	9,998	10,255	10,539	10,777
Japan	64,450	63,920	63,790	63,460	62,650	62,510	62,640	62,910	63,210	63,510	63,250
France	22,597	23,080	23,689	24,146	24,316	24,325	24,346	24,497	24,737	25,088	25,474
Germany	36,059	36,042	36,236	36,350	36,018	35,615	35,604	36,185	36,978	37,815	38,480
Italy	20,370	20,617	20,973	21,359	21,666	21,972	22,124	22,290	22,721	22,953	23,137
Netherlands	7,408	7,605	7,813	8,014	8,114	8,069	8,052	8,056	8,205	8,408	8,537
Sweden	4,036	4,116	4,230	4,303	4,311	4,301	4,279	4,334	4,416	4,530	4,582
United Kingdom	26,684	27,058	27,375	27,604	27,815	28,077	28,380	28,674	28,928	29,127	29,343
Employment-population ratio[2]											
United States	64.1	64.3	64.4	63.7	62.7	62.3	62.3	62.7	63.1	63.0	62.2
Canada	60.4	61.3	62.0	61.9	62.4	63.1	63.3	63.4	63.6	64.2	64.2
Australia	59.3	59.6	60.3	60.0	60.2	60.8	61.1	62.1	62.6	63.3	63.8
Japan	60.2	59.4	59.0	58.4	57.5	57.1	57.1	57.3	57.5	57.6	57.4
France	49.7	50.4	51.4	51.9	51.8	51.5	51.1	51.1	51.2	51.6	52.1
Germany	52.3	52.1	52.2	52.2	51.5	50.8	50.6	51.2	52.2	53.3	54.2
Italy	42.2	42.6	43.2	43.8	44.3	44.9	45.1	44.9	45.5	45.6	45.6
Netherlands	59.1	60.3	61.5	62.6	62.9	62.2	61.8	61.6	62.5	63.7	64.5
Sweden	57.6	58.3	60.1	60.5	60.6	60.2	59.5	59.9	60.4	61.3	61.1
United Kingdom	58.5	59.0	59.4	59.5	59.6	59.8	60.0	60.0	60.1	60.0	59.9
Unemployed											
United States	6,210	5,880	5,692	6,801	8,378	8,774	8,149	7,591	7,001	7,078	8,924
Canada	1,162	1,072	956	1,026	1,143	1,147	1,093	1,028	958	929	962
Australia	721	652	602	658	630	599	551	531	516	482	477
Japan	2,790	3,170	3,200	3,400	3,590	3,500	3,130	2,940	2,750	2,570	2,650
France	2,680	2,625	2,262	2,071	2,132	2,299	2,412	2,429	2,432	2,217	2,067
Germany	3,693	3,333	3,065	3,110	3,396	3,661	4,107	4,575	4,272	3,601	3,140
Italy	2,634	2,559	2,388	2,164	2,062	2,048	1,960	1,889	1,673	1,506	1,692
Netherlands	337	277	239	186	231	310	387	402	336	278	243
Sweden	368	313	260	227	234	264	300	367	336	298	305
United Kingdom	1,791	1,728	1,587	1,489	1,528	1,488	1,423	1,463	1,670	1,652	1,783
Unemployment rate[3]											
United States	4.5	4.2	4.0	4.7	5.8	6.0	5.5	5.1	4.6	4.6	5.8
Canada	7.7	7.0	6.1	6.5	7.0	6.9	6.4	6.0	5.5	5.3	5.3
Australia	7.7	6.9	6.3	6.8	6.4	5.9	5.4	5.0	4.8	4.4	4.2
Japan	4.1	4.7	4.8	5.1	5.4	5.3	4.8	4.5	4.2	3.9	4.0
France	10.6	10.2	8.7	7.9	8.1	8.6	9.0	9.0	9.0	8.1	7.5
Germany	9.3	8.5	7.8	7.9	8.6	9.3	10.3	11.2	10.4	8.7	7.5
Italy	11.5	11.0	10.2	9.2	8.7	8.5	8.1	7.8	6.9	6.2	6.8
Netherlands	4.4	3.5	3.0	2.3	2.8	3.7	4.6	4.8	3.9	3.2	2.8
Sweden	8.4	7.1	5.8	5.0	5.1	5.8	6.6	7.8	7.1	6.2	6.2
United Kingdom	6.3	6.0	5.5	5.1	5.2	5.0	4.8	4.9	5.5	5.4	5.7

[1] Labor force as a percent of the working-age population.
[2] Employment as a percent of the working-age population.
[3] Unemployment as a percent of the labor force.

NOTE: There are breaks in series for the United States (1999, 2000, 2003, 2004), Australia (2001), France (2003), Germany (1999, 2005), the Netherlands (2000, 2003), and Sweden (2005). For further qualifications and historical annual data, see the BLS report *International Comparisons of Annual Labor Force Statistics, Adjusted to U.S. Concepts*, 10 Countries (on the internet at **http://www.bls.gov/ilc/flscomparelf.htm).** Unemployment rates may differ from those in the BLS report *International Unemployment Rates and Employment Indexes, Seasonally Adjusted* (on the Internet at **http://www.bls.gov/ilc/intl_unemployment_rates_monthly.htm**), because the former is updated annually, whereas the latter is updated monthly and reflects the most recent revisions in source data.

53. Annual indexes of manufacturing productivity and related measures, 17 economies

[2002 = 100]

Measure and economy	1980	1990	1994	1995	1996	1997	1998	1999	2000	2001	2003	2004	2005	2006	2007	2008
Output per hour																
United States	41.6	56.9	65.8	68.3	71.0	74.0	79.1	83.1	89.5	90.4	106.4	112.9	115.1	120.5	126.2	127.8
Canada	55.2	70.7	82.4	83.3	83.0	86.7	90.9	94.8	100.5	98.4	100.4	101.6	105.0	107.3	110.2	107.3
Australia	59.0	74.1	80.0	79.0	81.3	83.0	87.0	88.3	93.6	95.9	101.8	103.1	103.8	104.8	106.8	105.9
Japan	47.9	70.9	78.2	83.4	87.2	90.3	91.2	93.6	98.5	96.5	106.8	114.3	121.7	122.9	127.2	127.0
Korea, Rep. of	–	34.6	49.4	54.3	59.7	67.3	75.0	83.5	90.6	90.1	106.8	117.8	130.8	146.8	157.9	159.9
Singapore	–	51.0	66.9	71.3	74.7	77.1	83.1	91.5	97.7	91.8	103.7	110.0	112.0	114.7	110.3	103.1
Taiwan	29.3	53.6	62.8	67.4	72.5	75.5	79.1	84.0	88.3	92.2	102.6	107.1	114.8	122.5	133.5	132.8
Belgium	49.9	73.9	82.3	86.0	87.3	92.7	93.9	93.3	96.8	97.0	102.9	108.1	111.0	115.1	120.2	120.8
Denmark	66.1	79.3	90.8	90.8	87.8	94.8	94.3	95.8	99.2	99.4	104.2	110.2	113.7	119.0	119.4	114.1
France	42.9	63.6	72.4	75.2	75.5	79.9	84.1	87.8	94.0	95.9	104.5	107.3	112.3	114.9	116.3	115.4
Germany	54.5	69.8	79.3	80.6	82.9	87.7	88.1	90.2	96.5	99.0	103.6	107.5	113.5	123.1	129.3	129.2
Italy	56.8	78.1	89.8	94.2	94.6	96.5	95.2	95.9	100.9	101.2	97.9	99.3	100.8	102.6	103.1	99.6
Netherlands	48.0	68.3	79.0	82.1	83.9	84.1	86.6	90.1	96.6	97.1	102.1	109.0	113.9	118.2	121.4	119.7
Norway	70.1	87.8	89.2	88.1	90.8	91.0	88.7	91.7	94.6	97.2	108.7	115.1	119.1	116.7	116.4	117.2
Spain	57.9	80.0	90.2	93.3	92.2	93.1	94.7	96.4	97.4	99.6	102.5	104.4	106.4	108.5	111.1	110.1
Sweden	41.3	50.9	62.7	66.6	68.8	75.1	79.6	86.9	92.8	90.1	108.1	119.7	127.1	139.0	139.7	134.6
United Kingdom	46.3	72.8	83.5	82.1	81.4	82.9	83.7	87.8	93.7	97.0	104.2	110.8	115.5	119.8	123.8	124.2
Output																
United States	49.6	66.2	75.7	79.1	82.1	87.1	92.9	96.9	103.0	97.3	101.1	106.8	107.7	113.6	116.9	113.7
Canada	55.2	68.7	73.1	76.5	77.5	82.3	86.5	93.7	103.2	99.2	99.4	101.4	103.0	102.6	101.6	95.9
Australia	70.3	81.5	85.4	84.9	87.6	89.6	92.1	91.9	96.3	95.4	101.7	101.8	101.4	100.5	103.7	105.4
Japan	61.9	98.9	97.5	101.7	105.6	108.2	102.5	102.1	107.4	101.6	105.3	111.4	117.2	121.3	125.7	121.4
Korea, Rep. of	13.4	41.3	54.9	61.3	65.3	68.4	63.0	76.8	89.8	92.0	105.4	115.9	123.1	133.0	142.5	146.9
Singapore	–	51.2	68.5	75.4	77.4	80.8	80.2	90.6	104.4	92.2	102.9	117.2	128.3	143.6	152.2	145.9
Taiwan	30.2	60.5	71.1	75.0	78.9	83.5	86.1	92.4	99.2	91.8	105.3	115.6	123.6	132.5	146.3	144.7
Belgium	67.5	87.2	87.5	89.9	90.2	94.5	96.1	96.4	100.7	100.8	98.6	102.2	102.0	104.9	107.6	107.1
Denmark	77.3	85.5	90.3	94.7	90.3	97.7	98.5	99.4	102.9	103.0	97.2	98.8	99.3	103.4	107.2	105.2
France	69.5	81.5	80.9	83.8	83.6	87.5	91.7	94.8	99.1	100.1	101.9	102.8	105.2	104.9	105.7	103.2
Germany	81.3	94.5	90.9	90.1	88.2	92.0	93.1	94.0	100.4	102.1	100.7	104.3	107.8	115.6	122.7	123.5
Italy	71.1	88.2	91.4	95.7	95.2	96.6	97.5	97.3	101.4	101.1	97.3	98.0	97.8	101.1	103.1	98.4
Netherlands	59.3	77.0	82.0	85.1	86.3	87.5	90.5	93.8	100.1	99.9	98.9	102.3	104.3	107.9	111.3	110.6
Norway	95.1	91.4	94.1	94.6	98.4	102.7	101.9	101.8	101.3	100.5	103.3	109.2	114.1	117.5	123.6	127.3
Spain	58.8	73.7	73.2	76.0	77.9	82.9	87.9	92.9	97.0	100.1	101.2	101.9	103.1	105.0	106.0	103.8
Sweden	46.8	56.1	59.7	67.5	69.7	75.1	81.3	89.0	96.3	94.1	104.9	114.5	119.8	129.2	132.2	127.6
United Kingdom	78.5	94.9	95.6	97.1	97.9	99.6	100.3	101.3	103.6	102.2	99.7	101.9	101.7	103.4	104.0	101.0
Total hours																
United States	119.4	116.5	115.1	115.9	115.7	117.7	117.4	116.6	115.1	107.6	95.1	94.6	93.6	94.3	92.6	89.0
Canada	100.0	97.2	88.8	91.8	93.4	94.9	95.2	98.9	102.7	100.8	99.0	99.8	98.1	95.6	92.2	89.3
Australia	119.1	110.0	106.7	107.4	107.7	108.0	105.9	104.1	102.9	99.5	99.9	98.7	97.7	95.9	97.1	99.6
Japan	129.3	139.6	124.7	122.0	121.0	119.9	112.5	109.1	109.0	105.3	98.6	97.5	96.3	98.6	98.8	95.7
Korea, Rep. of	–	119.2	111.1	113.0	109.3	101.7	84.0	92.0	99.1	102.0	98.7	98.3	94.1	90.6	90.2	91.9
Singapore	–	100.5	102.4	105.7	103.7	104.8	96.5	99.0	106.8	100.5	99.3	106.5	114.6	125.2	137.9	141.5
Taiwan	102.9	113.0	113.3	111.2	108.9	110.6	108.8	110.1	112.4	99.6	102.7	107.9	107.7	108.2	109.6	109.0
Belgium	135.3	117.9	106.3	104.5	103.4	101.9	102.3	103.4	104.0	104.0	95.8	94.5	91.9	91.1	89.5	88.6
Denmark	117.0	107.8	99.5	104.3	102.9	103.1	104.5	103.7	103.7	103.7	93.3	89.6	87.3	86.9	89.8	92.2
France	161.9	128.2	111.8	111.3	110.7	109.4	109.0	108.0	105.4	104.4	97.5	95.8	93.7	91.3	90.8	89.4
Germany	149.3	135.3	114.5	111.7	106.4	104.9	105.8	104.2	104.0	103.1	97.3	97.1	95.0	93.9	94.9	95.6
Italy	125.1	113.0	101.8	101.6	100.7	100.1	102.5	101.5	100.5	99.9	99.4	98.7	97.0	98.6	100.0	98.9
Netherlands	123.6	112.7	103.9	103.7	102.9	104.0	104.5	104.1	103.6	103.0	96.8	93.9	91.6	91.3	91.7	92.4
Norway	135.6	104.1	105.5	107.3	108.4	112.8	115.0	111.0	107.1	103.4	95.1	94.9	95.8	100.7	106.2	108.6
Spain	101.6	92.1	81.1	81.4	84.5	89.0	92.8	96.4	99.7	100.5	98.8	97.6	96.8	96.8	95.4	94.3
Sweden	113.2	110.2	95.1	101.3	101.3	100.1	102.2	102.4	103.8	104.3	97.0	95.7	94.2	93.0	94.6	94.8
United Kingdom	169.8	130.4	114.5	118.2	120.3	120.1	119.8	115.4	110.6	105.4	95.7	92.0	88.1	86.3	84.0	81.3
Hourly compensation (national currency basis)																
United States	38.2	62.1	72.2	73.4	74.6	76.5	81.2	84.8	91.3	94.8	108.0	108.9	112.5	114.7	119.6	123.2
Canada	36.3	68.3	79.8	81.7	82.9	84.9	89.3	91.2	94.2	96.8	104.0	107.7	112.4	115.8	119.9	122.5
Australia	–	61.7	69.8	74.1	77.5	79.6	82.9	86.2	90.0	95.7	103.9	109.4	116.3	124.2	130.7	134.2
Japan	50.4	77.4	89.4	92.4	93.2	96.4	98.8	98.6	98.0	99.3	97.8	98.8	99.6	98.5	98.3	100.1
Korea, Rep. of	–	23.7	46.5	56.4	65.7	71.4	77.7	78.2	85.2	89.0	105.5	120.6	139.7	153.9	163.8	167.1
Singapore	–	56.2	77.5	81.0	87.0	90.9	96.1	87.9	90.2	97.3	100.6	97.9	96.8	95.0	94.3	94.7
Taiwan	20.4	58.6	76.4	82.7	88.2	90.8	94.2	95.9	97.6	103.7	101.0	102.1	105.7	108.9	112.4	113.8
Belgium	40.2	69.0	80.9	83.2	84.7	87.9	89.2	90.4	92.0	95.9	103.4	106.2	109.4	113.3	119.3	122.8
Denmark	32.6	68.6	77.7	79.3	82.5	85.4	87.6	89.8	91.6	95.9	106.8	110.9	117.2	122.9	126.1	130.5
France	28.2	64.2	77.6	79.9	81.4	83.8	84.4	87.1	91.8	94.2	102.3	105.5	109.4	113.7	116.8	120.3
Germany	35.8	59.7	77.1	81.2	85.1	86.7	88.0	90.0	94.7	97.6	102.2	102.8	104.1	108.4	110.3	113.0
Italy	19.6	61.3	78.0	82.5	87.0	91.1	89.4	91.7	94.1	97.2	103.8	107.4	110.8	113.0	115.5	118.5
Netherlands	41.1	61.9	75.0	77.0	78.4	80.5	83.9	86.7	90.9	94.8	104.0	108.4	110.0	113.1	116.7	120.5
Norway	24.7	58.5	66.2	69.2	72.1	75.3	79.7	84.2	89.0	94.4	104.1	107.5	112.6	119.5	125.2	132.2
Spain	20.7	59.0	83.8	87.4	89.5	91.6	92.3	92.1	93.5	97.2	105.0	108.7	113.9	118.9	124.8	130.8
Sweden	25.4	59.9	68.0	71.7	77.3	81.4	84.6	87.2	90.6	94.9	104.5	107.3	111.0	114.2	119.7	123.3
United Kingdom	24.5	60.6	70.9	72.1	71.9	75.1	80.7	85.4	90.6	94.7	104.9	109.6	115.9	121.7	125.7	128.8

See notes at end of table.

53. Continued— Annual indexes of manufacturing productivity and related measures, 17 economies

Measure and economy	1980	1990	1994	1995	1996	1997	1998	1999	2000	2001	2003	2004	2005	2006	2007	2008
Unit labor costs (national currency basis)																
United States	92.0	109.3	109.8	107.5	105.2	103.4	102.6	102.0	102.1	104.8	101.5	96.4	97.7	95.1	94.8	96.4
Canada	65.8	96.7	96.8	98.0	100.0	97.9	98.3	96.2	93.7	98.4	103.6	106.1	107.0	108.0	108.9	114.1
Australia	–	83.2	87.2	93.7	95.3	96.0	95.3	97.6	96.2	99.8	102.1	106.0	112.1	118.5	122.3	126.7
Japan	105.4	109.2	114.3	110.8	106.9	106.8	108.3	105.4	99.5	102.9	91.6	86.4	81.8	80.1	77.3	78.8
Korea, Rep. of	37.0	68.5	94.1	104.0	110.0	106.1	103.6	93.7	94.1	98.8	98.8	102.3	106.8	104.8	103.7	104.5
Singapore	–	110.3	115.9	113.6	116.5	117.9	115.7	96.0	92.3	106.0	97.1	88.9	86.5	82.8	85.5	91.9
Taiwan	69.5	109.3	121.6	122.7	121.6	120.4	119.1	114.2	110.5	112.4	98.5	95.3	92.0	88.9	84.2	85.7
Belgium	80.6	93.3	98.2	96.7	97.1	94.8	95.0	97.0	95.1	98.9	100.5	98.2	98.6	98.5	99.3	101.7
Denmark	49.4	86.4	85.6	87.3	94.0	90.0	92.9	93.7	92.3	96.5	102.5	100.6	103.0	103.3	105.6	114.4
France	65.6	101.0	107.1	106.1	107.8	104.8	100.4	99.3	97.6	98.3	97.9	98.3	97.4	98.9	100.4	104.3
Germany	65.7	85.5	97.2	100.8	102.7	98.9	99.9	99.7	98.1	98.6	98.7	95.7	91.7	88.0	85.3	87.5
Italy	34.5	78.6	86.8	87.7	92.0	94.4	94.0	95.6	93.2	96.1	106.0	108.1	110.0	110.2	112.1	119.0
Netherlands	85.6	90.5	95.0	93.8	93.5	95.7	96.9	96.2	94.1	97.7	101.8	99.5	96.6	95.7	96.2	100.7
Norway	35.3	66.6	74.2	78.5	79.4	82.7	89.9	91.8	94.1	97.0	95.8	93.4	94.5	102.4	107.5	112.8
Spain	35.7	73.7	92.8	93.6	97.0	98.4	97.4	95.6	96.0	97.6	102.5	104.1	107.0	109.5	112.3	118.8
Sweden	61.6	117.7	108.4	107.6	112.3	108.4	106.3	100.4	97.6	105.3	96.7	89.7	87.3	82.2	85.6	91.6
United Kingdom	52.9	83.3	84.9	87.9	88.3	90.5	96.4	97.3	96.7	97.6	100.7	98.9	100.4	101.6	101.5	103.7
Unit labor costs (U.S. dollar basis)																
United States	92.0	109.3	109.8	107.5	105.2	103.4	102.6	102.0	102.1	104.8	101.5	96.4	97.7	95.1	94.8	96.4
Canada	88.4	130.1	111.3	112.1	115.1	111.1	104.0	101.7	99.1	99.8	116.1	128.0	138.7	149.5	159.3	168.1
Australia	–	119.5	117.3	127.7	137.2	131.3	110.2	115.9	102.9	94.9	122.5	143.6	157.2	164.2	188.8	199.0
Japan	58.2	94.3	140.1	147.7	123.0	110.4	103.6	116.1	115.6	106.0	98.9	100.1	93.0	86.3	82.2	95.5
Korea, Rep. of	76.2	120.5	145.7	168.2	170.9	139.9	92.5	98.4	104.0	95.6	103.6	111.7	130.4	137.3	139.6	119.0
Singapore	–	109.0	135.9	143.5	147.9	142.1	123.9	101.5	95.9	105.9	99.7	94.2	93.1	93.4	101.6	116.4
Taiwan	66.6	140.3	158.7	159.9	152.9	144.5	122.6	122.1	122.1	114.8	98.9	98.6	98.9	94.4	88.5	93.9
Belgium	117.6	119.2	125.4	140.1	133.8	112.9	111.6	109.3	92.8	93.7	120.3	129.2	129.8	130.8	144.0	158.4
Denmark	69.1	110.1	106.2	123.0	127.8	107.4	109.3	105.8	89.9	91.4	122.9	132.5	135.5	137.1	153.1	177.3
France	107.8	128.7	134.1	147.7	146.2	124.5	118.0	111.9	95.3	93.1	117.2	129.4	128.3	131.5	145.6	162.4
Germany	74.7	109.4	124.0	145.6	141.2	117.9	117.4	112.4	95.8	93.3	118.2	125.9	120.8	117.0	123.7	136.3
Italy	82.6	134.3	110.4	110.2	122.1	113.5	110.8	107.7	91.0	91.0	126.9	142.2	144.8	146.5	162.5	185.4
Netherlands	100.4	115.9	121.7	136.3	129.3	114.2	113.8	108.4	91.9	92.5	121.9	130.8	127.2	127.2	139.5	156.8
Norway	57.0	85.0	83.9	98.9	98.1	93.2	95.0	93.9	85.2	86.1	108.0	110.6	117.2	127.6	146.6	159.8
Spain	87.6	127.3	122.1	132.2	134.8	118.1	114.8	107.7	93.8	92.4	122.7	136.9	140.9	145.6	162.9	185.1
Sweden	141.5	193.1	136.7	146.5	162.8	137.9	130.0	117.9	103.5	99.0	116.3	118.7	113.7	108.4	123.3	135.2
United Kingdom	81.9	98.9	86.5	92.3	91.8	98.6	106.4	104.7	97.6	93.5	109.5	120.6	121.6	124.6	135.2	128.0

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,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]												
	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]	1998[4]	1999[4]	2000[4]	2001[4]
PRIVATE SECTOR[5]													
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	–	–	–	–	–	–	–	–	–
Agriculture, forestry, and fishing[5]													
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	–	–	–	–	–	–	–	–	–
Mining													
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	–	–	–	–	–	–	–	–	–
Construction													
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	–	–	–	–	–	–	–	–	–
General building contractors:													
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	–	–	–	–	–	–	–	–	–
Heavy construction, except building:													
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	–	–	–	–	–	–	–	–	–
Special trades contractors:													
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	–	–	–	–	–	–	–	–	–
Manufacturing													
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	–	–	–	–	–	–	–	–	–
Durable goods:													
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	–	–	–	–	–	–	–	–	–
Lumber and wood products:													
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	–	–	–	–	–	–	–	–	–
Furniture and fixtures:													
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	–	–	–	–	–	–	–	–	–
Stone, clay, and glass products:													
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	–	–	–	–	–	–	–	–	–
Primary metal industries:													
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
Fabricated metal products:													
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	–	–	–	–	–	–	–	–	–
Industrial machinery and equipment:													
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	–	–	–	–	–	–	–	–	–
Electronic and other electrical equipment:													
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	–	–	–	–	–	–	–	–	–
Transportation equipment:													
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	–	–	–	–	–	–	–	–	–
Instruments and related products:													
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	–	–	–	–	–	–	–	–	–
Miscellaneous manufacturing industries:													
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[1] United States

Industry and type of case[2]	Incidence rates per 100 workers [3]												
	1989 [1]	1990	1991	1992	1993 [4]	1994 [4]	1995 [4]	1996 [4]	1997 [4]	1998 [4]	1999 [4]	2000 [4]	2001 [4]
Nondurable goods:													
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	–	–	–	–	–	-	–	–	–
Food and kindred products:													
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	–	–	–	–	–	-	–	–	–
Tobacco products:													
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	–	–	–	–	–	-	–	–	–
Textile mill products:													
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	–	–	–	–	–	–	–	–	–
Apparel and other textile products:													
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	–	–	–	–	–	-	–	–	–
Paper and allied products:													
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	–	–	–	–	–	–	–	–	–
Printing and publishing:													
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	–	–	–	–	–	–	–	–	–
Chemicals and allied products:													
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	–	–	–	–	–	–	–	–	–
Petroleum and coal products:													
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	–	–	–	–	–	–	–	–	–
Rubber and miscellaneous plastics products:													
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	–	–	–	–	–	–	–	–	–
Leather and leather products:													
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	–	–	–	–	–	–	–	–	–
Transportation and public utilities													
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	–	–	–	–	–	–	–	–	–
Wholesale and retail trade													
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	–	–	–	–	–	–	–	–	–
Wholesale trade:													
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	–	–	–	–	–	–	–	–	–
Retail trade:													
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	–	–	–	–	–	–	–	–	–
Finance, insurance, and real estate													
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	–	–	–	–	–	–	–	–	–
Services													
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	–	–	–	–	–	–	–	–	–

[1] 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.

[2] 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.

[3] 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).

[4] 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.

[5] 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[1]	1996-2000 (average)	2001-2005 (average)[2]	2005[3]	
			Number	Percent
All events	6,094	5,704	5,734	100
Transportation incidents	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
Assaults and violent acts	1,015	850	792	14
Homicides	766	602	567	10
Shooting	617	465	441	8
Suicide, self-inflicted injury	216	207	180	3
Contact with objects and equipment	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
Falls	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
Exposure to harmful substances or environments	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
Fires and explosions	196	174	159	3
Fires--unintended or uncontrolled	103	95	93	2
Explosion	92	78	65	1

[1] Based on the 1992 BLS Occupational Injury and Illness Classification Manual.
[2] Excludes fatalities from the Sept. 11, 2001, terrorist attacks.
[3] 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.

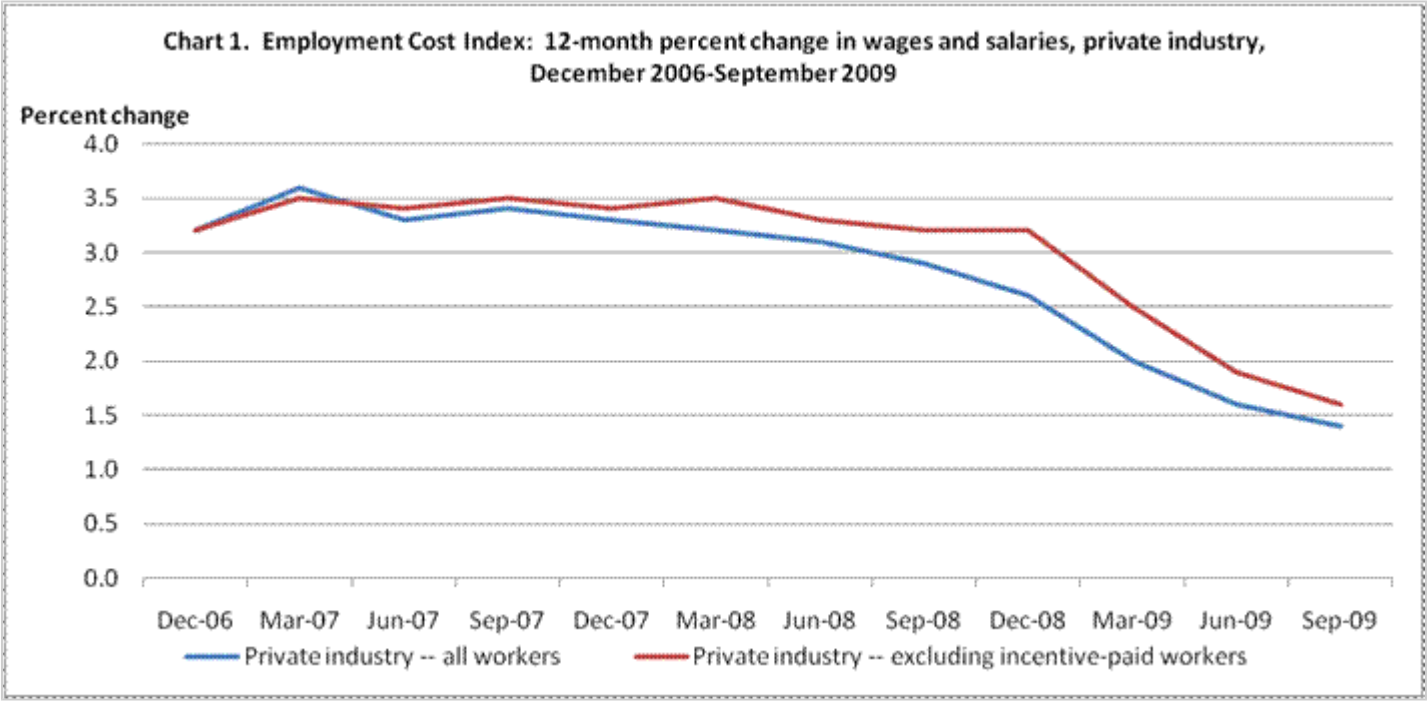
NOTE: Totals for all years are revised and final. Totals for major categories may include subcategories not shown separately. Dashes indicate no data reported or data that do not meet publication criteria. N.e.c. means "not elsewhere classified."

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.

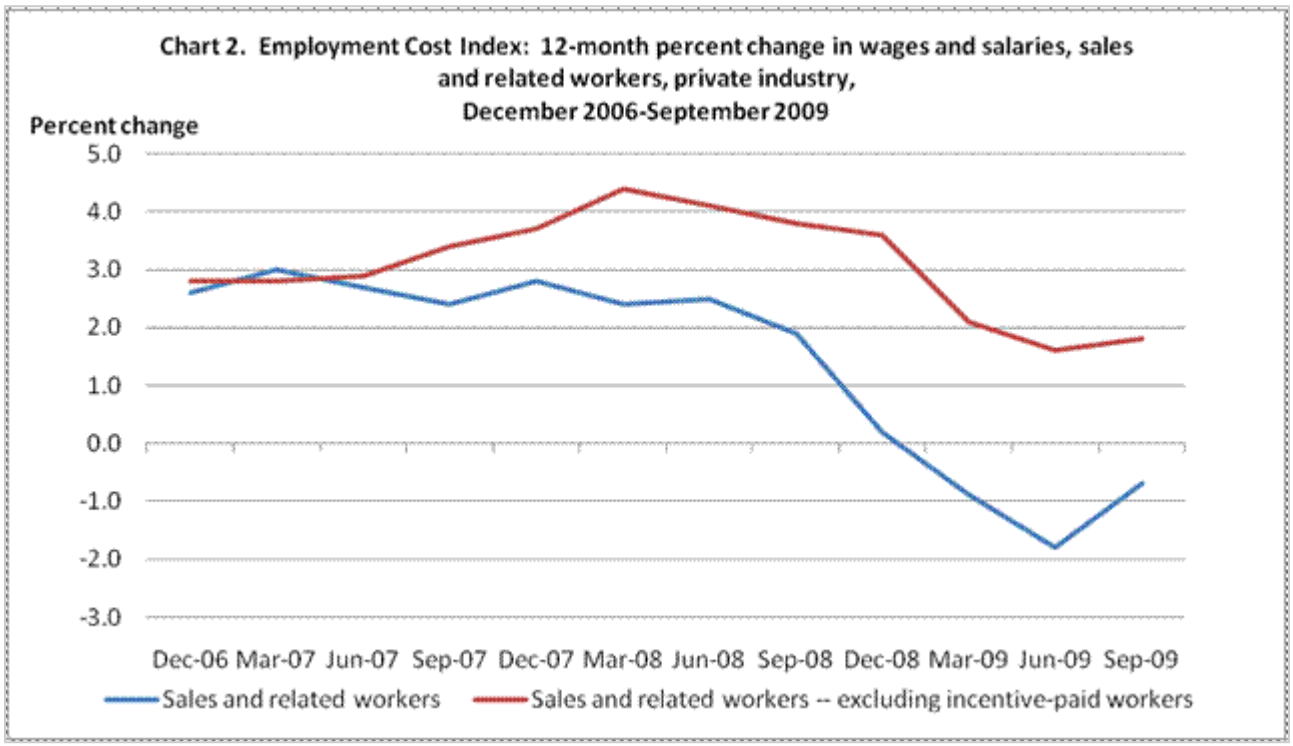
The Effect of Incentive Pay on Rates of Change in Wages and Salaries

by William J. Wiatrowski
Bureau of Labor Statistics

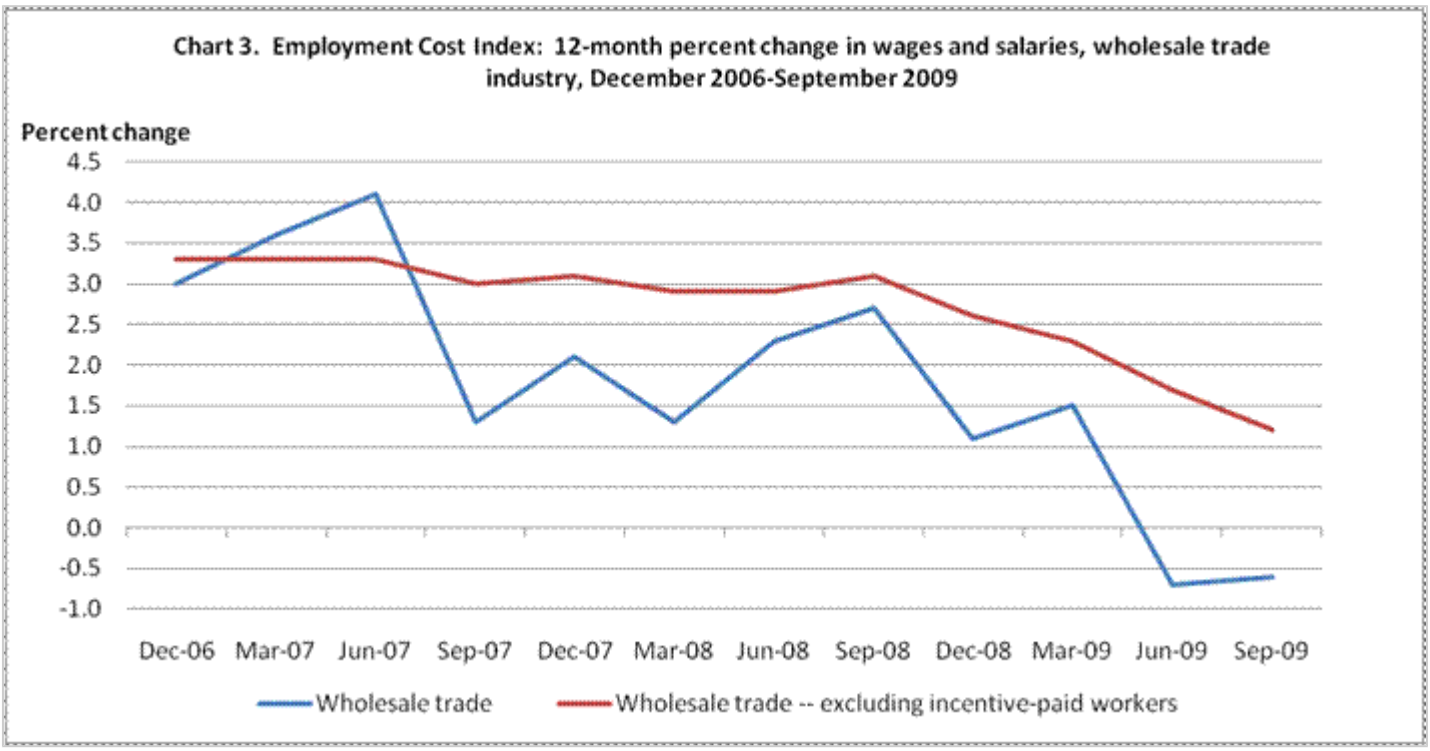
Originally Posted: November 24, 2009



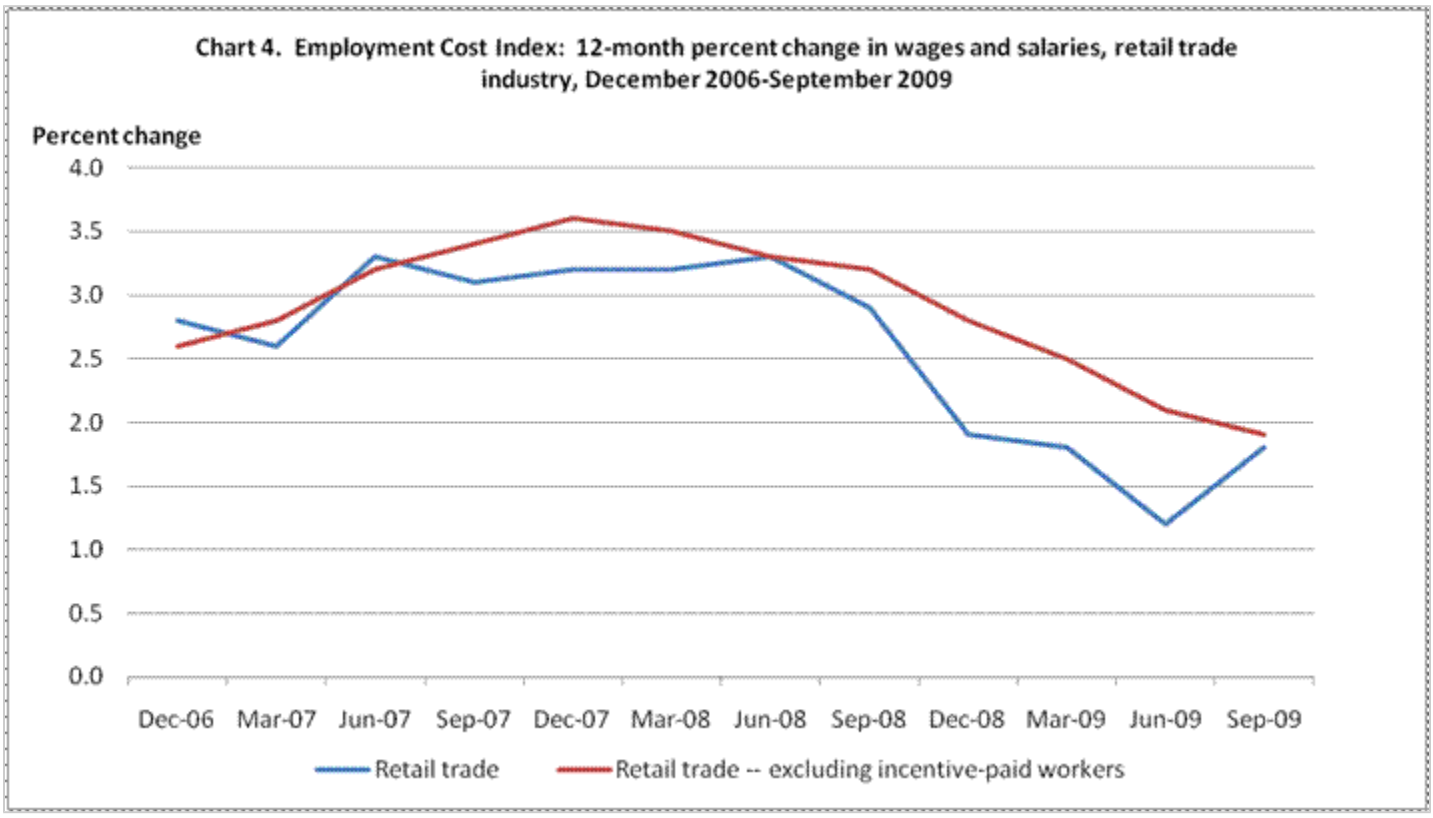
- As chart 1 shows, following steady increases of approximately 3 percent per year from December 2006 through June 2008, private industry wage and salary increases have slowed; the annual rate of change in recent quarters has been around 2 percent or below.
- This overall trend can mask the effect of incentive-paid workers, who make up about 5 percent of the private workforce, as measured by the BLS Employment Cost Index (ECI).
- Incentive-paid workers are those who receive some portion of their earnings based on sales or output, rather than a unit of time such as an hourly rate or monthly salary. Examples of incentive-paid work include piece-rate systems found in manufacturing environments and commissions paid to certain sales workers. Because such workers represent a small proportion of total employment, it is difficult to track this volatile segment of the workforce. However, by comparing all workers with those who are not paid by incentive, some trends can be identified.
- In the private sector, annual increases for non-incentive-paid workers (also referred to here as time-based workers) have typically been estimated at between 0.2 and 0.6 percentage points more than annual increases for all workers.
- Scratch below the surface, however, and different patterns are identified for certain occupation and industry groups--especially those that have been affected by the recession.



- Incentive workers make up nearly 20 percent of the sales worker category; the influence of slow wage growth (and even wage declines) for these workers can be seen in the gap in this chart.
- Chart 2 shows that the published estimates of wage increase for all sales workers and time-based sales workers were similar in late 2006 and early 2007; since then, these series have begun to diverge. Beginning with data for December 2008, the gap between the series is statistically significant.
- Even more striking, the published estimates of the change in wages and salaries for all sales workers have been negative for each of the three quarters in 2009, reflecting the influence of incentive-paid workers.

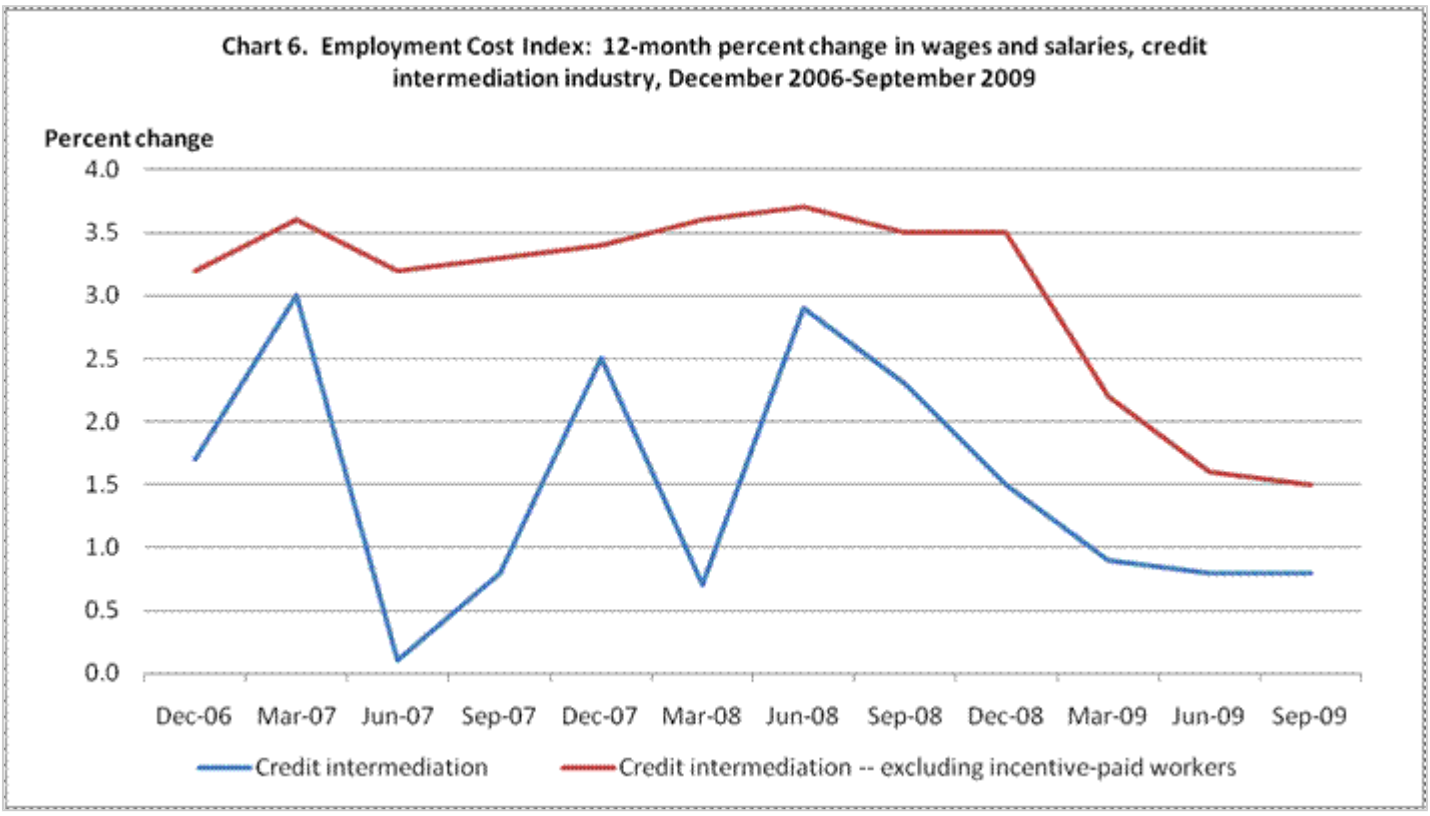


- What is most noteworthy about chart 3, which shows the changes in wages and salaries for workers in the wholesale trade industry, is the variation in the published estimates for all such workers from quarter to quarter.
- Those not receiving incentive pay have seen relatively stable wage growth, with declining rates of increase in 2009. In contrast, all wholesale trade workers--influenced by those receiving incentives--saw an increase in the published estimate of 2.7 percent in September 2008 and a decrease of 0.6 percent in September 2009. Incentive-paid workers make up a little more than 10 percent of the employees in this industry.

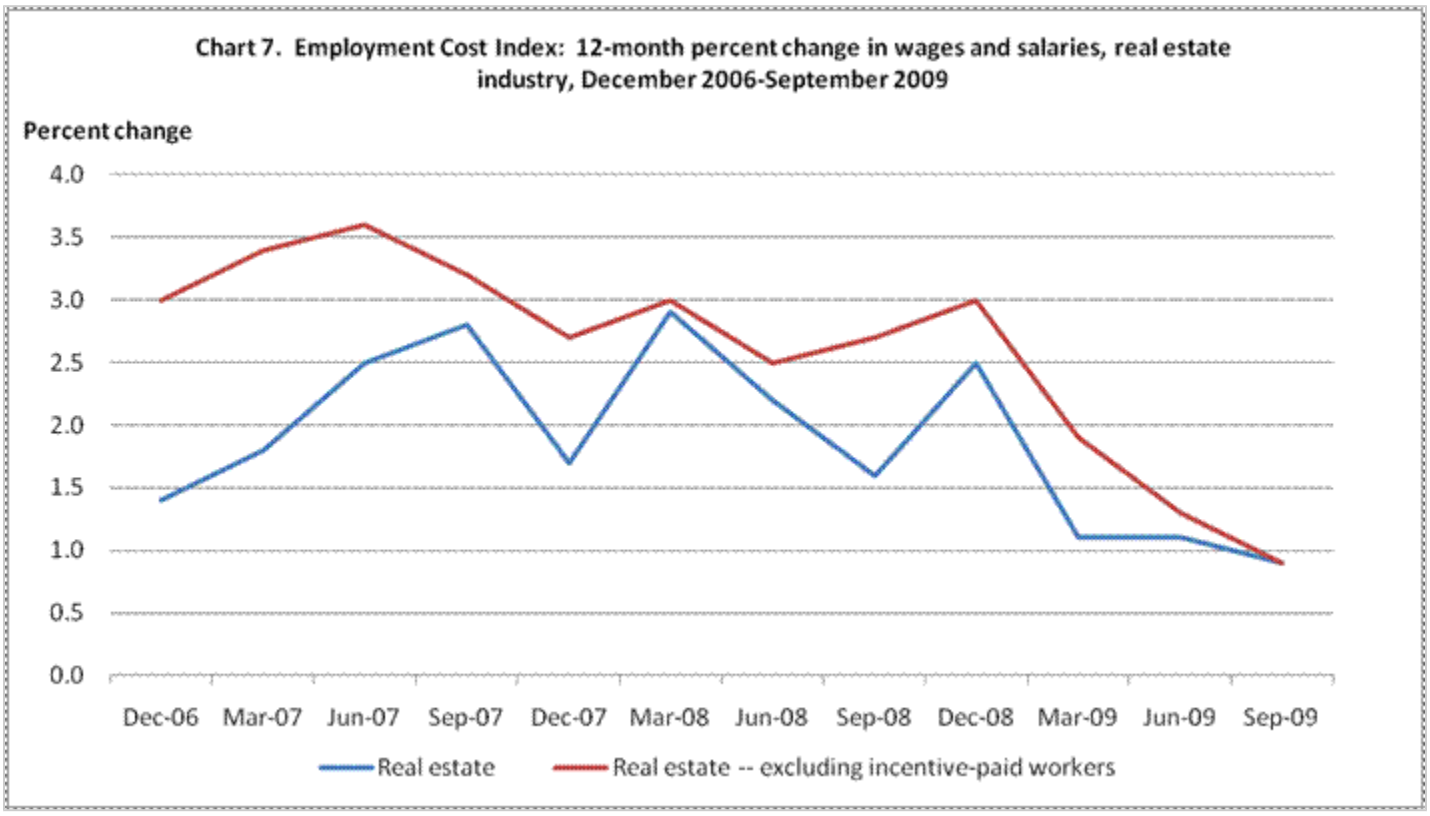


- As chart 4 shows, the retail trade industry shows little variation between time-based workers and all workers.
- The difference in wage growth for these two series has not been statistically significant over the period shown.
- The wage growth shown in each of these series in each quarter of 2009 has moderated compared with that of a year earlier.
- Less than 10 percent of retail trade workers are paid by incentive.

- The financial activities industry includes two broad categories: finance (such as banks, consumer lending, brokerages, insurance carriers, and related activities) and real estate (such as sales, leasing, and property management).
- Incentive-paid workers account for about 13 percent of the employment in this industry.
- As can be seen in chart 5, the series that includes incentive workers shows a clear decline in wage increases from September 2008 to June 2009.
- The gap between the series was most pronounced in March 2009; more recent differences between the series are not statistically significant.



- Credit intermediation enterprises are those that lend funds raised from depositors; they include banks, credit unions, and mortgage companies. Credit intermediation is a subset of the financial activities industry, shown in chart 5.
- Of the industry series presented here, credit intermediation includes the largest proportion of incentive-paid workers--nearly 20 percent.
- As chart 6 indicates, the published estimates of annual percent change in wages and salaries for all workers in this industry has varied from 0.1 percent to 3.0 percent over the past 3 years; however, such changes have been about the same over the past three quarters.
- While the chart suggests some large gaps between the series over the past few years, the small sample size often results in such differences not being statistically significant. The gap in the series has been steady over the past three quarters.



- Although real estate sales and prices have changed dramatically over the past few years, chart 7 shows that these series--which also include leasing, property management and appraisal businesses--do not show a large gap between all workers and those without incentive pay.
- It is important to note that the Employment Cost Index does not include self-employed individuals; thus, many individuals involved in real estate sales may not be included in the data presented here. Incentive-paid workers make up about 6 percent of those in the real estate industry.
- The series tend to be consistent; in fact, the annual rates of change in wages and salaries between the two series are generally not statistically significant. The published estimates for both series were 0.9 percent in September 2009. In September 2007, the published estimate was 2.8 percent for all workers in the real estate industry and 3.2 percent for time-based workers in the real estate industry.

The Employment Cost Index (ECI) is a measure of the change in the cost of labor, free from the influence of employment shifts among occupations and industries. Wages and salaries are defined as the hourly straight-time wage rate or, for workers not paid on an hourly basis, straight-time earnings divided by the corresponding hours. Straight-time wage and salary rates are total earnings before payroll deductions, excluding premium pay for overtime and for work on weekends and holidays, shift differentials, and nonproduction bonuses. Production bonuses, incentive earnings, commission payments, and cost-of-living adjustments are included in straight-time wage and salary rates. More information about the BLS Employment Cost Index is available at http://www.bls.gov/ncs/ect/. For a discussion of incentive pay in the Employment Cost Index, see Anthony J. Barkume and Thomas G. Moehrle, “The Role of Incentive Pay in the Volatility of the Employment Cost Index,” *Compensation and Working Conditions*, Summer 2001, pp. 13-18, available at http://www.bls.gov/opub/cwc/archive/summer2001art2.pdf.

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Data for Chart 1. Employment Cost Index: 12-month percent change in wages and salaries, private industry, December 2006-September 2009

	Dec-06	Mar-07	Jun-07	Sep-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09
Private industry -- all workers	3.2	3.6	3.3	3.4	3.3	3.2	3.1	2.9	2.6	2	1.6	1.4
Private industry -- excluding incentive-paid workers	3.2	3.5	3.4	3.5	3.4	3.5	3.3	3.2	3.2	2.5	1.9	1.6

Data for chart 2. Employment Cost Index: 12-month percent change in wages and salaries, sales and related workers, private industry, December 2006-September 2009

	Dec-06	Mar-07	Jun-07	Sep-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09
Sales and related workers	2.6	3	2.7	2.4	2.8	2.4	2.5	1.9	0.2	-0.9	-1.8	-0.7
Sales and related workers -- excluding incentive-paid workers	2.8	2.8	2.9	3.4	3.7	4.4	4.1	3.8	3.6	2.1	1.6	1.8

Data for chart 3. Employment Cost Index: 12-month percent change in wages and salaries, wholesale trade industry, December 2006-September 2009

	Dec-06	Mar-07	Jun-07	Sep-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09
Wholesale trade	3	3.6	4.1	1.3	2.1	1.3	2.3	2.7	1.1	1.5	-0.7	-0.6
Wholesale trade -- excluding incentive-paid workers	3.3	3.3	3.3	3	3.1	2.9	2.9	3.1	2.6	2.3	1.7	1.2

Data for chart 4. Employment Cost Index: 12-month percent change in wages and salaries, retail trade industry, December 2006-September 2009

	Dec-06	Mar-07	Jun-07	Sep-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09
Retail trade	2.8	2.6	3.3	3.1	3.2	3.2	3.3	2.9	1.9	1.8	1.2	1.8
Retail trade -- excluding incentive-paid workers	2.6	2.8	3.2	3.4	3.6	3.5	3.3	3.2	2.8	2.5	2.1	1.9

Data for chart 5. Employment Cost Index: 12-month percent change in wages and salaries, financial activities industry, December 2006-September 2009

	Dec-06	Mar-07	Jun-07	Sep-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09
Financial activities	2.8	3.4	2.5	3.4	3	2.4	2.7	1.6	1.2	-0.4	0.2	0.7
Financial activities -- excluding incentive-paid workers	3.1	3.4	3.5	3.4	3.1	3.3	3	2.9	2.9	1.9	1.4	1.4

Data for chart 6. Employment Cost Index: 12-month percent change in wages and salaries, credit intermediation industry, December 2006-September 2009

	Dec-06	Mar-07	Jun-07	Sep-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09
Credit intermediation	1.7	3	0.1	0.8	2.5	0.7	2.9	2.3	1.5	0.9	0.8	0.8
Credit intermediation -- excluding incentive-paid workers	3.2	3.6	3.2	3.3	3.4	3.6	3.7	3.5	3.5	2.2	1.6	1.5

Data for chart 7. Employment Cost Index: 12-month percent change in wages and salaries, real estate industry, December 2006-September 2009

	Dec-06	Mar-07	Jun-07	Sep-07	Dec-07	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09
Real estate	1.4	1.8	2.5	2.8	1.7	2.9	2.2	1.6	2.5	1.1	1.1	0.9
Real estate -- excluding incentive-paid workers	3	3.4	3.6	3.2	2.7	3	2.5	2.7	3	1.9	1.3	0.9

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