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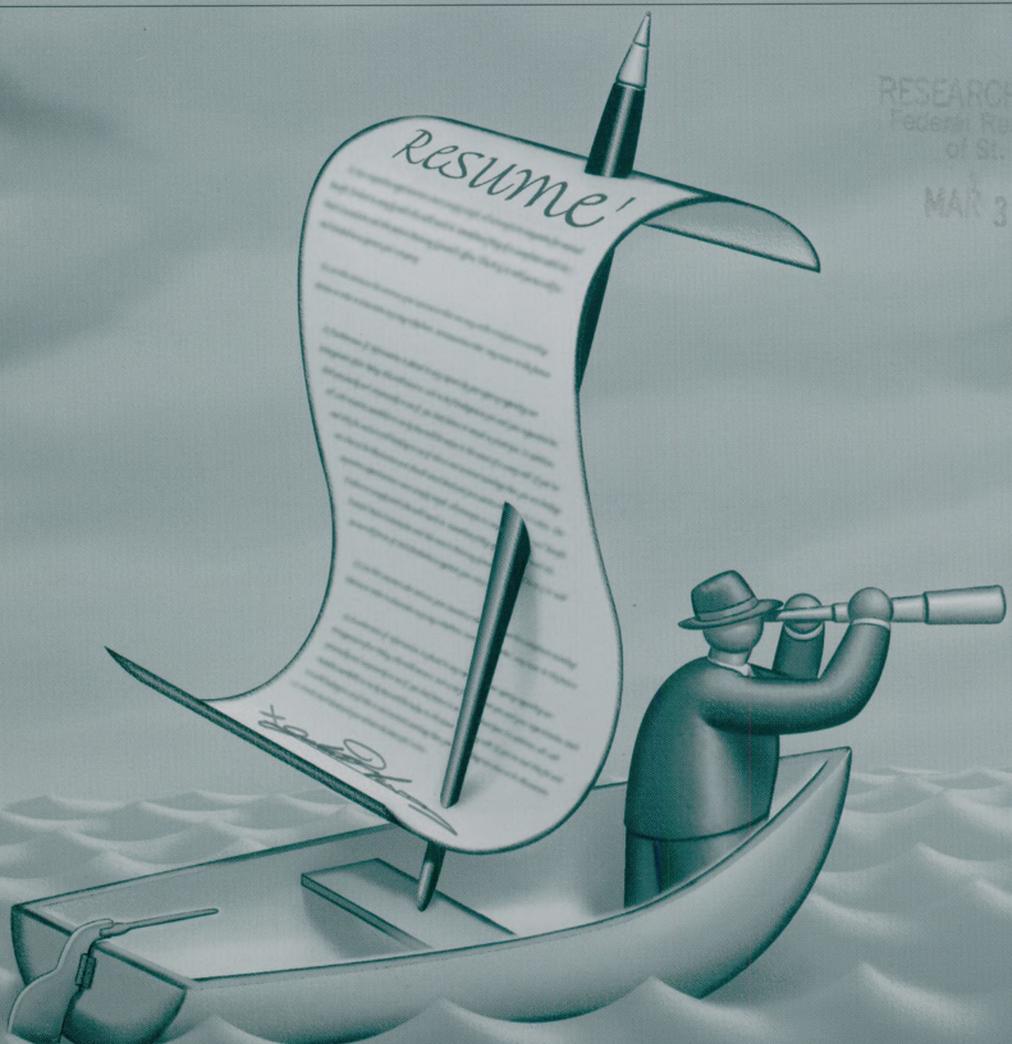

Employment Outlook, 2002-12

Concepts and context • U.S. economy • Labor force • Industry output and employment • Occupational employment

U.S. Department of Labor
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Volume 127, Number 2
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The February *Review*

The BLS *Occupational Outlook Handbook* is far and away the most popular sub-section of the BLS Web site. The *Handbook* home page received more than 500,000 page views in December 2003, and the index of professional occupations was viewed almost 100,000 times. The projections that the articles in this issue present are the quantitative underpinnings of the *Handbook* and its evaluation of prospects in specific occupations. Thus, we think, it was worth the wait while the projections staff made their transition to the new North American Industry Classification System (NAICS).

Michael W. Horrigan, the Assistant Commissioner in charge of the employment projections program, provides an overview of the concepts and methods used to make the individual projections and the interactions among them. He also summarizes the results of each stage of the process.

Betty W. Su establishes the macroeconomic framework the rest of the projections will assume prevails in 2012: A $12.6 trillion dollar economy (in chained 1996 dollars) with a projected growth rate of GDP of about 3.0 percent and a projected productivity growth rate of 2.1 percent.

Mitra Toossi uses long-term population projections provided by the Census Bureau and an analysis of historical trends in labor force participation to project the labor supply scene in 2012: An overall labor force that has grown from 144.9 million in 2002 to 162.3 million in 2012—a growth rate of about 1.1 percent per annum.

Jay M. Berman reports on the detailed industry by industry flow of inputs and outputs. As mentioned above, the fact that this uses the new NAICS represents a significant break from the past use of the old-shoe Standard Industrial Classification (SIC) system.

On the basis of the industry production and employment needs reported above, combined with industry-occupation staffing patterns developed by the Occupational Employment Survey, Dan Hecker presents projected trends in occupational employment in 2012.

Union membership 2003

In 2003, 12.9 percent of wage and salary workers were union members, down from 13.3 percent in 2002. The union membership rate has steadily declined from a high of 20.1 percent in 1983, the first year for which comparable union data are available.

Union membership rates were higher for men (14.3 percent) than for women (11.4 percent) in 2003. The gap between men's and women's rates has narrowed considerably since 1983, when the rate for men was 10 percentage points higher than the rate for women. Blacks were more likely in 2003 to be union members (16.5 percent) than were whites (12.5 percent), Asians (11.4 percent), or Hispanics (10.7 percent).

Among occupational groups, education, training, and library occupations (37.7 percent) and protective service workers (36.1 percent) had the highest unionization rates in 2003. Natural resources, construction, and maintenance workers and production, transportation, and material moving occupations also had higher-than-average union membership rates at 19.2 percent and 18.7 percent, respectively. Among the major occupational groups, sales and office occupations had the lowest unionization rate—8.2 percent. Find out more in "Union Members in 2003," news release USDL 04-53.

Real weekly earnings flat in 2003

Average weekly earnings rose by 1.7 percent, seasonally adjusted, from December 2002 to December 2003. After deflation by the CPI-W, however, average weekly earnings were unchanged.

Before adjustment for seasonal change and inflation, average weekly earnings were $523.02 in December 2003, compared with $520.37 a year earlier. After adjustment for seasonality, weekly earnings were $522.35 in December 2003 and $513.76 in December 2002. Expressed in constant 1982 dollars, seasonally-adjusted weekly earnings were $280.44 and $280.53 in the final months of 2002 and 2003, respectively. For more information see, "Real Earnings in December 2003," news release USDL 04-30.

Productivity in retailing

In 2002, labor productivity—as measured by output per hour—rose in four of the six largest retail trade industries (those with more than one million employees). Productivity grew 4.2 percent in the entire retail trade sector in 2002. Output increased by 3.3 percent while hours fell by 0.9 percent.

Among the largest retail industries, productivity increased 3.1 percent in grocery stores, 3.9 percent in building material and supplies dealers, 6.2 percent in clothing stores, and 10.9 percent in other general merchandise stores (such as warehouse clubs, catalog showrooms, and dollar stores). Labor productivity declined 1.0 percent for department stores and 2.6 percent for automobile dealers. Additional information is available from "Productivity and Costs: Wholesale Trade, Retail Trade, and Food Services and Drinking Places, 2002," news release USDL 03-972. □

Employment outlook, 2002–12

Employment projections to 2012: concepts and context

BLS projections are carried out against a background of explicit assumptions and model-based findings that connect the past to the future; the projections form the basis for providing information on entering the job market, changing careers, and choosing appropriate educational and training paths to job success

Michael W. Horrigan

This issue of the *Monthly Labor Review* presents the BLS employment outlook for the period from 2002 to 2012. The 2012 projections continue a longstanding tradition of BLS examinations of future job prospects dating back more than 50 years. First begun to assist returning World War II veterans back into the world of work, the BLS projections program has grown steadily from a project that reported simple descriptive material about available occupations to an undertaking encompassing a model-based approach that develops projections of the macroeconomy, the labor force, industry employment and output, and occupational employment growth.

The BLS projections are based on a long-term view of the U.S. economy that assumes a long-run full-employment economy in which labor markets clear. As a result, BLS projections address the question, "How would employment in industries and occupations grow if the economy were to operate at its full potential a decade from now?" In the article "The U.S. economy to 2012: signs of growth," which focuses on projected trends in the macroeconomy, Betty W. Su reports the results of a macroeconomic model according to which the overall U.S. economy is expected to grow from $9.4 trillion in 2002 to $12.6 trillion in 2012 (measured in chain-weighted 1996 dollars). This increase represents a growth rate of 3.0 percent per year in the real gross domestic product (GDP) of the economy. On the basis of the results from the macroeconomic model, the unemployment rate in 2012 is projected to be 5.2 percent and the annual rate of growth of productivity is expected to be 2.1 percent. Given these broad indicators of economic growth, the model used to describe macroeconomic activity provides detailed projections of four categories of expenditures: personal consumption, investment, government, and foreign trade. These projections are necessary as input to the industry projections that, in turn, form the basis of the occupational projections.

Another major factor to consider in projecting the path of the U.S. economy is the available labor supply over the next decade. In the article "Labor force projections to 2012: the graying of the U.S. workforce," Mitra Toossi uses Census Bureau population projections based on the 2000 census, along with historical trends in labor participation rates, to project labor force levels and participation rates for 136 age, sex, and race or ethnicity groups over the 2002–12 period. Overall, the Bureau of Labor Statistics expects the labor force to grow from 144.9 million in 2002 to 162.3 million in 2012, an annual growth rate of approximately 1.1 percent.

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The third major area of analysis translates the growth in the macroeconomy into the levels of final market output of each industry and the levels of intermediate inputs that are purchased by each industry to produce that output. In the article "Industry output and employment projections to 2012," Jay M. Berman reports that the flow of goods and services purchased in the production process or delivered to the market as final products will reach a total of $23.2 trillion in chain-weighted 1996 dollars) in 2012. The number of jobs needed to support this level of economic activity is expected to grow from 144.0 million to 165.3 million. The 2002–12 projections present detailed industry flows of inputs and outputs, using the 2002 North American Industrial Classification System (NAICS). This is the first set of BLS employment projections developed from the NAICS; past projections utilized the 1987 Standard Industrial Classification System (SIC). The *2004–2005 BLS Career Guide to Industries*, a companion publication to the BLS projections, offers a detailed description of NAICS-based industries and the impact the changeover will have on industry and occupational employment over the 2002–12 period.

On the basis of the description of industry production and total employment needs reported in the three articles, data from the Occupational Employment Survey (OES) are used to project the occupational staffing patterns needed in each industry. The OES gives detailed occupational employment information on each of the NAICS-based industries. These data are coupled with expert assessment of likely trends to produce employment projections for 725 detailed occupations. In the article "Occupational employment projections to 2012," Dan Hecker reports the results of the BLS analysis of the projected trends in the occupational employment that produces the goods and services of the U.S. economy. The occupational information provided in this article includes estimates of self-employment that are based on data from the Current Population Survey (CPS). Total employment is projected to increase by 14.8 percent, reflecting a net employment growth of 21.3 million jobs over the 2002–12 period. The number of job openings due to both net employment growth and net replacement needs is projected to be 56.3 million.[1] Self-employment is projected to decline 2.3 percent, from 11.5 million to 11.2 million. A separate companion publication, the *2004–2005 BLS Occupational Outlook Handbook*, gives a detailed description of more than 300 occupations; the book is widely used by students and jobseekers to obtain career advice.

Together, the four articles presented in this issue of the *Review* offer a wealth of detail on projected trends in the macroeconomy, the labor force, industry output and employment, and occupational employment growth. The purpose of this overview is to present some of the most significant findings that emerge from the articles and to provide an overall context from which to view them. Accordingly, the sections that follow examine the potential impact of baby-boomer retirements, occupational labor shortages, immigration, and high-paying, fast-growing occupations on the economy over the 2002–12 period.

Any attempt to project the direction and path of the U.S. economy and, in particular, longer run occupational employment needs, is subject to a great deal of uncertainty. The BLS approach is to state the underlying assumptions clearly and present the model-based findings about the long-run position of the economy in as transparent and objective a manner as possible. The Bureau has an ongoing tradition of evaluating its estimates against the actual state of the economy in the end year of the projections. Waiting 10 years to judge the accuracy of the projections, however, belies the more pressing need to assess the reasonableness of the BLS description of the likely secular long-run trends in the economy and their implications for occupational employment trends. The next section examines this subject.

A comparison of macroeconomic trends

One standard for assessing the reasonableness of the BLS description of the long-run position of the U.S. economy is to compare how the description of the next 10 years stands with respect to the past behavior of the economy on the basis of a broad set of macroeconomic indicators. Toward that end, the following tabulation, based on data from the Bureau of Economic Analysis, compares peak quarters, about 10 years apart, of U.S. business cycles in the post-World War II era (the last period listed, 2000–12, based on annual data, represents a comparison between the last full year of the 1991–2001 expansion with the ending year of the BLS projections—which, as noted earlier, represents a level of economic activity associated with the economy operating at its full potential):

Years spanned	*Annual average growth rate of real GDP (percent)*
1960, quarter II, to 1969, quarter IV	4.4
1969, quarter IV, to 1980, quarter I	3.3
1980, quarter I, to 1990, quarter III	2.9
1990, quarter III, to 2001, quarter I	3.1
2000 through 2012	2.7

The expansion of the U.S. economy has slowed considerably since the 1960s, from an annual rate of 4.4 percent between 1960 and 1969 to around 3 percent per year since 1980. Based on the BLS projection of GDP for 2012, the projected growth rate of 2.7 percent over the 2000–12 period is in line with the rate exhibited during the last two decades. (This growth rate, which covers the 2000–12 period, including the 2001 recession, is slightly lower than the 3.0-percent growth rate posted over the 2002–12 projection period; the box on the next page compares the 2000–10 and 2002–12 BLS projections.)

Comparing the 2000-10 and 2002–12 projections

Since the publication of the Bureau's most recent set of projections, covering the 2000–10 period, the U.S. economy entered a recession in March 2001 and has been in recovery since December of the same year. One of the hallmark features of the recovery period from December 2001 to August 2003 was the continued net employment losses after the official end of the recession. The term *job-loss recovery* has been used to describe that aspect of the economy whereby significant output gains and strong labor productivity occurred together with continued contraction in employment. The juxtaposition of the BLS long-run projections, which assume an economy operating at capacity, with this most recent experience in job losses is striking—enough to ask, "To what extent are the current projections influenced by the events of the last recession and the current recovery?"

While the model presented in the text projects a secular trend instead of pinpointing cyclical downturns or upturns, the trend is certainly affected to a degree by the current position of the economy. The long-run-growth trajectory of an economy that is in its ninth year of recovery or expansion, as the 2000–10 projections assume, may certainly look different from the long-run-growth trajectory associated with an economy in its first year of recovery, as the 2002–12 projections presuppose. But *how much* different? The growth rate projected for GDP for the 2000–10 period was 3.4 percent per year, compared with the 3.0 percent projected for the 2002–12 period. The model presented in the text implies a 5.2-percent long-run unemployment rate in the current projections, higher than the 4.0 percent postulated in the previous set of projections. Labor productivity is also somewhat lower, at 2.1 percent for the 2002–12 projections, compared with the 2.4-percent annual growth rate assumed in the 2000–10 projections. Although a more detailed comparison will reveal other differences, in general, the long-run growth trajectory in the current set of projections is not quite as strong as in the previous set, reflecting, to a certain extent, the impact of the last recession.

Productivity trends since 1995. One of the most fascinating and significant features of the current U.S. economy is the strength of both labor and multifactor productivity since 1995. Chart 1 shows the annual rate of growth of labor productivity between selected peak quarters of the U.S. economy. Included for comparison are the periods from 1990, quarter III, to 1995, quarter I, and from 1995, quarter I, to 2001, quarter I, the latter period being one of exceptional strength in productivity that has continued to this day. Between quarter III of 1990 and quarter I of 1995, labor productivity grew at an annual average rate of 1.5 percent, compared with an annual average growth rate of 2.3 percent between quarter I of 1995 and quarter I of 2001. Over the 2002–12 period, the Bureau projects an annual average growth rate of output per hour of 2.1 percent, just slightly lower than the rate of the 1995–2001 period.

Perhaps even more telling was the strength of labor productivity during the most recent recession. Chart 2 shows the annual average rate of labor productivity during each of the recessions since 1960. The strength of productivity that began in 1995 continued unabated during the most recent recession, setting the stage for continued strong growth in productivity over the 2002–12 period.

Industry trends

Output and employment by industry. Trends in overall labor productivity, while important, still tell only one part of the story. How these trends are reflected in the growth in output by industry and, in particular, between goods-producing and service-providing industries, affords an important insight into the sources of overall employment growth in the BLS projections. Table 1 compares goods-producing and service-providing sectors for the year 2002, based on the proportions of total output and total employment accounted for by each sector.

The measure of output reported in the table is nominal gross duplicated output, which includes output produced for intermediate sale to other firms and final output delivered to markets.[2] Nominal gross duplicated output has the closest connection to the amount of labor that industries will need to hire to achieve production goals, whether such output is for intermediate sale to another firm or for sale as a final market good.

As the table indicates, the goods-producing sector's share of gross duplicated output is substantially higher than its share of total nonfarm wage and salary employment, especially for manufacturing industries. In contrast, the service-providing sector's share of gross duplicated output, 67.1 percent, is smaller than its 82.0-percent share of employment. Two notable exceptions are the information and financial activities sectors, which both account for a larger share of output than employment.[3]

Given these differences between goods-producing and service-providing industries, it is not surprising that the

Chart 1. Annual rate of growth of output per hour, nonfarm business, selected peak-to-peak and other comparisons

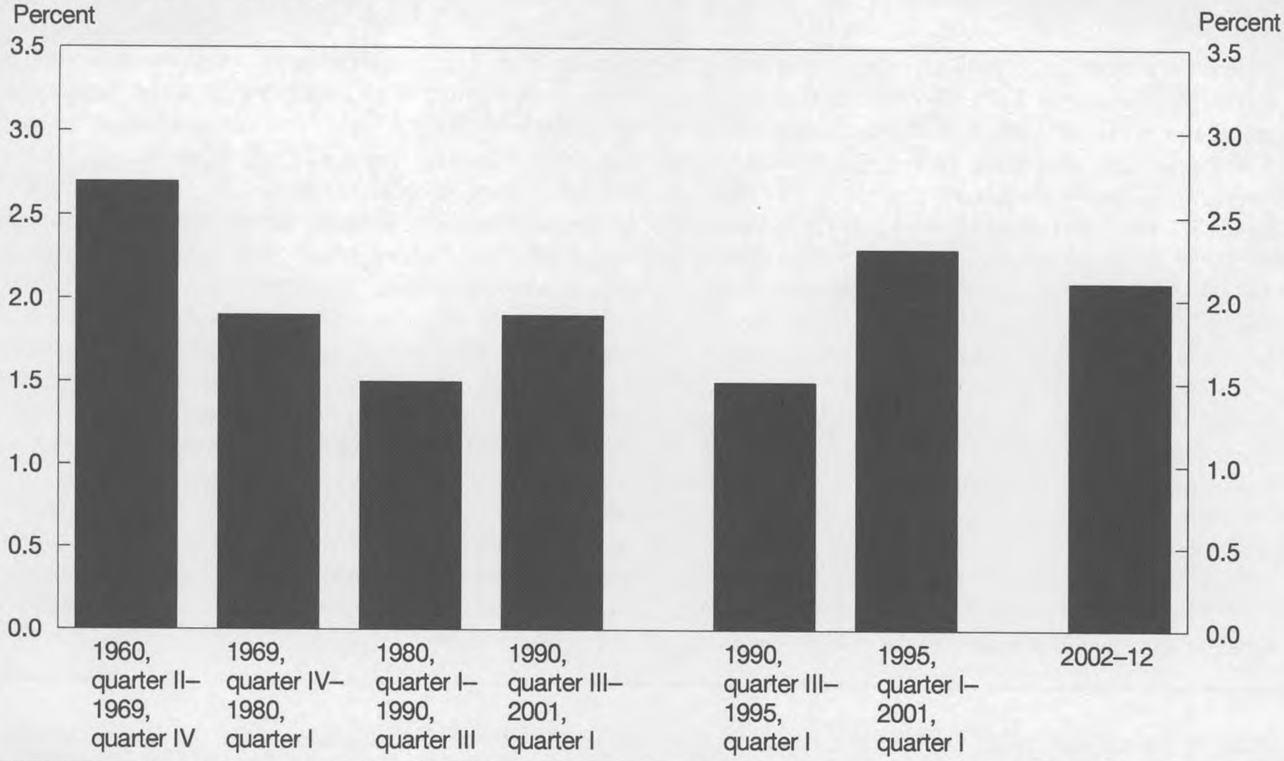
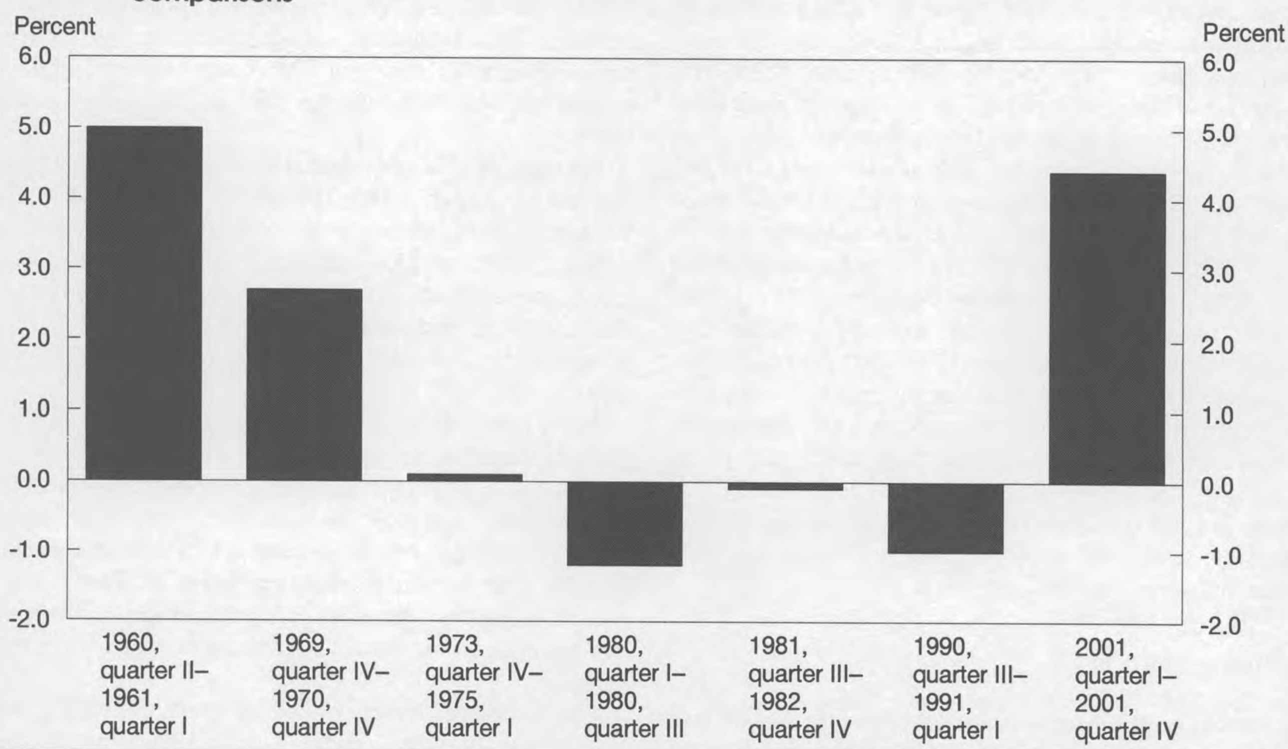


Chart 2. Annual rate of growth of output per hour, nonfarm business, selected peak-to-trough comparisons



Bureau projects that net change in nonfarm wage and salary employment over the 2002–12 period will be largely in the service-providing industries: 20.8 million (96.3 percent) out of a projected net employment gain of 21.6 million. Nor should it be surprising that goods-producing industries account for 22.8 percent of the projected increase in output, measured on a nominal gross duplicated basis, and only 3.7 percent of the net employment change over the same period. (See table 2.)

Do these figures mean that there will be very few job opportunities in goods-producing industries? Not at all. The reason is that the BLS projections are based on net employment change and do not reflect the underlying dynamic flows of hirings and separations that occur within industries. How much turnover is there by industry? The Bureau now calculates job turnover statistics by industry in its new Job Opening and Labor Turnover Survey (JOLTS). Table 3 shows the breakdown of turnover by major NAICS industry group in September 2003, the latest month for which data were available at the time this article was written. In the private sector, 4.2 million individuals were hired during September 2003, representing 3.8 percent of private nonfarm payroll employment that month. Also, 4 million workers were separated from their jobs during September, accounting for 3.7 percent of employment. An examination of the industries listed in table 3 shows how dynamic U.S. labor markets are across industries.

Another measure of the dynamic nature of labor markets is the number of job openings that are created to replace workers who leave occupations. Hecker lists the number of job openings for each detailed occupation over the 2002–12 period, a figure that represents the hiring required both to meet net employment growth and to replace workers who leave each occupation.[4] As noted previously, the Bureau projects an overall level of job openings of 56.3 million jobs over the period, representing a net employment growth of 21.3 million and an additional 35 million job openings due to replacement needs.

While a principal and highly popular use of BLS projections is to offer guidance on which occupations are projected to grow the fastest or add the most jobs, the projected trends are closely tied to the underlying changes in industry output and employment levels. An industry that is projected to have a significant increase in the level or the rate of growth of its output can have a significant impact on the types of occupations that will be in demand over the next decade. One reason for this relationship has to do with the concentrations of particular occupations in specific industries. For example, 49 percent of registered nurses work in hospitals, and another 17 percent work in offices of physicians and in ambulatory health-care centers, including home health-care centers. The projected increases of 27 percent and 57 percent in the real output of hospitals and ambulatory health-care services, respectively, translates into 71 percent of the nearly 623,000 total projected increase in the employment of registered nurses.

Another important influence of industries on the occupational staffing mix results from changes in the technology of production—which can have significant impacts on the types of

Table 1. Output[1] and nonfarm wage and salary employment by major industry division, 2002[2]

Industry	Levels		Shares	
	Output	Employment (thousands)	Output	Employment
Total	$18,409.6	131,063	100.0	100.0
Goods producing, excluding agriculture	4,904.5	22,550	26.6	17.2
Mining	158.8	512	.9	.4
Construction	865.5	6,732	4.7	5.1
Manufacturing	3,880.3	15,307	21.1	11.7
Service providing	12,352.2	108,513	67.1	82.8
Utilities	302.4	600	1.6	.5
Wholesale trade	951.0	5,641	5.2	4.3
Retail trade	1,064.9	15,047	5.8	11.5
Transportation and warehousing	685.4	4,205	3.7	3.2
Information	965.3	3,420	5.2	2.6
Financial activities	2,497.9	7,843	13.6	6.0
Professional and business services	2,089.2	16,010	11.3	12.2
Education and health services	1,289.7	16,184	7.0	12.3
Leisure and hospitality	687.9	11,969	3.7	9.1
Other services	444.1	6,105	2.4	4.7
Federal Government	376.4	2,767	2.0	2.1
State and local government	998.0	18,722	5.4	14.3

[1] Gross duplicated output, measured in nominal dollars.
[2] Industry output levels do not add to totals, due to the exclusion of agriculture, forestry, fishing, and hunting industries, as well as special industries and a residual category.

Table 2. Output[1] and nonfarm wage and salary employment by major industry division, 2002 and 2012[2]

Industry	2002 Levels		2012 Levels		Share of change between 2002 and 2012	
	Output	Employment (thousands)	Output	Employment (thousands)	Output	Employment
Total	$18,409.6	131,063	$31,599.4	152,690	100.0	100.0
Goods producing, excluding agriculture	4,904.5	22,550	7,917.6	23,346	22.8	3.7
Mining	158.8	512	208.0	451	.4	–.3
Construction	865.5	6,732	1,204.9	7,745	2.6	4.7
Manufacturing	3,880.3	15,307	6,504.7	15,149	19.9	–.7
Service providing	12,352.2	108,513	22,360.8	129,344	75.9	96.3
Utilities	302.4	600	460.0	565	1.2	–.2
Wholesale trade	951.0	5,641	1,898.2	6,279	7.2	3.0
Retail trade	1,064.9	15,047	1,993.9	17,129	7.0	9.6
Transportation and warehousing	685.4	4,205	1,183.3	5,120	3.8	4.2
Information	965.3	3,420	1,981.0	4,052	7.7	2.9
Financial activities	2,497.9	7,843	4,315.4	8,806	13.8	4.5
Professional and business services	2,034.6	16,010	4,136.8	20,876	15.3	22.5
Education and health services	1,289.7	16,184	2,455.0	21,329	8.8	23.8
Leisure and hospitality	687.9	11,969	1,160.8	14,104	3.6	9.9
Other services	444.1	6,105	739.7	7,065	2.2	4.4
Federal Government	376.4	2,767	542.9	2,779	1.3	.1
State and local government	998.0	18,722	1,493.7	21,240	3.8	11.6

[1] Gross duplicated output, measured in nominal dollars.
[2] Industry output levels do not add to totals, due to the exclusion of agriculture, forestry, fishing, and hunting industries, as well as special industries and a residual category.

workers employed as new production technologies are adopted. In 1983, for example, the production of computer and office equipment required the services of nearly 100,000 precision production, craft, and repair workers and 7,000 computer engineers, scientists, and systems analysts. By 1998, as innovations in the production of computer and office equipment were introduced into this industry, the number of production workers had dropped to 68,000, and employment in computer-related occupations had grown to more than 51,000.

A number of other factors related to industry output and employment can have an important influence on the occupational staffing patterns observed in the U.S. economy: the discovery of new technologies and their integration into the production process; the influence of global competition; the different emphases placed by industries on research and development, marketing, and output customization; and the outsourcing of functions to firms in other domestic industries or abroad, among others.

Fast employment growth, high output growth

With the aforementioned multiple factors affecting industry output, are there ways of summarizing the likely impact of industry trends on occupational employment? One approach is to group industries on the basis of selected characteristics and examine the employment growth (or decline) that is projected for those industries over the next decade. Berman lists (1) the industries that are projected to have the fastest-growing and most rapidly decining employment growth,[5] (2) the industries with the fastest-growing and most rapidly decining output growth,[6] (3) the industries with the largest employment growth and declines,[7] and (4) the industries with the largest output growth and declines.[8] Another grouping that provides insight into employment and occupational staffing patterns is the set of industries that are projected to post relatively high rates of growth in *both* output and employment. Table 4 lists industries that are projected to have employment increases greater than 14.8 percent (the overall increase in employment projected for the 2002–12 period). The industries are listed in descending order of their projected output growth over the 2002–12 period.

The first row of the table shows that the Internet services, data processing, and other information services industry is projected to have the highest annual rate of change of real output over the projection period: 10.3 percent per year. This industry is expected to add 244,000 jobs, an increase of 46.2 percent, over the period. Twenty-one industries are projected to have real output growth rates that equal or exceed the overall annual average of 4.0 percent. The last two columns indicate that these industries together accounted for 14 percent of nonfarm wage and salary employment in 2002 and are projected to account for 32 percent of overall net employment growth over the projection period.

If the list of industries with fast employment growth is extended to include those with average annual output growth of 3 percent or more per year, 35 industries qualify. These industries account for 24 percent of nonfarm wage and salary employment in 2002 and 48 percent of their net employment growth over the 2002–12 period. Note that not all 35 industries are in the service-providing sector of the economy. Although goods-producing industries generally have greater output than employment gains, the list of 35 industries includes metalworking machinery manufacturing industries; forging and stamping industries; plastics product manufacturing industries; and architectural and structural metals manufacturing industries.

The 50 industries with average annual output growth of 2 percent or more per year and employment growth exceeding 14.8 percent account for 65 percent of nonfarm wage and salary growth over the projection period. Further, a total of 84 percent of employment growth is accounted for by all of the industries with projected net employment growth exceeding the overall average of 14.8 percent. This total of 58 industries accounted for 55 percent of employment in 2002, and each has a projected annual average growth rate of real output of at least 1 percent between 2002 and 2012.

Trends in labor supply

One of the most significant influences on both labor force growth and labor force participation rates in the last 50 years has been the aging of the baby-boom cohort. Indeed, one of the recurring themes that run through the four articles in this issue of the *Review* is the influence of the baby-boom generation on everything from consumer expenditures to housing, medical care, and retirement, to name just a few factors.

The baby boomers were born between 1946 and 1964, were aged 38 through 56 in 2002, and will be aged 48 through 66 in 2012. In table 5, boldface is used to denote when the baby boomers reached (or will reach) various age groups between 1950 and 2010. One way to see the impact of this cohort is to compare the size of an age group before the arrival of the baby boomers with its size once the baby boomers have reached the indicated ages. For example, in 1970, the baby boomers were aged 6 to 24 years, and in that year, there were 48 million individuals aged 25 to 44. Twenty years later, with the baby boomers aged 26 to 44, the number of individuals in the 25–44 age group stood at 80.8 million, an increase of 68.3 percent.

Perhaps the aspect of the baby boomers that is generating the most interest at present is their potential impact on the remaining size of the labor supply as the boomers enter older age groups and begin to retire. According to Census Bureau population projections given in the table, by 2010, when baby boomers will be 46 to 64 years, the number of 55- to 64-year-olds will grow by more than 11 million compared with the number in 2000, an increase of 46 percent.

Table 3. Annual average hiring rates and levels, and separations rates and levels, by industry, September 2003

Industry	Hiring rate	Hiring level (thousands)	Separation rate	Separation level (thousands)
Total	3.5	4,575	3.3	4,320
Total private	3.8	4,177	3.7	4,002
Natural resources and mining	2.4	14	3.2	18
Construction	5.7	403	6.3	446
Manufacturing	2.4	353	2.3	342
Durable goods	2.4	218	2.2	200
Nondurable goods	2.4	136	2.5	142
Trade, transportation, and utilities	4.0	1,012	3.4	860
Wholesale trade	3.0	164	2.6	145
Retail trade	4.6	680	4.1	605
Transportation, warehousing, and utilities	3.5	168	2.3	109
Information	1.9	61	2.0	66
Financial activities	2.4	194	2.5	197
Finance and insurance	2.1	122	1.9	113
Real estate and rental and leasing	3.5	73	4.0	83
Professional and business services	3.9	627	3.4	551
Education and health services	3.6	591	2.7	437
Educational services	4.6	122	1.9	49
Health care and social assistance	3.4	469	2.8	387
Leisure and hospitality	5.9	725	7.2	888
Arts, entertainment, and recreation	4.6	84	11.6	211
Accommodation and food services	6.1	641	6.5	677
Other services	3.7	197	3.8	199
Government	1.9	399	1.5	318
Federal	1.4	38	1.4	38
State and local	2.0	361	1.5	280

SOURCE: Job Openings and Labor Turnover Survey, Bureau of Labor Statistics.

One question that naturally arises is whether the baby boomers have had a discernible impact on labor force participation rates. That is to say, as the baby boomers have aged, have their labor force participation rates differed significantly from the cohorts that came before them or the cohorts that followed them? Table 6 provides the answer. For men, the dominant feature is the declining participation rates among those aged 55 and older since 1950, a group that does not yet include the baby boomers. From an examination of the younger age groups listed in the table, it does not appear that the labor force participation rates of baby boomers differed significantly from those of similarly aged cohorts that came before or after.

The table also shows the remarkable rise in the labor force participation rates for women since 1950, especially among the prime working-age groups from 25 to 54 years. In each case, the rising trend predates the arrival of female baby boomers. Although these women certainly contributed to the trend, the data do not support the idea that the rising labor force participation rates of women since 1950 were the result of the entry of the baby-boomer cohorts.

In Toossi's article on labor force projections, changes in the labor force levels of various age groups are decomposed into changes in the size of the population and changes in the labor force participation rates of each age group. Consistent with the findings just given, Toossi finds that changes in labor force levels of each age group are largely the result of changes in the size of the population in various age groups, rather than changes in their underlying labor force participation rates.

Labor shortages

There is a growing interest in the potential impact of the upcoming retirement of baby boomers—specifically, the prospect of a general shortage of workers and its effects on specific occupational labor markets. Table 7 gives the actual and expected sizes of the labor force by age group between 1950 and 2050, by decade, based on previously published research by Toossi.[9] The arrival on the economic scene and the subsequent aging of the baby boomers has had a significant impact on labor force growth rates. Between 1950 and 2000, the civilian labor force grew by 79 million, from 62.2 million to 140.9 million, an increase of 1.6 percent per year. The Bureau projects that, between 2000 and 2010, labor force growth will slow to 1.1 percent per year, and after the retirement of the baby boomers, between 2010 and 2020, labor force growth will slow to 0.4 percent per year. Overall, the civilian labor force is expected to grow by 51 million between 2000 and 2050, a slowdown to a 0.6-percent increase per year.

Will these increases in the size of the labor force be too small to meet the needs of the U.S. economy? Will there be a general shortage of workers, so that many of the jobs needed to produce the level of output demanded by the economy (and by U.S. trading partners in the form of exports) will go unfilled? To what extent do the projections account for this possibility? Consider the latter question first. The BLS projections, as mentioned earlier, assume a labor market that clears. The Bureau does not base its estimates of changes in total, industry, or occupational employment on labor markets that have either a shortage or a surplus of workers. Despite this assumption, numerous analyses have been produced by researchers in past years using BLS employment projections as a basis for measuring what is believed to be evidence of a future shortage of workers in the U.S. economy.

One of the most common ways in which BLS numbers are used to project a "coming shortage" is by asserting that the difference between the projected labor force level and the projected employment count represents a shortage of workers. For example, the Bureau projects a labor force of 162.3 million individuals in 2012. At the same time, the Bureau expects that the 2012 economy will require that 165.3 million jobs be filled. Does this difference imply a shortage of 3.0 million workers come 2012? Absolutely not—but if not, then what accounts for the difference? First, BLS projections of occupational employment are based on the number of jobs that the economy is expected to require. However, because individuals can and do hold more than one job, the count of workers will most certainly be less than the number of jobs. Second, and more technically, the data the Bureau uses for projecting industry employment are based on the Current Employment Statistics survey, which counts payroll jobs at establishments. The data the Bureau uses to project labor force levels, by contrast, are based on the CPS, a household survey yielding estimates of the number of individuals in the labor force. Besides multiple jobholding, then, there are statistical differences between these two series that contribute to the difference between the job count and the count of individual employees in BLS projections.

Essentially, the BLS projections are based on an examination of the labor required to produce projected levels of output by industry. How industries manage their human resource requirements is influenced by a great many factors: the available labor supply (including immigration), the skill levels of prospective jobseekers, the use of technology in the production process, the required capital-labor ratio consistent with the technology used for production, how work is organized, the use of employees from the personnel supply services industry, the hiring of self-employed contractors, the use of flextime and flexiplace, the use of overtime or mandatory shift coverage, and the hiring of offshore labor in foreign countries, among others. Although the projections do not attempt to explicitly model these various possible management options that firms may exercise, a perspective on their potential importance is certainly necessary to consider in building any set of projections and, in particular, detailed descriptions of the outlook for occupations. The next two subsections examine two areas of growing interest in assessing the reaction of firms to the available qualified labor

Table 4. Industries with relatively fast employment growth,[1] ranked by projected annual growth rate of output, 2002–12

Industry	Growth rate of output per year, 2002–12	Employment, 2000 (thousands)	Employment, 2012 (thousands)	Change in employment: Number (thousands)	Change in employment: Percent	Cumulative percentage of total 2002 employment	Cumulative percentage of total projected employment change, 2002–12
Internet services, data processing, and other information services	10.3	529	773	244	46.2	0.4	1.1
Computer systems design and related services	9.0	1,163	1,798	635	54.6	1.3	4.1
Software publishers	8.4	256	430	174	67.9	1.5	4.9
Motion picture and sound recording Industries	6.7	387	503	116	30.0	1.8	5.4
Scientific research and development and other professional, scientific, and technical services	5.5	1,026	1,241	215	21.0	2.6	6.4
Other general purpose machinery manufacturing	5.2	288	339	51	17.7	2.8	6.6
Advertising and related services	5.2	442	525	84	18.9	3.1	7.0
Employment services	5.1	3,249	5,012	1,764	54.3	5.6	15.2
Metalworking machinery manufacturing	4.9	217	251	34	15.5	5.8	15.3
Religious, grantmaking and giving services, and social advocacy organizations	4.9	1,944	2,372	428	22.0	7.2	17.3
Ambulatory health care services except offices of health practitioners	4.6	1,444	2,113	670	46.4	8.4	20.4
Forging and stamping	4.5	114	132	18	16.2	8.4	20.5
Amusement, gambling, and recreation industries	4.2	1,308	1,717	410	31.3	9.4	22.4
Office administrative and facilities support services	4.2	390	508	117	30.1	9.7	22.9
Securities, commodity contracts, and other financial investments and related activities	4.2	801	925	124	15.5	10.3	23.5
Individual, family, community, and vocational rehabilitation services	4.1	1,269	1,867	597	47.1	11.3	26.3
Commercial and industrial equipment (except automotive and electronic) repair and maintenance	4.1	156	185	29	18.7	11.4	26.4
Traveler accommodation	4.1	1,726	2,019	293	17.0	12.7	27.8
Management, scientific, and technical consulting services	4.1	732	1,137	406	55.4	13.3	29.6
Plastics product manufacturing	4.1	668	797	128	19.2	13.8	30.2
Child day care services	4.0	734	1,050	316	43.1	14.4	31.7
Commercial and industrial machinery and equipment rental and leasing	3.9	102	143	41	39.7	14.5	31.9
Architectural and structural metals manufacturing	3.9	400	478	77	19.3	14.8	32.2
Truck transportation and couriers and messengers	3.8	1,897	2,404	507	26.7	16.2	34.6
Business support and investigation and security services and support services, n.e.c.[2]	3.7	1,772	2,261	489	27.6	17.6	36.8
Specialized design services	3.6	123	161	38	30.8	17.7	37.0
Offices of health practitioners	3.5	3,190	4,419	1,229	38.5	20.1	42.7
Pharmaceutical and medicine manufacturing	3.5	293	361	68	23.2	20.3	43.0
Other wood product manufacturing	3.4	320	386	67	20.9	20.6	43.3
Community care facilities for the elderly and residential care facilities, n.e.c.[2]	3.4	695	1,078	382	55.0	21.1	45.1
Other personal services	3.3	219	270	51	23.2	21.3	45.3
Nondepository credit intermediation and related support activities, funds, trust, and lessors of nonfinancial intangibles	3.2	1,058	1,253	196	18.5	22.1	46.2
RV parks, recreational camps, and rooming and boarding houses	3.2	53	62	8	15.5	22.1	46.3
Services to buildings and dwellings	3.1	1,597	1,980	383	24.0	23.3	48.0
Waste management and remediation services	3.0	317	404	87	27.5	23.6	48.4
Automotive repair and maintenance	2.9	897	1,046	149	16.7	24.2	49.1
Museums, historical sites, and similar institutions	2.7	113	136	24	21.2	24.3	49.2
Consumer goods rental and general rental centers	2.7	353	484	131	37.2	24.6	49.8
Water, sewage, and other systems	2.7	49	71	23	46.4	24.6	49.9

Table 4. Continued—Industries with relatively fast employment growth,[1] ranked by projected annual growth rate of output, 2002–12

Industry	Growth rate of output per year, 2002–12	Employment, 2000 (thousands)	Employment, 2012 (thousands)	Change in employment		Cumulative percentage of total 2002 employment	Cumulative percentage of total pr ojected employment change, 2002–12
				Number (thousands)	Percent		
Veneer, plywood, and engineered wood product manufacturing	2.6	116	138	21	18.4	24.7	50.0
Scenic and sightseeing transportation and support activities for transportation	2.6	553	652	100	18.0	25.1	50.5
Personal care services	2.6	523	667	144	27.6	25.5	51.2
Cement and concrete product manufacturing	2.5	230	278	48	20.9	25.7	51.4
Hospitals	2.4	4,153	4,785	632	15.2	28.9	54.3
Food services and drinking places	2.4	8,412	9,749	1,337	15.9	35.3	60.5
Nursing care and residential mental health facilities	2.4	2,048	2,607	559	27.3	36.9	63.1
Performing arts companies, promoters, agents, managers, and independent artists	2.3	240	277	37	15.5	37.1	63.3
State and local electric utilities	2.2	93	108	14	15.2	37.1	63.3
Accounting, tax preparation, bookkeeping, and payroll services	2.1	867	1,082	215	24.8	37.8	64.3
Animal slaughtering and processing	2.0	520	601	80	15.4	38.2	64.7
Cable and other subscription programming and program distribution	1.9	221	300	79	35.7	38.4	65.0
Spectator sports	1.9	118	144	26	22.3	38.4	65.2
Educational services	1.8	2,651	3,410	759	28.6	40.5	68.7
Construction	1.7	6,732	7,745	1,014	15.1	45.6	73.4
State and local government education	1.5	9,876	11,606	1,730	17.5	53.1	81.4
Civic, social, business, and similar organizations	1.5	917	1,088	172	18.7	53.8	82.2
Legal services	1.3	1,112	1,330	218	19.6	54.7	83.2
Transit and ground passenger transportation	1.2	372	488	116	31.3	55.0	83.7

[1] Fast employment growth is defined as a projected percentage in employment greater than 14.8 percent, the overall average for the 2002–12 projection period.

[2] n.e.c. = not elsewhere classified.

supply: immigration and the outsourcing of the production of goods and services to establishments based in foreign countries.

The potential role of immigration in increasing the available supply of labor. Rising trends in immigration levels to the United States, especially over the last decade, are one source of labor for occupations in which it may be increasingly difficult to find qualified workers. The following tabulation shows the levels and rates of immigration to the Nation, by decade, since 1901, as compiled by the U.S. Census Bureau:

Period	*Number of immigrants entering United States*	*Rate per thousand U.S. population*
1901–10	8,795,000	10.4
1911–20	5,736,000	5.7
1921–30	4,107,000	3.5
1931–40	528,000	.4
1941–50	1,035,000	.7
1951–60	2,515,000	1.5
1961–70	3,322,000	1.7
1971–80	4,493,000	2.1
1981–90	7,338,000	3.1
1991–98	7,605,000	3.6

The population projections from the Census Bureau that are used as the basis for BLS labor force projections include an estimate of the level of legal immigration to the United States over the next decade. In its most recent population projections, the Census Bureau estimates annual immigration levels of 1.1 million from 2000 to 2005, a decline to 900,000 per year from 2006 to 2010, and an increase to 1.3 million annually from 2011 to 2012.

Much uncertainty accompanies any discussion of the role of immigration in addressing pressures on labor markets to find qualified workers. Changes in immigration policy, the occupational and educational profiles of new immigrants, and the regional impacts of where immigrants choose to live are but a few of the somewhat speculative areas that make assessing this potential problematic. To the extent that past serves as prologue, however, the preceding tabulation does suggest that there will be substantial levels of immigration into the United States over the next decade.

What kinds of occupations do recent immigrants enter? Using data from the CPS for the period 2000–02, table 8 lists occupational employment distributions for immigrant groups based on the number of years since their immigration into the Nation, compared

Year	Ages of baby boomers	Age group								
		0–14	15–24	25–34	35–44	45–54	55–64	65–74	75–84	85 and older
1950	0–4	**40,482,524**	22,098,426	23,759,267	21,450,359	17,342,653	13,294,595	8,414,885	3,277,751	576,901
1960	0–14	**55,786,173**	24,020,004	22,818,310	24,081,352	20,485,439	15,572,317	10,996,842	4,633,486	929,252
1970	6–24	**57,900,052**	**35,441,369**	24,907,429	23,087,805	23,219,957	18,589,812	12,435,456	6,119,145	1,501,901
1980	16–34	51,290,339	**42,486,828**	**37,081,839**	25,634,710	22,799,787	21,702,875	15,580,605	7,728,755	2,240,067
1990	26–44	53,567,871	36,774,327	**43,175,932**	**37,578,903**	25,223,086	21,147,923	18,106,558	10,055,108	2,240,067
2000	36–54	60,253,375	39,183,891	39,891,724	**45,148,527**	**37,677,952**	24,274,684	18,390,986	12,361,180	4,239,587
2010	46–64	59,444,392	42,818,900	38,851,057	39,442,358	**44,160,748**	**35,429,393**	21,154,241	12,775,045	5,785,840

NOTE: Boldface denotes when the baby boomers reached or will reach the indicated age group.

SOURCE: U.S. Census Bureau.

with the distribution for all U.S. employees. Individuals who have immigrated within the last 5 years have a greater likelihood than the overall population of U.S. workers of being in food preparation and serving related occupations, production occupations, and construction trades. They also have a greater likelihood of being in computer and mathematical occupations. As the number of years since immigration increases, the occupational distribution of immigrants begins to broadly resemble the overall occupational distribution, although immigrants still have a greater likelihood of being in production and food-related occupations, compared with all U.S. employees.

The potential role of hiring offshore employees.[10] One of the areas of increasing interest in U.S. labor markets is the use of offshore employees as part of the production process for U.S. firms. Outsourcing work to foreign countries—that is, purchasing services formerly produced in the United States from establishments in other countries—has been widely cited in recent months as having a growing impact on U.S. employment. The exact magnitude of outsourcing is not known, owing to the lack of specific, systematic data on the use of foreign employment to produce outsourced goods and services. Outsourcing is a trend that has been going on for quite some time. The current interest in it appears to reflect a transition from the importation of goods to the

Table 6. Ages of baby boomers and labor force participation rates of various age groups in the United States, 1950–2000

Year	Ages of baby boomers	Age group					
		16–24	25–34	35–44	45–54	55–64	65 and older
Total							
1950	0–4	0.60	0.64	0.68	0.66	0.57	0.27
1960	0–14	.56	.65	.69	.72	.61	.21
1970	6–24	**.60**	.70	.73	.74	.62	.17
1980	16–34	**.68**	**.80**	.80	.75	.56	.13
1990	36–44	.67	**.84**	**.85**	.81	.56	.12
2000	36–54	.66	.85	**.85**	**.83**	.59	.13
Men							
1950	0–4	.77	.96	.98	.96	.87	.46
1960	0–14	.72	.98	.98	.96	.87	.33
1970	6–24	**.69**	.96	.97	.94	.83	.27
1980	16–34	**.74**	**.95**	.96	.91	.72	.19
1990	36–44	.72	**.94**	**.94**	.91	.68	.16
2000	36–54	.69	.93	**.93**	**.89**	.67	.18
Women							
1950	0–4	.44	.34	.39	.38	.27	.10
1960	0–14	.43	.36	.43	.50	.37	.11
1970	6–24	**.51**	.45	.51	.54	.43	.10
1980	16–34	**.62**	**.66**	.66	.60	.41	.08
1990	36–44	.63	**.73**	**.76**	.71	.45	.09
2000	36–54	.63	.76	**.77**	**.77**	.52	.09

NOTE: Boldface denotes when the baby boomers reached or will reach the indicated age group.

Table 7. Actual and projected civilian labor force levels and growth rates per year, 1950–2050

Year	Level	Change	
		Number	Percent per year
Actual			
1950	62,208	...	...
1960	69,628	7,420	1.1
1970	82,771	13,143	1.7
1980	106,940	24,169	2.6
1990	125,840	18,900	1.6
2000	140,863	15,023	1.1
Projected			
2010	157,721	16,858	1.1
2020	164,681	6,960	.4
2030	170,090	5,409	.3
2040	180,517	10,427	.6
2050	191,825	11,308	.6
Summary			
1950	62,208	...	...
2000	140,863	78,655	1.6
2050	191,825	50,962	.6

direct purchase of foreign-produced services, a phenomenon that has expanded with the development of the Internet and its dissolution of temporal and spatial barriers to the free flow of services.

What is the potential impact of this transition? Domestic industries have already outsourced such functions as accounting, marketing, and advertising to other domestic industries that both specialize in these services and produce them more cheaply. With outsourcing, a purchase of a service from another industry replaces all the material and labor inputs that the purchasing industry previously used internally in order to create that service. The total output of the industry now buying the service from an outside source is somewhat lower, reflecting the inherent cost-efficiency of the industry producing the service. Some of the purchasing industry's employment is shifted to the producing industry, while some is freed up for other jobs in the economy. The productivity of the remaining employees in the purchasing industry now appears to be somewhat higher. If the outsourcing is provided by a foreign establishment, the output of the purchasing industry is again little affected. The jobs outsourced, however, are no longer counted in U.S. employment totals, and because imports are removed in total from the GDP accounts, GDP is lower.

Foreign outsourcing influences the projections through its impact on the industry distribution of GDP. As industries import more foreign services, the trend toward higher importation will be reflected in the relative declines in the output and employment of the affected industries over time. Because the Bureau bases its industry employment projections largely on trend analyses of detailed establishment-based time series, the effects of the recent past have been implicitly addressed to the extent that the data used have already begun to reflect the situation. More explicitly, expert review of the model-based projections by BLS occupational employment analysts brings to bear subjective, but current, knowledge of industry employment practices. Studies of past outsourcing trends and careful detailing of expectations for continued outsourcing in the future will ensure that foreign outsourcing is carefully accounted for in future projections prepared by the Bureau.

Labor shortages by occupation. The fact that BLS projections are based on the assumption of a labor market in balance does not mean that employers will not experience significant difficulties in finding and hiring workers in labor markets for individual occupations. One bellwether indicator of the relative difficulties that arise in hiring sufficient supplies of workers in any occupation is whether any trends show a consistent pattern of rising wages and rising employment, suggesting that the demand for workers in the occupation in question is increasing faster than the supply. Such a situation may represent a shortage, which is theoretically consistent with the persistent existence of vacancies despite rising wage offers to fill the vacant jobs.[11] Alternatively, the situation may be consistent simply with a market that is maintaining equilibrium by paying higher wages. In either case, depending on the degree of mismatch between demand and supply, especially by geographic area, there may be significant difficulties in finding workers in particular occupations.

Consider, for example, the employment and wage trends for registered nurses, an occupation often cited as having a shortage of workers. Between 1994 and 2000, a period of significant economic expansion, the net employment of usual full-time registered nurses increased by 8.9 percent, and their real wages declined by 0.2 percent, compared with an increase in real weekly wages of 6.3 percent for U.S. workers as a whole. In contrast, since 2000, despite the recession, there has been strong growth in both employment (12.5 percent) and real wages (5.9 percent) of registered nurses, suggestive of increased recent difficulties in finding adequate supplies of workers in that occupational group.

What other evidence can be gathered to develop a profile of how relatively easy or difficult it has been in recent years to find and hire registered nurses or, for that matter, workers in any other occupation—and how might that evidence be used to track similar difficulties in the future? One potentially important indicator is to calculate the percentage of an occupation that is in the 55-years-and-older age range—and, therefore, is theoretically ready to retire over the next decade. On the basis of 2002 annual averages, 13.4 percent of registered nurses in this country are aged 55 and older. The national average across all occupations is 13.9 percent.

Table 9 shows the occupations that have at least 20 percent of their employees aged 55 and older and that are projected to have net employment increases larger than the overall national average of 14.8 percent. For these occupations, the table suggests that hiring, if only for replacement purposes, is going to be fairly brisk—and the need to expand total employment levels will only serve to accentuate the hiring challenge.

Table 8. Percentage distribution of occupations by immigration status, 2000–02

Occupation	All employees	Did not immigrate	Immigrated 1–5 years ago	Immigrated 5–10 years ago	Immigrated more than 10 years ago
Architectural and engineering occupations	2.1	2.1	2.2	2.0	2.5
Arts, design, entertainment, sports, and media occupations	2.0	2.0	1.6	1.4	1.6
Business and financial occupations	3.9	4.1	1.7	2.2	3.3
Community and social service occupations	1.5	1.6	.5	.7	1.0
Computer and mathematical occupations	2.4	2.2	5.4	3.6	2.6
Construction trades	5.6	5.2	10.7	9.0	6.3
Education, training, and library occupations	5.4	5.8	3.2	2.8	3.5
Extraction workers	.1	.1	.0	.1	.0
Farming, fishing, and forestry occupations	.8	.6	3.1	2.1	1.8
Food preparation and serving related occupations	8.6	7.5	20.4	17.4	12.4
Healthcare practicitioners and technical occupations	4.5	4.5	2.3	3.8	4.8
Healthcare support occupations	1.9	1.8	1.6	2.5	2.2
Installation, maintenance, and repair workers	3.5	3.5	2.2	2.8	3.2
Legal occupations	1.1	1.2	.3	.3	.7
Life, physical, and social science occupations	.9	.9	1.5	1.3	.9
Management occupations	10.6	11.2	4.7	4.9	8.6
Office and administrative support occupations	14.7	15.5	7.1	8.6	11.3
Personal care and service occupations	3.1	3.1	2.9	3.8	3.6
Production occupations	7.8	7.0	12.9	13.4	11.8
Protective service occupations	1.9	2.1	.8	.9	1.2
Sales and related occupations	11.6	11.9	7.7	9.3	10.3
Transportation and material moving occupations	6.2	6.1	7.2	7.3	6.4

SOURCE: Current Population Survey.

Are there other pieces of evidence? The general problem with addressing the question whether the U.S. labor market will have a shortage of workers in specific occupations over the next 10 years is the difficulty of projecting, for each detailed occupation, the dynamic labor market responses to shortage conditions. Employers adapt to difficult hiring markets in a variety of ways: modifying the duties of a job, changing the capital-labor ratio, imposing mandatory shift coverage, and hiring contract employees, immigrants, or offshore labor in foreign countries, among other approaches. Perhaps the best that can be done is to examine as many of these indicators as possible and develop a profile of how the labor market is responding to the changes in each occupation's relative demand for, and supply of, workers.

High-paying, fast-growing occupations

While it is certainly a challenge to project future labor market shortages, another question of abiding interest is what guidance the BLS projections provide with regard to what many refer to as "hot jobs" in the U.S. economy? In his article on occupational employment, Hecker discusses the *fastest-growing* and *largest-growing* occupations.[12] Table 10 on pages 17–21 of the current article lists occupations that are expected to grow faster than the overall average and that are known to be relatively high paying in the current economy. Table 10 also shows both the cumulative percentage of 2002 employment and the cumulative percentage of projected employment growth between 2002 and 2012 that is accounted for by these fast-growing, high-paying occupations. The table uses the 2002 Occupational Employment Survey to identify "high-paying" occupations, defining them as any occupation whose mean annual earnings are in the top half of the overall distribution of earnings. Concomitantly, "fast-growing" occupations are defined as occupations that are projected to grow faster than 14.8 percent (again, the national average for all occupations).

A number of interesting aspects of the occupations listed in table 10 readily present themselves. For one, the list is not the exclusive domain of the fast-growing health- or computer-related occupations—although there are obviously a great many such occupations on the list. For example, a number of management-, education-, sales-, art-, architecture-, design-, and accounting-related occupations are listed. Nor does the list exclude occupations in which a significant percentage of employees are not college graduates. For example, electricians; plumbers, pipefitters, and steamfitters; structural iron and steel workers; reinforcing iron and rebar workers; tapers; tile and marble setters; sheet metal workers; and heating, air-conditioning, and refrigerator mechanics and installers appear on the list. Overall, the occupations listed in the table accounted for 31.2 percent of employment in 2002 and are projected to account for 51 percent of the expected net gain in employment over the 2002–12 period.

The impact of education and training. As the discussion of table 10 indicated, there are a number of relatively high-paying, high-growth occupations in which the most significant source of education or training usually is not associated with the jobholder's having obtained a 4-year college degree. An upcoming BLS publication lists, for each occupation, the most significant source of education and training generally required by employers.[13] The same publication also gives the percentages of employees in each occupation that have a high-school degree or less, some college, or a college degree or higher. These descriptions are intended to provide general guidance, and, as a reading of the more detailed descriptions of occupations in the BLS *2004–2005 Occupational Outlook Handbook* indicates, there is often a variety of educational or training pathways that enable a worker to become skilled in an occupation.

In the last two decades, several important trends in educational attainment have arisen that can have a significant impact on occupational career choices. One of these trends is that, since the late 1970s, average premiums paid by the labor markets to those with higher levels of education have increased. Certainly, there are a number of important factors besides earnings that help to determine the career choices made by individuals. However, it is the growing distance, on average, between those with more education, compared with those with less, that speaks to a general preference on the part of employers to hire those with skills associated with higher levels of education. As shown in table 11, in 2000, on average, full-time wage and salary workers with a bachelor's degree or higher had earnings that were nearly twice those of high school graduates. This finding holds for both men and women.

Between 1994 and 2000, the supply of male college graduates increased by more than 20 percent and their real earnings rose by nearly 5 percent. (See table 11.) This willingness of the market to absorb and reward such a substantial increase in the labor

Text continues on p. 22.

Table 9. Percentage of employees and projected net employment change in selected occupations, by age group[1]

Occupation	Percent distribution of employees by age group			Employment (thousands)		Change		Total job openings due to growth and net replacement (thousands)
	16–24	25–54	55 and older	2002	2012	Number	Percent	
All occupations	14.7	71.4	13.9	144,015	165,319	21,305	14.8	56,305
Bus drivers	9.8	45.4	44.8	654	781	106	16.2	249
Ushers, lobby attendants, and ticket takers	7.5	60.1	32.4	105	121	16	15.5	76
Loan counselors and officers	4.8	62.8	32.3	255	302	48	18.7	89
Sales representatives, services, all other	4.7	64.0	31.2	577	717	140	24.3	250
Social workers	3.5	66.4	30.1	477	604	127	26.7	209
Environmental scientists and geoscientists	4.1	67.8	28.1	101	121	20	20.1	38
Network systems and data communications analysts	8.0	64.7	27.3	186	292	106	57.0	128
Aircraft pilots and flight engineers	2.5	70.8	26.7	100	118	18	17.8	45
Transportation, storage, and distribution managers	5.5	68.0	26.5	111	133	22	19.7	44
Clergy	11.2	62.5	26.3	400	463	62	15.5	144
Television, video, and motion picture camera operators and editors	.3	74.3	25.4	48	56	9	18.7	19
Market and survey researchers	8.4	66.2	25.4	155	193	38	24.7	78
Ambulance drivers and attendants, except emergency medical technicians	5.8	68.9	25.3	17	22	5	26.7	6
Sales engineers	11.7	63.4	24.9	82	98	16	19.9	41
Chief executives	.6	74.9	24.4	553	645	93	16.7	197
Special education teachers	5.4	70.9	23.7	433	563	130	30.0	233
Chiropractors	2.7	73.8	23.4	49	60	11	23.3	21
Human resources, training, and labor relations specialists	3.7	73.3	23.0	474	606	131	27.7	204
Transit and railroad police	18.0	59.6	22.4	6	7	1	15.9	2
Public relations specialists	5.5	72.8	21.7	158	210	52	32.9	75
Motor vehicle operators, all other	7.9	71.0	21.1	111	139	28	25.2	44
Personal and home care aides	34.8	44.1	21.0	608	854	246	40.5	343
Public relations managers	2.8	76.2	21.0	69	85	16	23.4	28
Food preparation and serving related workers, all other	13.3	66.2	20.5	117	134	18	15.2	54
Human resources assistants, except payroll and timekeeping	9.9	69.8	20.3	174	207	33	19.3	71

Table 10. Occupations that were relatively high paying in 2002 and are projected to grow faster than average over the 2002–12 projection period[1]

Industry	Annual average earnings[2]	Employment 2002	Employment 2012	Change Number	Change Percent	Cumulative percentage of total 2002 employment	Cumulative percentage of total projected employment change, 2002–12
Physicians and surgeons	$151,153	583,014	696,530	113,516	19.5	0.4	0.5
Chief executives	134,960	552,761	645,341	92,579	16.7	.8	1.0
Airline pilots, copilots, and flight engineers	122,230	79,158	93,830	14,672	18.5	.8	1.0
Podiatrists	107,430	13,263	15,257	1,994	15.0	.9	1.0
Lawyers	105,890	695,248	813,119	117,872	17.0	1.3	1.6
Optometrists	95,440	32,051	37,529	5,478	17.1	1.4	1.6
Athletes and sports competitors	92,540	15,116	18,017	2,901	19.2	1.4	1.6
Computer and information systems managers	90,440	284,415	387,023	102,608	36.1	1.6	2.1
Marketing managers	87,170	202,628	245,880	43,252	21.3	1.7	2.3
All other health diagnosing and treating practitioners	86,280	107,336	133,630	26,293	24.5	1.8	2.4
Sales managers	86,110	343,046	447,607	104,562	30.5	2.0	2.9
General and operations managers	83,590	2,048,913	2,424,916	376,003	18.4	3.4	4.7
Chiropractors	83,440	48,936	60,332	11,396	23.3	3.5	4.8
Financial managers	83,080	599,055	708,511	109,456	18.3	3.9	5.3
Actuaries	80,780	15,310	17,587	2,277	14.9	3.9	5.3
Computer and information scientists, research	80,510	23,244	30,205	6,961	29.9	3.9	5.3
Personal financial advisors	78,460	126,208	169,856	43,648	34.6	4.0	5.5
Computer software engineers, systems software	75,840	281,103	408,906	127,803	45.5	4.2	6.1
Pharmacists	75,140	230,200	299,387	69,187	30.1	4.4	6.4
Education administrators, elementary and secondary school	74,050	216,713	261,540	44,826	20.7	4.5	6.7
Computer software engineers, applications	73,800	394,076	573,437	179,361	45.5	4.8	7.5
Veterinarians	73,720	57,537	71,984	14,447	25.1	4.8	7.6
Education administrators, postsecondary	71,630	125,037	157,390	32,353	25.9	4.9	7.7
Human resources managers	70,960	202,245	241,568	39,323	19.4	5.1	7.9
Management analysts	70,160	577,421	753,116	175,695	30.4	5.5	8.7
Public relations managers	69,870	69,185	85,408	16,223	23.4	5.5	8.8
Industrial-organizational psychologists	69,670	1,865	2,164	299	16.0	5.5	8.8
Medical and health services managers	69,370	243,574	314,910	71,336	29.3	5.7	9.1
Advertising and promotions managers	69,200	85,245	106,536	21,291	25.0	5.7	9.2
Sales engineers	69,200	81,682	97,938	16,256	19.9	5.8	9.3
Agents and business managers of artists, performers, and athletes	68,970	15,171	19,392	4,221	27.8	5.8	9.3
Financial analysts	67,180	172,122	204,266	32,144	18.7	5.9	9.5
Medical scientists, except epidemiologists	66,200	57,807	73,364	15,557	26.9	6.0	9.6
Biochemists and biophysicists	65,620	16,733	20,560	3,827	22.9	6.0	9.6
Transportation, storage, and distribution managers	65,070	110,929	132,810	21,880	19.7	6.0	9.7
Computer systems analysts	64,890	468,345	652,691	184,346	39.4	6.4	10.5
Biomedical engineers	64,420	7,597	9,583	1,986	26.1	6.4	10.6
Physician assistants	63,490	63,033	93,827	30,794	48.9	6.4	10.7
Sales representatives, wholesale and manufacturing, technical and scientific products	63,460	398,259	475,252	76,993	19.3	6.7	11.1
Environmental engineers	63,440	47,114	65,129	18,016	38.2	6.7	11.1
Architects, except landscape and naval	62,530	113,243	132,782	19,538	17.3	6.8	11.2
First-line supervisors/managers of police and detectives	61,650	113,828	131,191	17,363	15.3	6.9	11.3
Producers and directors	61,500	76,125	90,019	13,894	18.3	6.9	11.4
Network systems and data communications analysts	61,390	185,971	292,044	106,073	57.0	7.1	11.9
Atmospheric and space scientists	61,000	7,700	8,944	1,244	16.2	7.1	11.9
Market research analysts	60,260	134,474	165,927	31,453	23.4	7.2	12.0
Physical therapists	60,180	136,854	185,185	48,331	35.3	7.3	12.3
Radiation therapists	60,110	13,505	17,774	4,269	31.6	7.3	12.3
Administrative services managers	59,350	320,509	383,973	63,464	19.8	7.5	12.6
Database administrators	59,080	109,954	158,567	48,613	44.2	7.6	12.8
Hydrologists	58,820	7,957	9,628	1,671	21.0	7.6	12.8
Epidemiologists	58,190	3,936	5,215	1,279	32.5	7.6	12.8
Commercial pilots	58,000	21,073	24,218	3,145	14.9	7.6	12.8
All other computer specialists	57,960	191,639	261,647	70,009	36.5	7.7	13.2
Dental hygienists	57,790	147,961	211,701	63,740	43.1	7.8	13.5

Table 10. Continued—Occupations that were relatively high paying in 2002 and are projected to grow faster than average over the 2002–12 projection period[1]

Industry	Annual average earnings[2]	Employment		Change		Cumulative percentage of total 2002 employment	Cumulative percentage of total projected employment change, 2002–12
		2002	2012	Number	Percent		
Network and computer systems administrators	$57,620	251,375	345,273	93,899	37.4	8.0	13.9
First-line supervisors/managers of fire fighting and prevention workers	56,750	62,602	74,299	11,698	18.7	8.0	14.0
Clinical, counseling, and school psychologists	56,540	137,248	170,782	33,534	24.4	8.1	14.1
Microbiologists	55,700	16,454	19,737	3,283	20.0	8.2	14.1
All other life scientists	55,270	25,965	30,710	4,745	18.3	8.2	14.2
Postsecondary teachers	54,960	1,581,247	2,183,986	602,739	38.1	9.3	17.0
All other business operations specialists	54,340	1,055,663	1,346,043	290,380	27.5	10.0	18.3
Geographers	54,290	817	977	160	19.5	10.0	18.3
Elevator installers and repairers	53,540	21,012	24,603	3,591	17.1	10.0	18.4
Orthotists and prosthetists	53,410	4,631	5,505	874	18.9	10.0	18.4
Technical writers	53,310	49,584	63,030	13,446	27.1	10.1	18.4
Accountants and auditors	53,230	1,055,217	1,260,676	205,459	19.5	10.8	19.4
Occupational therapists	53,040	81,624	110,366	28,742	35.2	10.8	19.5
Detectives and criminal investigators	52,960	93,667	114,674	21,006	22.4	10.9	19.6
Nuclear medicine technologists	52,260	17,142	21,193	4,051	23.6	10.9	19.6
Loan officers	52,160	223,469	265,540	42,071	18.8	11.1	19.8
Landscape architects	52,050	23,135	28,270	5,136	22.2	11.1	19.9
Audiologists	51,840	10,929	14,098	3,170	29.0	11.1	19.9
All other financial specialists	51,550	161,978	190,476	28,498	17.6	11.2	20.0
Speech-language pathologists	51,490	94,319	119,964	25,645	27.2	11.3	20.1
Cost estimators	51,310	188,044	223,007	34,963	18.6	11.4	20.3
Sales representatives, wholesale and manufacturing, except technical and scientific products	51,130	1,458,800	1,738,145	279,345	19.1	12.4	21.6
Environmental scientists and specialists, including health	50,970	65,069	80,476	15,407	23.7	12.5	21.7
Multi-media artists and animators	50,860	74,826	86,648	11,821	15.8	12.5	21.7
Flight attendants	50,460	104,008	120,596	16,588	15.9	12.6	21.8
Writers and authors	50,300	138,980	161,316	22,336	16.1	12.7	21.9
First-line supervisors/managers of mechanics, installers, and repairers	50,030	443,985	512,275	68,290	15.4	13.0	22.2
Registered nurses	49,840	2,284,459	2,907,614	623,156	27.3	14.6	25.2
Diagnostic medical sonographers	49,710	36,508	45,281	8,774	24.0	14.6	25.2
Credit analysts	49,530	65,934	78,282	12,349	18.7	14.7	25.3
Instructional coordinators	49,510	98,454	123,472	25,018	25.4	14.7	25.4
Musicians and singers	48,240	161,154	188,649	27,495	17.1	14.8	25.5
Compensation, benefits, and job analysis specialists	47,920	90,669	116,074	25,405	28.0	14.9	25.6
Emergency management specialists	47,320	10,948	14,040	3,092	28.2	14.9	25.6
First-line supervisors/managers of correctional officers	47,000	33,417	39,754	6,336	19.0	14.9	25.7
Social and community service managers	46,900	128,769	164,424	35,654	27.7	15.0	25.8
Public relations specialists	46,590	158,079	210,133	52,054	32.9	15.1	26.1
Educational, vocational, and school counselors	46,160	228,159	262,295	34,136	15.0	15.3	26.2
Appraisers and assessors of real estate	46,120	88,245	103,796	15,551	17.6	15.3	26.3
Employment, recruitment, and placement specialists	46,050	174,819	222,547	47,728	27.3	15.5	26.5
Secondary school teachers, except special and vocational education	46,010	987,503	1,167,231	179,728	18.2	16.2	27.4
Training and development specialists	46,000	208,952	267,248	58,296	27.9	16.3	27.7
Special education teachers	45,776	432,925	562,698	129,772	30.0	16.6	28.3
Sound engineering technicians	45,750	12,830	16,097	3,266	25.5	16.6	28.3
Transit and railroad police	45,750	6,153	7,132	980	15.9	16.6	28.3
Cartographers and photogrammetrists	45,180	8,554	9,846	1,292	15.1	16.6	28.3
Film and video editors	44,540	19,390	24,507	5,117	26.4	16.6	28.3
Elementary school teachers, except special education	44,080	1,467,155	1,690,357	223,203	15.2	17.7	29.4
Electricians	43,910	659,441	813,908	154,467	23.4	18.1	30.1
Interior designers	43,770	60,050	73,073	13,023	21.7	18.2	30.2
Fine artists, including painters, sculptors, and illustrators	43,750	23,192	27,028	3,836	16.5	18.2	30.2

Table 10. Continued—Occupations that were relatively high paying in 2002 and are projected to grow faster than average over the 2002–12 projection period[1]

Industry	Annual average earnings[2]	Employment 2002	Employment 2012	Change Number	Change Percent	Cumulative percentage of total 2002 employment	Cumulative percentage of total projected employment change, 2002–12
Medical and clinical laboratory technologists	$43,670	149,952	178,879	28,926	19.3	18.3	30.3
Police and sheriff's patrol officers	43,390	618,786	771,581	152,795	24.7	18.7	31.0
Forensic science technicians	43,280	8,390	9,977	1,587	18.9	18.7	31.0
All other media and communication workers	43,120	57,717	67,621	9,903	17.2	18.7	31.1
Actors	42,820	63,033	74,202	11,168	17.7	18.8	31.1
Plumbers, pipefitters, and steamfitters	42,630	492,126	584,068	91,942	18.7	19.1	31.6
Structural iron and steel workers	42,360	78,060	90,443	12,383	15.9	19.2	31.6
All other sales and related workers	42,350	576,778	717,076	140,298	24.3	19.6	32.3
Computer support specialists	42,320	506,877	660,309	153,432	30.3	19.9	33.0
Kindergarten teachers, except special education	42,040	168,461	214,322	45,861	27.2	20.1	33.2
Dietitians and nutritionists	41,920	48,871	57,550	8,679	17.8	20.1	33.3
Adult literacy, remedial education, and GED teachers and instructors	41,470	80,076	96,375	16,299	20.4	20.1	33.3
Graphic designers	41,380	211,871	258,250	46,379	21.9	20.3	33.6
Aircraft cargo handling supervisors	41,220	8,916	10,306	1,390	15.6	20.3	33.6
Meeting and convention planners	41,020	36,867	44,713	7,846	21.3	20.3	33.6
Airfield operations specialists	40,850	6,081	7,127	1,046	17.2	20.3	33.6
Respiratory therapists	40,700	85,770	115,599	29,829	34.8	20.4	33.7
Reinforcing iron and rebar workers	40,640	28,670	33,445	4,775	16.7	20.4	33.8
Paralegals and legal assistants	40,590	199,626	256,907	57,281	28.7	20.5	34.0
Tapers	40,550	40,763	49,245	8,482	20.8	20.6	34.1
All other entertainers and performers, sports and related workers	40,380	56,054	65,220	9,166	16.4	20.6	34.1
Gaming supervisors	40,180	38,962	45,066	6,103	15.7	20.6	34.1
Radiologic technologists and technicians	40,150	174,112	214,071	39,958	22.9	20.8	34.3
Archivists, curators, and museum technicians	39,750	22,258	26,040	3,782	17.0	20.8	34.3
Telecommunications line installers and repairers	39,560	167,389	198,845	31,456	18.8	20.9	34.5
All other media and communication equipment workers	39,530	24,342	29,243	4,900	20.1	20.9	34.5
Environmental engineering technicians	39,380	19,085	24,496	5,411	28.4	20.9	34.5
Education administrators, preschool and child care center/program	39,190	57,991	76,544	18,553	32.0	21.0	34.6
Health educators	39,190	44,536	54,279	9,743	21.9	21.0	34.7
Medical and public health social workers	38,920	107,194	137,903	30,709	28.6	21.1	34.8
Marriage and family therapists	38,370	23,495	28,761	5,266	22.4	21.1	34.8
First-line supervisors/managers of protective service workers, except police, fire, and corrections	38,060	56,314	69,754	13,440	23.9	21.1	34.9
Tile and marble setters	37,740	33,171	41,960	8,790	26.5	21.1	34.9
Cardiovascular technologists and technicians	37,680	43,390	57,943	14,554	33.5	21.2	35.0
Sheet metal workers	37,620	205,016	245,604	40,588	19.8	21.3	35.2
All other vehicle and mobile equipment mechanics, installers, and repairers	37,580	35,818	41,327	5,509	15.4	21.3	35.2
Fire fighters	37,530	281,948	340,402	58,454	20.7	21.5	35.5
Environmental science and protection technicians, including health	37,370	27,591	37,738	10,147	36.8	21.6	35.6
Set and exhibit designers	37,250	12,119	14,652	2,534	20.9	21.6	35.6
Occupational therapist assistants	36,950	18,484	25,725	7,241	39.2	21.6	35.6
All other electrical and electronic equipment mechanics, installers, and repairers	36,710	21,928	26,229	4,301	19.6	21.6	35.6
Legal secretaries	36,580	263,712	313,403	49,691	18.8	21.8	35.9
Audio and video equipment technicians	36,550	41,759	52,927	11,169	26.7	21.8	35.9
All other life, physical, and social science technicians	36,520	137,443	161,500	24,057	17.5	21.9	36.0
Loan counselors	36,450	31,106	36,644	5,539	17.8	21.9	36.0
Heating, air conditioning, and refrigeration mechanics and installers	36,430	248,669	327,731	79,062	31.8	22.1	36.4
Physical therapist assistants	36,360	50,188	72,580	22,392	44.6	22.1	36.5
Drywall and ceiling tile installers	36,350	135,361	164,373	29,012	21.4	22.2	36.7
First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers	36,220	149,727	182,142	32,415	21.6	22.3	36.8

Table 10. Continued—Occupations that were relatively high paying in 2002 and are projected to grow faster than average over the 2002–12 projection period[1]

Industry	Annual average earnings[2]	Employment		Change		Cumulative percentage of total 2002 employment	Cumulative percentage of total projected employment change, 2002–12
		2002	2012	Number	Percent		
Clergy	$36,080	400,485	462,599	62,114	15.5	22.6	37.1
Athletic trainers	36,070	14,283	18,548	4,265	29.9	22.6	37.1
Painters, transportation equipment	35,700	49,999	58,751	8,752	17.5	22.7	37.2
Child, family, and school social workers	35,640	274,455	338,049	63,594	23.2	22.8	37.5
Hazardous materials removal workers	35,610	37,559	53,760	16,201	43.1	22.9	37.5
All other health practitioners and technical workers	35,530	189,504	241,031	51,528	27.2	23.0	37.8
Audio-visual collections specialists	35,370	9,771	11,361	1,590	16.3	23.0	37.8
All other teachers, primary, secondary, and adult	35,210	679,385	908,116	228,731	33.7	23.5	38.9
Respiratory therapy technicians	34,930	26,421	35,469	9,048	34.2	23.5	38.9
Carpet installers	34,920	82,218	96,013	13,795	16.8	23.6	39.0
Interpreters and translators	34,900	24,111	29,427	5,317	22.1	23.6	39.0
Mental health and substance abuse social workers	34,860	94,946	127,709	32,763	34.5	23.6	39.1
Computer, automated teller, and office machine repairers	34,810	156,286	179,815	23,529	15.1	23.7	39.3
Glaziers	34,660	48,519	56,859	8,340	17.2	23.8	39.3
Correctional officers and jailers	34,650	427,147	530,522	103,375	24.2	24.1	39.8
Biological technicians	34,630	47,903	57,181	9,279	19.4	24.1	39.8
Water and liquid waste treatment plant and system operators	34,620	99,300	115,180	15,881	16.0	24.2	39.9
Security and fire alarm systems installers	34,390	46,303	60,277	13,974	30.2	24.2	40.0
Truck drivers, heavy and tractor-trailer	34,350	1,767,093	2,103,667	336,574	19.0	25.4	41.5
Private detectives and investigators	34,250	48,009	60,160	12,151	25.3	25.5	41.6
Coaches and scouts	34,170	129,715	153,492	23,777	18.3	25.6	41.7
Cement masons and concrete finishers	33,800	181,692	229,047	47,355	26.1	25.7	41.9
Choreographers	33,790	17,313	20,057	2,744	15.8	25.7	41.9
Desktop publishers	33,730	34,994	45,211	10,217	29.2	25.7	42.0
Massage therapists	33,720	92,086	116,998	24,912	27.1	25.8	42.1
All other counselors, social, and religious workers	33,710	247,823	317,863	70,040	28.3	26.0	42.4
Cargo and freight agents	33,350	59,128	68,286	9,157	15.5	26.0	42.5
Roofers	33,020	166,235	197,094	30,859	18.6	26.1	42.6
Self-enrichment education teachers	32,910	200,365	280,783	80,418	40.1	26.3	43.0
Mental health counselors	32,800	84,816	107,419	22,604	26.7	26.3	43.1
Lay-out workers, metal and plastic	32,600	12,802	14,793	1,991	15.5	26.3	43.1
Insulation workers	32,500	53,466	61,938	8,472	15.8	26.4	43.2
All other library, museum, training, and other education workers	32,490	92,674	115,506	22,832	24.6	26.4	43.3
Directors, religious activities and education	32,330	105,311	130,657	25,346	24.1	26.5	43.4
Licensed practical and licensed vocational nurses	32,300	701,879	843,658	141,779	20.2	27.0	44.1
Makeup artists, theatrical and performance	32,120	1,627	1,923	296	18.2	27.0	44.1
Mechanical door repairers	32,080	10,766	13,117	2,351	21.8	27.0	44.1
Chefs and head cooks	32,000	131,857	152,753	20,896	15.8	27.1	44.2
Surgical technologists	31,960	72,248	92,423	20,175	27.9	27.1	44.3
Substance abuse and behavioral disorder counselors	31,860	67,148	82,760	15,612	23.3	27.2	44.3
Surveying and mapping technicians	31,760	60,139	74,059	13,920	23.1	27.2	44.4
Tax preparers	31,630	79,498	97,924	18,426	23.2	27.3	44.5
Human resources assistants, except payroll and timekeeping	31,530	173,844	207,311	33,467	19.3	27.4	44.6
All other related transportation workers	31,360	40,478	46,609	6,132	15.1	27.4	44.7
Medical appliance technicians	31,340	13,806	16,031	2,225	16.1	27.4	44.7
Maintenance and repair workers, general	31,010	1,265,585	1,472,372	206,787	16.3	28.3	45.7
Terrazzo workers and finishers	30,830	6,351	7,318	967	15.2	28.3	45.7
Welders, cutters, solderers, and brazers	30,820	390,524	456,731	66,206	17.0	28.6	46.0
Bus drivers, transit and intercity	30,810	201,921	232,523	30,602	15.2	28.7	46.1
First-line supervisors/managers of housekeeping and janitorial workers	30,430	229,910	267,243	37,333	16.2	28.9	46.3
Survey researchers	30,360	20,246	27,055	6,809	33.6	28.9	46.3
Medical and clinical laboratory technicians	30,330	147,462	176,127	28,665	19.4	29.0	46.5
Motorboat mechanics	30,310	21,660	25,626	3,966	18.3	29.0	46.5
Locksmiths and safe repairers	30,250	22,929	27,748	4,819	21.0	29.0	46.5
Fitness trainers and aerobics instructors	29,910	182,720	263,947	81,227	44.5	29.2	46.9

Table 10. Continued—Occupations that were relatively high paying in 2002 and are projected to grow faster than average over the 2002–12 projection period[1]

Industry	Annual average earnings[2]	Employment 2002	Employment 2012	Change Number	Change Percent	Cumulative percentage of total 2002 employment	Cumulative percentage of total projected employment change, 2002–12
Septic tank servicers and sewer pipe cleaners	$29,750	17,923	21,724	3,801	21.2	29.2	46.9
Segmental pavers	29,630	2,170	2,527	357	16.5	29.2	46.9
Motorcycle mechanics	28,690	15,095	17,916	2,821	18.7	29.2	46.9
Rehabilitation counselors	28,590	122,239	163,536	41,298	33.8	29.3	47.1
Recreational vehicle service technicians	28,530	12,552	15,287	2,735	21.8	29.3	47.1
Bill and account collectors	28,330	412,966	513,945	100,979	24.5	29.6	47.6
Coin, vending, and amusement machine servicers and repairers	28,250	42,729	49,212	6,483	15.2	29.6	47.6
Customer service representatives	28,240	1,894,053	2,353,786	459,732	24.3	30.9	49.8
Dental assistants	27,910	266,025	378,992	112,967	42.5	31.1	50.3
All other air transportation workers	27,910	11,725	13,999	2,274	19.4	31.1	50.3
Opticians, dispensing	27,830	63,207	74,681	11,474	18.2	31.2	50.4
Medical transcriptionists	27,730	100,830	123,637	22,807	22.6	31.2	50.5

[1] *Relatively high paying* is defined as "having average annual earnings that are in the top two quartiles of the overall distribution of earnings in the 2002 Occupational Employment Survey." *Fast growing* is defined as "having a projected employment change equal to or exceeding 14.8 percent, the overall average of the projections."

Table 11. Employment and average real weekly earnings of usual full-time wage and salary workers, by gender and level of educational attainment, 1994–2000

Population	Employment (thousands)			Real weekly earnings in 2002 CPI-U dollars			Earnings as a percentage of average high school earnings in 2000
	1994	2000	Percent change	1994	2000	Percent change	
Total	87,382	99,917	14.3	$697	$724	3.9	128.8
Less than high school	9,373	10,674	13.9	415	409	–1.4	72.8
High school	29,992	32,213	7.4	556	562	1.1	100.0
Some college, no degree	17,377	19,403	11.7	633	644	1.7	114.6
Associate's degree, educational	4,027	4,588	13.9	673	673	.0	119.8
Associate's degree, vocational	3,315	4,189	26.4	705	711	.9	126.5
Bachelor's degree	15,872	19,534	23.1	938	996	6.2	177.2
Master's degree or higher	7,427	9,315	25.4	1,270	1,273	.2	226.5
Some college	24,719	28,181	14.0	649	659	1.5	117.3
Bachelor's degree or higher	23,299	28,849	23.8	1,044	1,085	3.9	193.1
Men	49,993	56,273	12.6	787	821	4.3	128.7
Less than high school	6,325	7,010	10.8	453	452	–.2	70.8
High school	17,052	18,267	7.1	630	638	1.3	100.0
Some college, no degree	9,534	10,539	10.5	724	738	1.9	115.7
Associate's degree, educational	2,077	2,432	17.1	758	777	2.5	121.8
Associate's degree, vocational	1,675	1,971	17.7	797	833	4.5	130.6
Bachelor's degree	8,960	10,757	20.1	1,079	1,146	6.2	179.6
Master's degree or higher	4,372	5,297	21.2	1,426	1,460	2.4	228.8
Some college	13,285	14,942	12.5	739	757	2.4	118.7
Bachelor's degree or higher	13,332	16,054	20.4	1,193	1,250	4.8	195.9
Women	37,387	43,644	16.7	578	599	3.6	129.4
Less than high school	3,048	3,664	20.2	336	328	–2.4	70.8
High school	12,940	13,946	7.8	458	463	1.1	100.0
Some college, no degree	7,843	8,865	13.0	523	532	1.7	114.9
Associate's degree, educational	1,950	2,156	10.6	583	554	–5.0	119.7
Associate's degree, vocational	1,641	2,219	35.2	611	603	–1.3	130.2
Bachelor's degree	6,912	8,777	27.0	755	811	7.4	175.2
Master's degree or higher	3,055	4,018	31.5	1,047	1,026	–2.0	221.6
Some college	11,434	13,239	15.8	546	548	.4	118.4
Bachelor's degree or higher	9,966	12,795	28.4	845	879	4.0	189.8

SOURCE: Current Population Survey, quarterly sample, annual averages.

supply of men who have graduated from college is an indicator of the continued relative increase in the demand for workers with more education. Earnings of men with some college (including those with associate's degrees) increased by 2.4 percent, and the employment of the group grew by 13 percent. Real earnings of female college graduates rose by 4 percent, and their employment increased by nearly 30 percent. Women with some college saw their real earnings remain steady, while their employment increased by 16 percent.

THIS ISSUE OF THE *MONTHLY LABOR REVIEW* PRESENTS PROJECTIONS of industry and occupational employment trends. These projections form the basis for providing career advice to individuals entering the job market, changing careers, or making further educational and training choices. Although the Bureau of Labor Statistics must judge its work against an uncertain future, a hallmark of the agency's projections is that the assumptions and model-based findings on which they are grounded are made explicit. Further, while much is known in terms of trends in economic series to date, past is not always prologue, and care must always be taken whenever projections are involved. With these points in mind, the reader will be better able to appraise and utilize the carefully thought-out content of the articles presented in this issue of the *Review*. □

Notes

[1] Total job openings are given by the sum of net 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] In traditional national income accounting practices, nominal gross duplicated output (also called double counting) is a measure of duplicated output, by virtue of the fact that it 'ncludes intermediate inputs which are eventually part of final output. This article uses nominal, rather than real,1996 chain-weighted gross duplicated output because adding the outputs of various industries under the latter concept does not yield total output.

[3] Perhaps nowhere is the contrast more apparent than in the production of computers compared with the provision of computer services. The production of computers is a capital-intensive enterprise. Between 1992 and 2002, nonfarm wage and salary employment in the computer and peripheral equipment manufacturing industry fell by 24 percent, from 329,000 to 250,000. Over the same period, output in the industry grew from \$28 billion to \$263 billion (in 1996 chain-weighted dollars), an increase of more than 24.9 percent per year. In the computer systems design and related services industry, employment increased by more than 161 percent, from 445,000 to 1,163,000 over the 1992–2002 period. Output also increased over the same period, at an annual rate of 8.8 percent. The Bureau projects a similar trend in the two industries over the 2002–12 period. (See Jay M. Berman, "Industry output and employment projections to 2012," this issue, pp. 58–79, table 3.)

[4] Daniel E. Hecker, "Occupational employment projections to 2012," this issue, pp. 80–105.

[5] See Berman, "Industry output and employment projections to 2012," table 4.

[6] *Ibid.*, table 5.

[7] *Ibid.*, table 6.

[8] *Ibid.*, table 7.

[9] Mitra Toossi, "A century of change: The U.S. labor force, 1950–2050, *Monthly Labor Review*, May 2002, pp. 15–28.

[10] The material in this section was prepared both by the author and by Norman Saunders, Division of Industry Employment Projections, Office of Occupational Statistics and Employment Projections.

[11] Currently, however, there are no national surveys of occupations that provide information either on the durations of vacancies or on wage offers. The BLS Job Openings and Labor Turnover Survey estimates job openings by industry for the entire U.S. economy, and 37 States conduct job vacancy surveys that estimate job openings by occupation.

[12] Hecker, "Occupational employment projections to 2012"; see especially tables 3 and 4.

[13] *2004–2005 Occupational Projections and Training Data*, forthcoming.

Employment outlook: 2002–12

The U.S. economy to 2012: signs of growth

Based on the assumptions used in developing economic projections, real GDP is expected to grow during the next decade, while productivity remains strong and inflation remains stable

Betty W. Su

Every 2 years, the Bureau of Labor Statistics prepares a set of projected U.S. economic factors that form the basis for the employment projections program. This article presents the projections of U.S. economic factors that underlie the 2002–12 employment projections. This set of aggregate economic projections presents some unique challenges. After the boom of the 1990s, the U.S. economy suffered a number of serious setbacks, including: the bursting of the technology bubble; the September 11, 2001, terrorist attacks; significant losses of stock market wealth; a stagnant job market; corporate accounting scandals; and uncertainties related to the war in Iraq.

Although the economy has had difficulty shaking off a stubborn slowdown, recent statistical data suggest that we are now poised for a more sustained recovery. During the 2000–02 period, the U.S. economy has experienced low inflation, low interest rates, strong productivity growth, and a healthy housing market. Also, both government monetary and fiscal policies have been focused on stimulating economic growth. Under the assumptions used by the Bureau in developing these projections, gross domestic product (GDP) is expected to reach $12.6 trillion in chained 1996 dollars by 2012, an increase of $3.2 trillion during the 2002–12 decade. (Also see box on page 25.)[1] This translates to an average annual rate of growth for real GDP of 3.0 percent over the period, 0.2 percentage point lower than the historical rate of 3.2 percent from 1992 to 2002. A slower growth of civilian household employment, from 1.3 percent a year during the 1992–2002 period to 1.2 percent from 2002 to 2012, is expected to result in an increase of 17.3 million employees over the latter period, still greater than the increase of 15.8 million employees over the preceding 10-year period, from 1992 to 2002. The employment projection is accompanied by an expected unemployment rate of 5.2 percent in 2012, 0.6 percentage point lower than that in 2002.

Reflecting increased globalization of the U.S. economy, foreign sectors are expected to continue their fast growing trend in the next 10 years. Besides foreign trade, gross private domestic investment also is expected to play a substantial role in the economy over the 2002–12 period. Business spending on high-tech and computer-related equipment is anticipated to lead the rapid growth. On the government side, a projected increase in defense spending reflects the long-term efforts to win the global war on terrorism and protect the American homeland.

This article begins the discussion of economic projections with the macroeconomic model and major underlying assumptions. It then examines more closely the projections of aggregate demand categories of GDP. Lastly, the Bureau's expectations for the growth of incomes, employment, and labor productivity are discussed in turn. The

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projections are described in the context of trends over the 2002–12 period.

The macroeconomic model

The aggregate economic projections presented in this article have been developed in the context of the macroeconomic model provided by Macroeconomic Advisers, LLC, a St. Louis, MO, based forecasting group.[2] The company's quarterly model comprises 609 variables descriptive of the U.S. economy, of which 169 are exogenous assumptions—that is, variables whose values must be provided to the model in order to calculate a solution for a given period of time. Among the 169 exogenous variables, only a relatively small number of these assumptions significantly affect the long-term projections of the value of GDP and its demand makeup, as well as the level of employment necessary to produce that GDP. Those key assumptions are listed in table 1.

In addition, the projections are generally prepared with selected variables, such as the inflation rate, the level of the unemployment rate, the labor productivity growth rate, and the international trade-related issue, which are much more carefully evaluated than the other variables in the model. Setting a preliminary target value for those key variables, helps in defining the parameters around which overall projections are developed.

Major assumptions

Monetary policy. Early in 2001, just before the economy officially entered a recession,[3] the Federal Reserve started easing monetary policy and cutting the Federal funds rate. Within a year, the rate was cut a total of 11 times, from 6.50 percent to 1.75 percent. In the following year, the rate fell further, to 1.25 percent in November, in response to the economic shocks accompanying the 9/11 attacks and the war with Iraq. Increasingly worried that U.S. economic growth was close to stalling, the Federal Reserve cut the funds rate again in late June 2003 to a 45-year low of 1.00 percent to help revive the economy and help prevent the economically dangerous threat of deflation.[4]

Generally, the monetary sector in the econometric model is designed to determine the money supply with a long-term steady growth. The BLS projection assumes that once growth recovers towards "trend," the Federal Reserve will reverse course and undertake monetary tightening that will push the funds rate up. By 2012, the Federal funds rate is assumed to rise to 5.33 percent, a rate close to its historical average. Bond yields will generally move parallel to the funds rate over the projection interval, but run somewhat higher. The yield on the 10-year Treasury note is expected to reach 6.25 percent in 2012. (See table 1.)

Fiscal policy. The Bureau's 10-year projections incorporate the policy impacts associated with three major tax bills enacted in the past 2–1/2 years. The first tax cuts are the immediate implementation of provisions in the "Economic Growth and Tax Relief Reconciliation Act of 2001" (EGTRRA or Economic Growth Act); the second tax cuts are the provisions of the "Job Creation and Worker Assistance Act of 2002" (JCWAA, or Job Creation Act); and the third are the recently enacted provisions of the "Jobs and Growth Tax Relief Reconciliation Act of 2003" (JGTRRA or Jobs and Tax Relief Act). The fiscal stimulus packages include reduced tax rates for individuals and on capital gains, and increases of expensing limits for certain types of investment. Although some of the provisions in the Jobs and Tax Relief Act are set to expire and return to the provisions set in the Economic Growth Act, and all of the provisions of the Economic Growth Act are scheduled to expire in 2010 and return to prior law, the model assumes that the provisions will be extended through the projection period.[5]

Tax-related assumptions affect Federal Government revenues. The Federal effective marginal personal tax rate increased from 21.3 percent of personal income in 1992 to 22.5 percent by 2002. Reflecting the recently enacted tax cut package, a gradual decrease in this rate is expected to occur over the next decade. In the BLS projections, it is assumed that the effective marginal personal tax rate will drop to 21.4 percent in 2012, noticeably lower than that in 2002. The effective marginal dividends tax rate is expected to drop significantly from 28.0 percent in 2002 to 22.5 percent in 2012, while the capital gains tax rate is anticipated to fall from 18.8 percent in 2002 to 15.0 percent in 2012. The maximum Federal corporate tax rate is assumed to be maintained at 35.0 percent in 2012; the same as in 2002.

Government spending and the budget deficit. Since 2001, Federal defense spending has increased sharply in response to the terrorist attacks of September 11 and the military operations in Afghanistan and Iraq. The acceleration of spending, together with reduced revenues due to the recent economic slowdown and legislation enacted over the past couple of years, has pushed the Federal budget from a surplus of $207 billion in 2000 and $72 billion in 2001 to a deficit of $202 billion in 2002 and an estimated $400 billion in 2003. According to the Department of Defense's current established budget plan for the next 6 years through 2009, it would require funding at higher levels than defense spending has been in any year since 1980. The budget emphasizes strong support for the global war on terrorism, sustaining high quality personnel and forces, and transforming the U.S. defense establishment.[6] On the basis of Defense Department estimates, the Bureau has assumed that, after 2009, defense spending will continue the same trend toward increased levels, growing about 2 percent per year through the rest of the projection period.

The 2003 comprehensive NIPA revision

In December 2003, the Bureau of Economic Analysis (BEA), Department of Commerce, released the 2003 comprehensive, or benchmark, revision of National Income and Product Accounts (NIPA's). This latest comprehensive revision characterizes the changes in definitions and classifications, methodologies and source data, as well as changes to the tables that present the economic figures. In the comprehensive revision, the reference year for the statistical time-series data has been advanced from 1996 to 2000 for the chain-weighed-dollar estimates. The implications of those changes do not affect the projections in this issue, because the BLS projections were completed prior to the NIPA revision. All the data presented in the 2002–12 projections are still measured on a chained-1996 dollars basis, and the historical data presented in this article are consistent with data published through the BEA's November 2003 issue of the *Survey of Current Business*, the last issue before the comprehensive revision.

Further information on the NIPA revision and the time series estimates are available in the December 2003 issue of the *Survey of Current Business*, or on the Internet at: **www.bea.gov/national/2003 comprehensive revision of the National Income and Product Accounts.**

In addition, the significant long-term strains on spending will begin to intensify within the next decade as the baby-boom generation begins reaching retirement age. Driving those pressures on the budget will be growth in the largest retirement and health programs. Federal spending on Social Security, Medicare, and Medicaid will consume a growing portion of budgetary resources. BLS assumes that long-term defense spending on consumption and gross investment will continue to rise over the entire projection period. In short, high spending levels accompanying tax reductions will add to fiscal stimulus throughout the entire projections, but will result in budget deficits, reaching an estimated $164 billion in nominal terms in 2012. (A further discussion is presented later in the "Federal Government" section.)

Energy. Among the energy-related assumptions, the most important is the refiners' acquisition price for crude oil, expressed in dollars per barrel. Growing concerns about a U.S. confrontation with Iraq and wider disruptions to Gulf supplies drove U.S. crude oil over $40 per barrel in February 2003, approaching the $41.15 record set during the buildup to the 1991 Gulf War. Although oil prices dropped after the U.S. attacked Iraq, with little disruption to Middle East crude flows, energy prices are still on the high side.

In the aggregate economic model, the level of GDP determines the level of energy demanded by the economy; the price of crude oil determines the level of domestic production, and the residual amount of the energy demand not met by domestic production is, by assumption, met by imports of crude petroleum. This particular assumption is drawn from annual energy projections prepared by the U.S. Department of Energy, which expects the dollar value of a barrel of crude oil to rise from about $23.61 per barrel in 2002 in nominal terms to $30.52 per barrel in 2012. The domestic share of crude-oil production is expected to continue to decline from 54.6 percent of total U.S. demand in 1992 and 39.5 percent in 2002 to 31.2 percent by 2012.[7]

Demographic assumptions. The demographic assumptions are based on the 2000 Census middle-series population projections. These projections estimate the U.S. population to be expanding at an annual rate of 0.9 percent between 2002 and 2012, when the population reaches 315 million. Growth in the older age cohorts will be strong as baby boomers age. The BLS labor force projections are consistent with the Census Bureau population projections and are prepared at detailed levels as well as for the aggregate; the estimates then carry over to the aggregate economic model.[8]

Inflation. After accelerating in the 1970s and early 1980s, inflation has slowed significantly in recent years. Combined with high productivity, relatively cheaper imports, and the absence of commodity shocks, even during a long-lived expansion in the 1990s, changes in the labor market prevented any significant acceleration of wages. While wage pressures remained remarkably modest, inflation remained moderate.

Monetary policy remains important in the long-term projections, not so much in determining the level of output, but rather in determining the rate of inflation. With a steady-state rate of inflation in mind, it is assumed that the Federal Reserve will attempt to keep inflation contained over the projection period while providing adequate money growth to fuel economic expansion. The rate of inflation, as measured by the chain-weighted GDP price index, will grow at an average rate of 2.2 percent per year over the projection horizon.

Unemployment rate. During the recession of 2001, the unemployment rate rose from a 30-year low of 4.0 percent in 2000 to 4.7 percent in 2001 and jumped further to 5.8 percent in 2002. The unemployment rate reached an 8-year-high of 6.0 percent in

Table 1. Major assumptions affecting aggregate projections, 1982, 1992, 2002, and projected 2012

Exogenous variables	Billions of chained 1996 dollars (unless noted)				Average annual rate of change		
	1982	1992	2002	2012	1982–92	1992–2002	2002–12
Monetary policy-related:							
Federal funds rate (percent)	12.26	3.52	1.67	5.33	–11.7	–7.2	12.3
Excess reserves (billions of dollars)	.40	1.00	1.50	3.30	9.6	4.1	8.2
Ninety-day Treasury bill rate (percent)	10.61	3.43	1.60	5.03	–10.7	–7.3	12.1
Yields on 10-year Treasury notes (percent)	13.00	7.01	4.61	6.25	–6.0	–4.1	3.1
Fiscal policy, tax-related:							
Effective Federal marginal tax rate on wages and salaries (percent)	28.0	21.3	22.5	21.4	–2.7	.5	–.5
Effective Federal marginal tax rate on interest income (percent)	28.5	22.0	24.5	23.0	–2.6	1.1	–.6
Effective Federal marginal tax rate on dividend income (percent)	37.1	25.1	28.0	22.5	–3.8	1.1	–2.2
Effective Federal marginal tax rate on capital gains (percent)	40.7	25.7	18.8	15.0	–4.5	–3.1	–2.2
Maximum Federal corporate rate (percent)	46.0	34.0	35.0	35.0	–3.0	.3	.0
Government outlays-related:							
Defense consumption, other	101.0	124.8	152.1	225.5	2.1	2.0	4.0
Defense gross investment expenditures	38.2	66.4	63.3	99.5	5.7	–.5	4.6
Nondefense consumption, other	36.9	52.4	58.3	60.4	3.6	1.1	.4
Nondefense gross investment expenditures	14.8	28.0	45.9	54.1	6.6	5.1	1.7
Federal transfer payments to persons, other	81.0	105.0	139.3	170.5	2.6	2.9	2.0
Federal grants-in-aid to State and local governments, Medicaid	38.7	81.4	127.8	154.3	7.7	4.6	1.9
Federal grants-in-aid to State and local governments, other	81.4	87.0	140.2	175.7	.7	4.9	2.3
Energy-related:							
Refiners' acquisition cost of imported oil (nominal dollars per barrel)	33.59	18.11	23.61	30.52	–6.0	2.7	2.6
Domestic share of U.S. crude oil acquisitions (as percentage of total acquisitions)	72.2	54.6	39.5	31.2	–2.8	–3.2	–2.3
Domestic oil product	38.9	35.0	31.5	28.5	–1.1	–1.0	–1.0
Demographic-related:							
Total population includiing overseas Armed Forces (in millions)	231.9	255.4	287.5	314.8	1.0	.9	.9
Population aged 16 and over (in millions)	172.3	192.8	218.0	242.0	1.1	1.0	1.1

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

2003. However, the model assumes that long-term economic growth and job recovery will gradually push the unemployment rate down over the projection period. Keeping the labor force projections with steady inflation in mind, by the end of the projection interval, the economy is expected to make a transition towards "full employment." This underlies the expected unemployment rate of 5.2 percent in 2012. (A further discussion is presented later in the "Employment" section.)

Productivity growth. It is the economy's ability to increase supply in the face of increasing demand over the long run that determines its potential growth path. Growth in aggregate supply depends on the increase in the labor force, the growth of the capital stock, and improvements in productivity. In general, productivity is a cyclical variable that typically falls during recessions because both labor and capital are underutilized as output sags or grows more slowly. Surprisingly, productivity never declined during the most recent economic downturn. Better still, acceleration has continued even as investment in information technology has fallen from its late-1990's peak. Productivity has increased at its fastest pace of more than 3.0 percent annually over the 2000–02 period, compared with 2.5 percent yearly from 1995 to 2000 and 1.4 percent from 1973 to 1995.

It is unclear to what extent the continued rise is due to unusual cyclical factors and to what extent the rise reflects a further increase in underlying structural productivity. It is clear that productivity growth is the main influence on long-term growth and living standards. The projections assume that productivity will keep close to its previous 10-year trend and grow at an average of 2.1 percent per year during the projection period. The increase is consistent with a projected faster growth of the capital stock and capital services, as well as more capital deepening over the same projection horizon. (A further discussion is addressed in the "Productivity" section.)

International trade. The trade deficit has widened and the current account deficit has deteriorated significantly since 1998. The U.S. trade deficit reached $424 billion or 4.1 percent of GDP in 2002, a record in nominal dollars and as a percentage of GDP. Slow economic growth abroad has continued to depress the growth of U.S. exports, as the economies of many major European countries are still struggling toward recovery and as Japan lags behind U.S. growth. In addition, the drop in the U.S. dollar since 2002 is still modest on a trade-weighted basis. In the long run, the greatest uncertainty lies with potential export growth, depending as it does on growth in the economies of major U.S. trading partners in the European Community and in the Pacific Rim countries. The dollar will have to depreciate steadily against foreign currencies in order to keep the U.S. current account deficit from growing too fast. Over the next decade, the projection contemplates that the exchange rate will drift downward over the projection period. A trade deficit in goods will still exist throughout the entire projections, while a surplus in services will continue to improve. (A detailed discussion on exports and imports is described in the "exports and imports" section.)

In sum, the projections anticipate a growth economy, including a steady expansion of the labor force, strong productivity growth, a favorable outlook regarding inflation, and opportunities for jobs.

Aggregate demand GDP

After the late-1990's boom, the U.S. economy began to slow down in the middle of 2000, with a recession taking place in 2001. During the 3-year period ending in mid-2003—a period including the burst of the stock market bubble, the shock of 9/11, corporate accounting scandals, and uncertainties associated with the war in Iraq—the U.S. economy struggled with below-trend real growth at an annual average of roughly 1.6 percent from 2000 to the second quarter of 2003. The path of growth was insufficient to keep the unemployment rate from continuing to rise, in part because of the hefty growth of productivity, which enables companies to get more output from fewer workers. During this period, consumer spending was moderate, inventory accumulation was slow, business investment was sluggish, foreign trade deficits were wide, and only defense spending was growing with any real strength. In the second half of 2003, however, statistics indicate a sharp increase in output, providing significant evidence that the U.S. economy has begun to strengthen.[9] As mentioned earlier, over the long term, real GDP is projected to grow at an average annual rate of 3.0 percent per year over the 2002–12 span.

Personal consumption expenditures. Spending by consumers, which makes up two-thirds of economic activity, is the largest component of demand. During the past four decades, the growth of consumer spending reflected the interaction of many factors that influenced consumers' decisions. Among those particularly important factors were: increasing affluence, changing demographics, technological innovations, and changing tastes and lifestyles. Affected by the wave of baby boomers moving through the population beginning in the 1960s, consumer spending grew from an average of 2.5 percent yearly between 1972 and 1982 up to 3.4 percent over the latter 10-year period, from 1982 to 1992. Rising disposable incomes during these periods supplied the resources necessary to support the expansion in consumption. As consumers got into the spending habit, however, increases in personal consumption were more often made at the expense of the savings rate, which dropped from a high of 10.9 percent in 1982 to 8.7 percent by 1992. (See tables 2 and 3.)

Table 2. Gross domestic product by major demand category, 1982, 1992, 2002, and projected 2012

Category	Billions of chained 1996 dollars				Average annual rate of change		
	1982	1992	2002	2012	1982–92	1992–2002	2002–12
Gross domestic product	$4,919.4	$6,880.1	$9,439.9	$12,638.0	3.4	3.2	3.0
Personal consumption expenditures	3,275.5	4,594.5	6,576.0	8,673.3	3.4	3.7	2.8
Gross private domestic investment	615.3	899.8	1,589.6	2,728.1	3.9	5.9	5.5
Exports	314.6	651.0	1,058.8	1,842.2	7.5	5.0	5.7
Imports	329.2	670.8	1,547.4	2,576.8	7.4	8.7	5.2
Federal defense consumption expenditures and gross investment	333.6	417.1	400.0	510.2	2.3	–.4	2.5
Federal nondefense consumption expenditures and gross investment	129.8	177.9	213.3	238.7	3.2	1.8	1.1
State and local consumption expenditures and gross investment	584.6	815.3	1,099.7	1,267.2	3.4	3.0	1.4
Residual[1]	–4.9	–4.6	49.9	–45.0	–	–	–

[1] The residual is calculated as real gross domestic product, plus imports, less other components.

NOTE: Dash indicates data not computable.

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

Table 3. Personal income, 1982, 1992, 2002, and projected 2012

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1982	1992	2002	2012	1982	1992	2002	2012	1982–92	1992–2002	2002–12
Personal income	$2,768.4	$5,390.4	$8,922.2	$14,949.0	100.0	100.0	100.0	100.0	6.9	5.2	5.3
Labor income	1,816.2	3,432.1	5,607.0	9,685.8	65.6	63.7	62.8	64.8	6.6	5.0	5.6
Disbursements of wages and salaries	1,593.4	2,982.6	4,996.4	8,568.0	57.6	55.3	56.0	57.3	6.5	5.3	5.5
Other labor income	222.8	449.6	610.7	1,117.8	8.0	8.3	6.8	7.5	7.3	3.1	6.2
Business-related personal income	697.1	1,433.1	2,411.1	3,650.3	25.2	26.6	27.0	24.4	7.5	5.3	4.2
Proprietors' income	179.9	434.4	756.5	1,226.8	6.5	8.1	8.5	8.2	9.2	5.7	5.0
Rental income	39.5	63.3	142.4	198.2	1.4	1.2	1.6	1.3	4.8	8.4	3.4
Personal dividend income	76.1	185.3	433.8	697.4	2.7	3.4	4.9	4.7	9.3	8.9	4.9
Personal interest income	401.6	750.2	1,078.4	1,527.8	14.5	13.9	12.1	10.2	6.4	3.7	3.5
Transfer payments	354.1	751.7	1,288.0	2,324.6	12.8	13.9	14.4	15.6	7.8	5.5	6.1
Less social insurance contributions	–99.1	–226.6	–384.0	–711.7	–3.6	–4.2	–4.3	–4.8	8.6	5.4	6.4
Uses											
Personal income	2,768.4	5,390.4	8,922.2	14,949.0	100.0	100.0	100.0	100.0	6.9	5.2	5.3
Personal consumption	2,079.3	4,209.6	7,303.8	12,394.0	75.1	78.1	81.9	82.9	7.3	5.7	5.4
Tax and nontax payments	361.6	635.8	1,111.9	1,899.8	13.1	11.8	12.5	12.7	5.8	5.7	5.5
Personal interest payments	58.8	118.7	188.4	296.5	2.1	2.2	2.1	2.0	7.3	4.7	4.6
Transfers to foreigners	6.5	12.6	32.3	54.7	.2	.2	.4	.4	6.8	9.9	5.4
Personal savings	262.2	413.7	285.8	304.0	9.5	7.7	3.2	2.0	4.7	–3.6	.6
Addenda											
Disposable personal income	2,406.8	4,754.6	7,810.3	13,049.2	–	–	–	–	7.0	5.1	5.3
Disposable personal income, chained 1996 dollars	3,791.6	5,189.3	7,032.1	9,131.5	–	–	–	–	3.2	3.1	2.6
Per capita disposable income	10,377	18,619	27,170	41,459	–	–	–	–	6.0	4.1	4.3
Per capita disposable income, chained 1996 dollars	16,349	20,320	24,463	29,012	–	–	–	–	2.2	2.1	1.7
Savings rate (percent)	10.9	8.7	3.7	2.3	–	–	–	–	–2.3	–8.3	–4.4

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

NOTE: Dash indicates data not computable.

Beginning in 1996, with consumers buoyed by a number of factors, including the thriving job market, steady incomes, low interest rates, low inflation, and increased wealth from rising asset prices, spending accelerated to its fastest pace in more than a decade. Consumption expenditures grew by 4.4 percent yearly from 1996 to 2000. Mirroring the expansion in consumption, the annual savings rate dropped sharply to 2.8 percent in 2000.

Beginning in late 2000 and continuing until mid-2003 (a period including the 2001 recession and the war in Iraq), consumer purchases of goods and services still managed to remain at a rate of growth about 2.7 percent annually between 2000 and the second quarter of 2003. This divergent trend suggests that the uncertainties associated with the war may have put a dent in consumer spending, but only had a limited impact on spending. Gains from Federal tax cuts and mortgage refinancing probably remained key factors behind the willingness of consumers to continue spending.

Over the next decade, consumer demand is projected to grow at an average annual rate of 2.8 percent from 2002 to 2012, sliding down from the historical high of 3.7 percent rate posted during the preceding 10-year period. The 2.8 percent rate is in line with, but less than the projected 3.0 percent growth for GDP over the same span. Real disposable income is projected to grow at a 2.6-percent annual rate between 2002 and 2012, 0.5 percentage point lower than the rate for 1992–2002.

At a finer level of detail, consumer spending on durable goods, especially for cars and light trucks, was most notable during the past 3 years. Sales of autos roared to a peak of 17.2 million units in 2000, as the value of sales incentives reached a new high and buyers responded eagerly to the incentives. The long-term outlook for motor vehicle sales will call for a slowdown in the rate of increase relative to past performances, and the solid gain in auto sales is expected to ease. Total light-vehicle sales are anticipated to stay at 16.6 million units in 2012. Although the number of vehicles per person has increased significantly in the past 20 years, the United States might be approaching a saturation point in the rate of vehicle ownership. Future growth in vehicle sales will be primarily driven by growth in population and demand for replacement vehicles. Demand for motor vehicles and parts is projected to grow at a rate of 2.0 percent yearly between 2002 and 2012, compared with 5.4 percent in the 1992–2002 period. (See table 4.)

Among consumer purchases of services, a major contributor to growth is health care expenditures. The growing

Table 4. Personal consumption expenditures, 1982, 1992, 2002, and projected 2012

Category	Billions of chained 1996 dollars				Average annual rate of change		
	1982	1992	2002	2012	1982–92	1992–2002	2002–12
Personal consumption expendiitures	$3,275.5	$4,594.5	$6,576.0	$8,673.3	3.4	3.7	2.8
Durable goods	283.5	479.0	999.9	1,473.5	5.4	7.6	4.0
Motor vehicles and parts	150.2	225.7	382.4	464.8	4.2	5.4	2.0
Other durable goods	137.0	255.0	620.3	1,048.0	6.4	9.3	5.4
Nondurable goods	1,088.8	1,389.7	1,929.5	2,448.4	2.5	3.3	2.4
Services	1,918.3	2,729.7	3,675.6	4,841.3	3.6	3.0	2.8
Housing services	555.3	719.3	880.1	1,097.3	2.6	2.0	2.2
Medical services	518.6	765.4	978.6	1,314.7	4.0	2.5	3.0
Other services	845.6	1,245.6	1,816.9	2,427.2	4.0	3.8	2.9
Residual[1]	–20.0	–6.3	–31.8	–127.1	–	–	–

[1] The residual is the difference between the first line and the sum of the most detailed lines.

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

NOTE: Dash indicates data not computable.

number of elderly in the population, as well as advances in medical technology, has resulted in a greater demand for health services. Spending on medical services increased 2.5 percent per year during the 1992–2002 period. Over the coming 10 years, due to the importance of the demographic factors, spending on medical services is expected to continue to post solid gains at a growth rate of 3.0 percent annually.

Gross private domestic (business) investment. This component of GDP consists of business spending for equipment and software,[10] purchases of nonresidential structures, purchases of residential structures, and changes in business inventories. Historically, private business investment is one of the most volatile elements of final output, responding to the business cycle and to shifting interest rates and inflation. During the recessions of the 1980s and 1990s, business investment experienced a sharp decline. Nevertheless, a strong economy boosted investment to a historical high in 2000, making an average growth of 8.8 percent per year since 1992, compared with a growth in investment of 3.9 percent between 1982 and 1992. (See table 5.)

However, during the 2000–02 period, nonresidential investment was one of the weakest segments of demand in part because of over-investment in Internet gear and other information-technology equipment during the boom of the late 1990s. Spending on equipment and software, the largest category of business investment, plummeted 8.0 percent between 2000

Table 5. Gross private domestic investment, 1982, 1992, 2002, and projected 2012

Category	Billions of chained 1996 dollars				Average annual rate of change		
	1982	1992	2002	2012	1982–92	1992–2002	2002–12
Gross private domestic investment	$615.3	$899.8	$1,589.6	$2,728.1	3.9	5.9	5.5
Fixed nonresidential investment	474.3	630.6	1,183.4	2,233.5	2.9	6.5	6.6
Equipment and software	259.1	437.5	971.1	2,067.8	5.4	8.3	7.9
Computers and software	11.5	74.7	419.7	1,633.6	20.6	18.8	14.6
Other equipment	296.1	369.2	593.0	933.1	2.2	4.9	4.6
Structures	237.3	197.3	226.4	269.6	–1.8	1.4	1.8
Fixed residential structures	158.1	257.2	388.2	480.1	5.0	4.2	2.1
Single-family	62.0	135.7	200.5	245.0	8.1	4.0	2.0
Multifamily	22.1	14.2	26.3	27.4	–4.3	6.3	.4
Other	72.3	107.0	161.4	208.4	4.0	4.2	2.6
Change in business inventories	–15.6	17.1	5.2	59.0	–	–11.3	27.6
Residual[1]	–70.4	–15.5	–42.8	–647.9	–	–	–

[1] The residual is the difference between the first line and the sum of the most detailed lines.

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

NOTE: Dash indicates data not computable.

and 2002. In contrast to the softness in nonresidential investment, residential investment grew briskly. Propelled by record low mortgage rates and also by the continued growth in housing demand, the housing market has been on a nearly unbroken upward trend for the 3 years ending in 2002. Residential construction rose 5.4 percent during the 1999–2002 period, while housing starts reached a 16-year high of 1.71 million units in 2002.

As already noted, the recent data show that beginning in the second half of 2003, the economy is showing signs of recovery, but in addition, capital spending is turning up. Over the next decade, with good profitability, technological innovation, and solid demand growth, the projections indicate nonresidential investment in equipment and software will grow at a robust rate of 7.9 percent per year from 2002 to 2012. Purchases of nonresidential structures are expected to grow slightly faster than the historical pace: 1.8 percent annually over the projection period, compared with a lackluster investment of 1.4 percent growth between 1992 and 2002.

Although interest rates clearly influence the short-term timing of home purchases, demographics are the primary determinant of long-term housing activities. As the 35- to 44-year-old population is estimated to decline by 2012, traditionally thought of as the prime home-buying age group, demand for fixed residential investment is projected to retreat and settle down after its 2002 record high. A still healthy 2.1-percent average annual growth rate is projected over the 2002–12 period, while housing starts are expected to rise modestly to 1.79 million units in 2012, from 1.71 million units in 2002. In sum, business investment as a whole is expected to be a great contributor to U.S. economic growth over the next decade, at a rate of 5.5 percent per year for the 2002–12 period.

Exports and imports. Globalization and international competition have played an important role in U.S. economic activity. During the 1990s, increasing exports drove GDP growth. So did imports: The strong U.S. dollar and falling foreign commodity prices in emerging markets helped keep the Nation's inflation low and combined with other factors to trigger strong growth in consumer spending. However, increased globalization has also brought new challenges to the U.S. economy, including a widening of the trade deficit in total goods and services. The trade deficit ballooned to a record $423.6 billion in 2002 in nominal terms, or $488.5 billion in real dollars, up from the 1992 figure of $27.8 billion in nominal terms, or $19.8 billion in real dollars. In terms of growth rate, while exports increased at a 7.5-percent annual rate from 1982 to 1992, imports grew 7.4 percent. Over the 1992–2002 period, exports posted a 5.0-percent rate of growth annually and imports soared faster at 8.7 percent. (See table 6.)

In any long-term projection program, the international trade sector is the most difficult to predict. The key to the Bureau's 10-year outlook for U.S. trade is the increase in global accessibility and the rise in international competition. With the world assumed to become more open to trade, the share of GDP accounted for by both exports and imports is expected to grow apace. A continued decline in the exchange rate will stimulate U.S. exports abroad and increase international competitiveness. Real exports are expected to grow at a 5.7-percent annual rate between 2002 and 2012. Both exports of goods and services also are expected to

Table 6. Exports and imports of goods and services, 1982, 1992, 2002, and projected 2012

Category	Billions of chained 1996 dollars				Average annual rate of change		
	1982	1992	2002	2012	1982–92	1992–2002	2002–12
Exports of goods and services	$314.6	$651.0	$1,058.8	$1,842.2	7.5	5.0	5.7
Goods	214.6	449.8	756.9	1,316.6	7.7	5.3	5.7
Nonagricultural	190.0	395.4	688.5	1,210.2	7.6	5.7	5.8
Agricultural	49.8	56.0	68.8	105.1	1.2	2.1	4.3
Services	100.5	201.7	301.5	525.4	7.2	4.1	5.7
Residual[1]	–25.6	–2.2	.1	1.6	–	–	–
Imports of goods and services	329.2	670.8	1,547.4	2,576.8	7.4	8.7	5.2
Goods	257.9	543.7	1,320.1	2,272.7	7.7	9.3	5.6
Nonpetroleum	211.5	487.4	1,229.8	2,141.7	8.7	9.7	5.7
Petroleum	38.8	58.6	86.7	128.2	4.2	4.0	4.0
Services	73.1	128.0	227.2	323.1	5.8	5.9	3.6
Residual[2]	5.8	–3.2	3.7	–16.3	–	–	–
Trade surplus/deficit	–14.6	–19.8	–488.5	–734.6	3.1	37.8	4.2

[1] The residual following the detail categories for exports is the difference between the aggregate of "exports of goods and services" and the sum of the figures those separate categories for exports of goods and services.

[2] The residual following the detail categories for "imports is the difference between the aggregate of 'imports of goods and services," and the sum of the figures those separate categories for imports of goods and services.

NOTE: Dash indicates data not computable.

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

grow at the same rate of 5.7 percent annually per year during the projection period.

Imports are projected to grow at a rate of 5.2 percent annually over the 2002–12 projection period, much lower than the 8.7 percent annual rate of growth for imports over the 1992–2002 span. Imports of goods are expected to grow at 5.6 percent per year, and a 3.6-percent annual rate of growth is projected for imports of services during the 2002–12 period. As a result, net exports (exports minus imports) are projected to continue to make a negative contribution to the aggregate demand, reaching $734.6 billion in real terms by 2012. Although the Bureau projects a continued increase in the trade surplus in services, the surplus in services still cannot offset the even larger deficit in goods.

The most troubling question, which arises from the foreign trade projections, is how long can the flow of funds out of the United States, to pay for high imports, continue until financial markets begin to feel the pinch? Clearly, increasing interest rates over the period will help slow domestic demands on financial markets, and the sustained Federal budget deficit will also help offset financial outflows to foreigners. Nonetheless, the share of nominal GDP accounted for by the current account deficit jumped sharply between 1999 and 2002, moving from a more traditional 2-percent share to a 5-percent share, in absolute terms.

Owing to steady pressure from the current account deficit, the dollar is projected to depreciate throughout the entire forecast period. However, the current account deficit will continue to grow, reaching just more than 7 percent of nominal GDP by 2012. With such a burden, presumably the U.S. current account deficit can be financed by large inflows of private capital, as investors find U.S. assets to be some of the most attractive in the world. In one sense, the widening deficit is a product of the desire of foreign investors to get in on the action in the U.S. economy. Nevertheless, the United States will have to face the risks that the stock of U.S. indebtedness to the rest of world will grow even more rapidly, and net factor payments from the United States to the rest will also increase rapidly.

Federal Government. During most of the 1980s and the 1990s, the Federal Government faced a large deficit. The question of how to reduce that deficit was a centerpiece of discussion among economists and policymakers for more than 20 years. In nominal terms, the deficit grew from $132.6 billion in 1982 and peaked at $297.6 billion in 1992. Between 1993 and 1997, the deficit grew steadily smaller. After 28 years of deficits, in 1998, the budget recorded a substantial surplus of $43.8 billion as a result of a strong bipartisan effort to control spending by the Federal Government. The surplus increased further during the 1999–2001 period, from $111.9 billion in 1999 up to $206.9 billion in 2000, but declined to $71.9 billion in 2001 as growth began to cool and the tax cuts of 2001 began to enact. The surplus accounted for 2.1 percent of nominal GDP in 2000, its largest share of GDP during the past four decades. This dramatic change is attributable to an increase in tax receipts from an expanding economy, on the one hand, and a decline in expenditures due to the Balanced Budget Act of 1996, on the other.

However, since late 2001, as noted earlier, Federal defense spending has increased sharply in response to the terrorist attacks of September 11 and to military operations in Afghanistan and Iraq. On the revenues side, falling receipts from individual and corporate income taxes due to the recent economic slowdown as well as the result of tax policy, accounted for almost all the decline in total receipts over the 2000–02 period. In 2002, total receipts were 17.9 percent of GDP, down substantially from the post-World War II peak of 20.7 percent reached in 2000. The acceleration of defense spending and the reduction of Federal revenues have pushed the Federal budget to a deficit of $202 billion in 2002 and an estimated deficit of $400 billion in 2003.[11]

The macroeconomic model assumes that Federal budget deficits will remain through the projection period, reaching $164.1 billion by 2012, or accounting for 0.9 percent of GDP. The projections also anticipate shifts in the composition of Federal expenditures over the 2002–12 period. Transfer payments (primarily Medicare and Social Security) are projected to account for a 43.9-percent share of Federal expenditures by 2012, declining from 44.9 percent in 2002. Despite this deceleration, Medicare service will make up an increasingly larger proportion of Federal expenditures. Within the next 10 years, the large baby-boom generation will begin to reach retirement age and become eligible to receive Medicare benefits. In addition, advances in medical technology will probably keep pushing up the costs of providing health care. Underlying the demographic changes anticipated for the next decade, spending for Medicare and Social Security together will account for a 35.3-percent share of Federal expenditures by 2012, up rather substantially from 29.2 percent in 1992 and 33.7 percent in 2002. Similarly, the share of grants-in-aid (primarily Medicaid) is projected to increase to 15.8 percent, rising from 10.5 percent in 1992 and 14.7 percent in 2002. (See table 7.)

Real defense spending (which includes expenditures for military compensation, defense capital goods, and gross investment in equipment and in structures[12]) declined absolutely over the 1988–98 period, as the military's compensation was reduced and purchases of weapons were postponed. Cuts also entailed retiring some older equipment without replacing it. In 1999, however, real spending on defense reversed its 10-year trend and started to rise slightly, due mainly to increases in consumption of capital goods and investment in equipment and software. After the September 11 terrorist attacks, defense spending has expanded in response to the perceived threat of terrorism and homeland security protection. Clearly, the surge in military spending is

Table 7. Federal Government receipts and expenditures, 1982, 1992, 2002, and projected 2012

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1982	1992	2002	2012	1982	1992	2002	2012	1982–92	1992–2002	2002–12
Receipts	$599.5	$1,121.3	$1,873.3	$3,429.0	100.0	100.0	100.0	100.0	6.5	5.3	6.2
Personal tax and nontax receipts	295.7	479.4	845.8	1,412.5	49.3	42.8	45.1	41.2	5.0	5.8	5.3
Corporate profits tax	49.1	118.8	179.8	477.4	8.2	10.6	9.6	13.9	9.2	4.2	10.3
Indirect business tax	49.9	81.3	110.6	170.9	8.3	7.3	5.9	5.0	5.0	3.1	4.4
Contributions for social insurance	204.9	441.8	737.1	1,368.2	34.2	39.4	39.3	39.9	8.0	5.3	6.4
Expenditures	732.1	1,418.9	2,075.4	3,593.1	100.0	100.0	100.0	100.0	6.8	3.9	5.6
Defense consumption	193.6	317.0	386.7	631.4	26.4	22.3	18.6	17.6	5.1	2.0	5.0
Nondefense consumption	71.7	128.8	199.9	299.0	9.8	9.1	9.6	8.3	6.0	4.5	4.1
Transfer payments	287.3	565.2	931.8	1,575.9	39.2	39.8	44.9	43.9	7.0	5.1	5.4
To persons	281.1	549.0	917.4	1,564.4	38.4	38.7	44.2	43.5	6.9	5.3	5.5
Unemployment	25.2	38.9	62.8	51.8	3.4	2.7	3.0	1.4	4.4	4.9	–1.9
Social Security	153.7	281.8	446.8	742.9	21.0	19.9	21.5	20.7	6.2	4.7	5.2
Medicare	50.8	132.2	252.9	526.2	6.9	9.3	12.2	14.6	10.0	6.7	7.6
Other	51.4	96.2	154.7	243.6	7.0	6.8	7.5	6.8	6.5	4.9	4.6
To foreigners	6.2	16.2	14.4	11.5	.8	1.1	.7	.3	10.2	–1.2	–2.2
Grants-in-aid to State and local governments	69.5	149.1	305.7	568.8	9.5	10.5	14.7	15.8	7.9	7.4	6.4
Net interest paid	93.9	229.1	207.8	472.3	12.8	16.2	10.0	13.1	9.3	–1.0	8.6
Subsidies less current surplus	16.1	28.3	44.6	45.4	2.2	2.0	2.1	1.3	5.8	4.7	.2
Less wage accruals	.0	.0	.0	.0	.0	.0	.0	.0	–	–	–
Surplus/deficit	–132.6	–297.6	–202.1	–164.1	–	–	–	–	–	–	–
Surplus/deficit as percentage of gross domestic product	–4.1	–4.7	–1.9	–.9	–	–	–	–	–	–	–

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

NOTE: Dash indicates data not computable.

driven by the high costs of war with Iraq and post-war reconstruction. On the basis of Defense Department estimates, BLS has assumed that military force levels will remain fixed at 1.5 million troops through the projection period. The budget provides funds for programs that sustain high quality people and forces.[13] As a result, real defense spending is projected to grow at an average annual rate of 2.5 percent from 2002 to 2012, reaching $510.2 billion in the latter year. (See table 8.)

Real nondefense spending for government, which accounts for the spending on salaries of Government employees and on administrative expenses of all Federal nondefense programs, is assumed to increase at a slower pace of 1.1 percent per year between 2002 and 2012, compared with its 1.8 percent annual rate of growth between 1992 and 2002. (See table 8.) This assumption leads to a projected nominal growth, averaging 4.1 percent per year for all nondefense spending between 2002 and 2012, below the 4.5-percent annual growth from 1992 to 2002. (See table 7.)

State and local governments. Real spending by State and local governments is projected to increase 1.4 percent annually from 2002 to 2012—much lower than the 3.0-percent rate of growth posted for the 1992–2002 period. (See table 8.) In nominal terms, State and local government receipts of grants-in-aid from the Federal Government for Medicaid and other programs assume to reveal the same trend toward increased levels, representing 24.9 percent of State and local revenues in 2012, up from 19.3 percent in 1992 percent and 23.4 percent in 2002. (See table 9.) This translates to an average annual rate of growth of 6.4 percent from 2002 to 2012, well above the growth for most of other categories of revenues during the same period. Still, the 6.4 percent figure represents a decline from the category's 7.4 percent annual rate of growth over the 1992–2002 period.

On the expenditures side, consumption expenditures are expected to continue to account for the largest component of total State and local spending in 2012, but their share of total spending is projected to decline from 77.4 percent in 1992, 76.3 percent in 2002, and to 69.8 percent in 2012. In contrast, an increased level of transfer payments, due to the increases in Medicaid services and retirement pensions, is expected to keep the share of transfer payments rising, from 23.2 percent in 1992 and 24.7 percent in 2002 to 31.1 percent in 2012. In sum, State and local governments will run surpluses throughout most of the projection period; statutorily, nearly every State is required to do so, as their expenditures are tied closely to their available revenues.

Income

From 1992 to 2002, the portion of labor income in total personal income declined slightly. However, wage and salary disbursements in the private sector, the largest segment of labor income, increased noticeably as a share of total personal income, from 55.3 percent in 1992 to 56.0 percent in 2002. The projections anticipate that this increasing trend in wages and salaries will continue through the projection period, reaching 57.3 percent in 2012. (See table 3.)

Over the same period, another major component of personal income, business-related personal income, including proprietors' income, personal dividends, interest income, and rental income, increased moderately from a 26.6-percent share in 1992 to 27.0 percent in 2002. However, this type of income is projected to fall to a 24.4-percent share in 2012. Substituting the decline in importance of business-related personal income, transfer payments have become an increasingly substantial source of personal income over the past decade. Between 1992 and 2002, transfer payments rose as a share of personal income from 13.9 percent to 14.4 percent. The Bureau projects this category will continue to rise until it accounts for 15.6 percent in 2012, reflecting both rising per-capita medical costs and an increase in the older population, the most likely users of Medicare programs. In short, the share of labor income in total personal income is expected to increase substantially, from 62.8 percent in 2002 to 64.8 percent in 2012.

Traditionally, personal consumption is the largest component indicating how people spend their incomes, and its share of income expenditures has increased over time. The projections anticipate that the historical trend will continue and the share will rise to 82.9 percent of personal income in 2012, up from 78.1 percent in 1992 and 81.9 percent in 2002. However, the trend of increased consumption is projected to result in a very low personal savings level in 2012.

Nevertheless, on a per capita basis, nominal disposable income is projected to increase at an average annual rate of 4.3 percent from 2002 to 2012, reaching a level of $41,459 in the latter year; a gain of more than $14,200 over the projection span. In real terms—that is, chained 1996 dollars—per capita income is projected to grow 1.7 percent per year from 2002 to 2012. Accordingly, real standard of living would rise over the projection period, at least measured on the basis of growth of disposable personal income.

Employment

After the 1990–91 recession, there followed 9 years of economic expansion, resulting in year-to-year decreases in unemployment and increases in employment; both of which occurred through the rest of that decade. Unemployment fell for 8 straight years, from 7.5 percent in 1992 to 4.0 percent in 2000, the lowest reading in 30 years. That trend expanded employment by 16.7 million people over the period. Conversely, even 2 years after the mild

Table 8. Government consumption expenditures and gross investment, 1982, 1992, 2002, and projected 2012

Category	Billions of chained 1996 dollars				Average annual rate of change		
	1982	1992	2002	2012	1982–92	1992–2002	2002–12
Government consumption expenditures and gross investment	$1,046.0	$1,410.0	$1,712.8	$2,014.6	3.0	2.0	1.6
Federal Government consumption and investment	463.2	595.1	613.3	748.2	2.5	.3	2.0
Defense consumption and investment	333.6	417.1	400.0	510.2	2.3	–.4	2.5
Compensation, civilian	61.5	59.9	39.9	40.8	–.3	–4.0	.2
Compensation, military	104.6	102.2	83.7	81.9	–.2	–2.0	–.2
Consumption of fixed capital	39.3	63.8	62.6	74.4	5.0	–.2	1.7
Other consumption	101.0	124.8	152.1	225.5	2.1	2.0	4.0
Gross investment	38.2	66.4	63.3	99.5	5.7	–.5	4.6
Nondefense consumption and investment	129.8	177.9	213.3	238.7	3.2	1.8	1.1
Compensation	75.7	84.5	80.7	84.1	1.1	–.5	.4
Consumption of fixed capital	7.8	14.6	30.1	44.7	6.5	7.5	4.1
Commodity credit corporation inventory change	1.8	–1.3	–.1	.0	–	–23.5	–
Other consumption	36.9	52.4	58.3	60.4	3.6	1.1	.3
Gross investment	14.8	28.0	45.9	54.1	6.6	5.0	1.7
State and local government consumption and investment	584.6	815.3	1,099.7	1,267.2	3.4	3.0	1.4
Compensation	434.8	516.5	601.7	661.3	1.7	1.5	.9
Consumption of fixed capital	39.2	57.6	92.6	125.0	3.9	4.9	3.0
Other consumption	44.0	94.0	191.1	252.4	7.9	7.3	2.8
Gross investment	86.1	147.4	218.6	245.5	5.5	4.0	1.2
Residual[1]	–39.7	–1.0	–7.7	–35.1	–	–	–

[1] The residual is the difference between the first line and the sum of the most detailed lines.

NOTE: Dash indicates data not computable.

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

Table 9. State and local government receipts and expenditures, 1982, 1992, 2002, and projected 2012

Category	Billions of current dollars				Percent distribution				Average annual rate of change		
	1982	1992	2002	2012	1982	1992	2002	2012	1982–92	1992–2002	2002–12
Receipts	$360.3	$772.2	$1,304.4	$2,288.9	100.0	100.0	100.0	100.0	7.9	5.4	5.8
Personal taxes	66.0	156.4	266.1	487.3	18.3	20.2	20.4	21.3	9.0	5.5	6.2
Corporate profits taxes	14.1	24.4	33.5	76.0	3.9	3.2	2.6	3.3	5.7	3.2	8.5
Indirect business taxes	206.8	429.2	689.8	1,142.3	57.4	55.6	52.9	49.9	7.6	4.9	5.2
Property taxes	85.3	182.8	267.8	463.0	23.7	23.7	20.5	20.2	7.9	3.9	5.6
Other	121.5	246.4	422.0	679.3	33.7	31.9	32.3	29.7	7.3	5.5	4.9
Contributions for social insurance	4.1	13.1	9.4	14.5	1.1	1.7	.7	.6	12.5	–3.3	4.4
Federal grants-in-aid	69.5	149.1	305.7	568.8	19.3	19.3	23.4	24.9	7.9	7.4	6.4
Expenditures	362.5	777.2	1,356.4	2,255.7	100.0	100.0	100.0	100.0	7.9	5.7	5.2
Consumption	306.8	601.7	1,034.5	1,575.0	84.6	77.4	76.3	69.8	7.0	5.6	4.3
Compensation	225.9	456.3	733.8	1,141.8	62.3	58.7	54.1	50.6	7.3	4.9	4.5
Consumption of fixed capital	30.4	53.5	99.9	169.8	8.4	6.9	7.4	7.5	5.8	6.5	5.4
Other	50.5	91.8	200.8	263.4	13.9	11.8	14.8	11.7	6.2	8.1	2.8
Transfer payments to persons	61.2	180.1	335.6	700.6	16.9	23.2	24.7	31.1	11.4	6.4	7.6
Medicaid	32.1	121.8	263.5	599.1	8.8	15.7	19.4	26.6	14.3	8.0	8.6
Other	29.1	58.3	72.0	101.5	8.0	7.5	5.3	4.5	7.2	2.1	3.5
Net interest paid	–7.3	2.8	–2.0	–2.7	–2.0	.4	–.1	–.1	–	–	3.2
Less dividends received	–.2	–.2	–.5	–.8	.0	.0	.0	.0	1.3	9.0	5.7
Subsidies less current surplus	2.0	–7.2	–11.2	–16.4	.6	–.9	–.8	–.7	–	4.5	3.9
Less wage accruals	.0	.0	.0	.0	.0	.0	.0	.0	–	–	–
State and local deficit/surplus	–2.3	–4.9	–52.0	33.2	–	–	–	–	8.1	26.5	–

NOTE: Dash indicates data not computable.

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

2001 recession, job growth showed very slow progress. However, the continued recovery in output and continued strong demand is expected to catch up with the robust growth in productivity and lead to sustained job growth. Under the assumption of long-term economic stability, the BLS model assumes a return to more normal levels of job creation in the future. In 2012, a 5.2-percent unemployment rate is projected. (See table 10.)

Overall, civilian household employment is projected to increase by 1.2 percent per year from 2002 to 2012. The result is that about 17.3 million employed persons will be added to the economy over the 10-year projection period. Total employment measured on a nonfarm establishment basis is projected to grow at a rate of 1.6 percent between 2002 to 2012, from 130.4 million to 152.1 million, an increase of 21.7 million jobs.[14]

The civilian labor force is projected to grow at a rate of 1.1 percent per year from 2002 to 2012; the same as that attained over the preceding 10-year period. This translates into an increase of 17.4 million over the projection span. The Census Bureau projects that the total U.S. population will increase at a 0.9-percent rate of growth annually over the 2002–12 period; the same rate of increase as that between 1992 and 2002. The Census Bureau also estimates that the population aged 16 and older will increase at a rate of 1.1 percent over the projection span; 0.1 percentage point higher than the rate of growth in the earlier period.[15]

Productivity

Productivity, measured as output per hour in the private nonfarm business sector, has demonstrated very strong gains since 1995. As mentioned earlier, even during the past 3 years of economic weakness (a period that included a recession and a recovery), labor productivity grew at an annual average rate of more than 3 percent between 2000 and 2002; somewhat higher than the annual rate of 2.5 percent from 1995 to 2000 and much higher than the 1.4 percent trend from 1973 to 1995. This growth, moreover, has occurred, despite a deep decline in nonresidential investment spending since 2001.[16] In fact, economic data suggest that almost none of the acceleration in productivity after 1995 is due to adjustments for responses to the business cycle experienced in the historical period of 1973–95.

How is one to interpret this truly extraordinary performance since 1995? Cyclical forces probably played some role, but efficiency gains likely were facilitated by the best use of important new technologies. Adjusting to new technologies takes time, and it is plausible that the adjustment process has continued to boost productivity growth in recent years. More fundamentally, the trend in productivity growth has ratcheted up, and this development has been the driving force behind the recent exceptionally high rate of growth.[17]

Table 10. Labor supply and factors affecting productivity, 1982, 1992, 2002, and projected 2012

Category	Levels					Average annual rate of change		
	1982	1992	2002: 1990 census weights	2002: 2000 Census weights	2012	1982–92	1992–2002	2002–12
Labor supply (in millions, unless noted):								
Total population	231.9	255.4	280.6	287.5	314.8	1.0	.9	.9
Population aged 16 and older	172.3	192.8	214.0	218.0	242.0	1.1	1.0	1.1
Civilian labor force	110.2	128.1	142.5	144.9	162.3	1.5	1.1	1.1
Civilian household employment	99.5	118.5	134.3	136.5	153.8	1.8	1.3	1.2
Nonfarm payroll employment	89.7	108.7	130.4	130.4	152.1	1.9	1.8	1.6
Unemployment rate (percent)	9.7	7.5	5.8	5.8	5.2	–2.6	–2.6	–1.0
Productivity:								
Private nonfarm business output per hour (billions of chained 1996 dollars)	26.3	31.9	39.1	39.1	47.9	2.0	2.0	2.1

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

Over the next 10 years, it is uncertain whether the structural productivity growth that emerged in the past will continue or if the late 1990's dramatic productivity surge will be repeated, but some high levels of productivity are foreseen. Over time, the faster productivity growth will mean a higher standard of living, with most of the productivity gain eventually taking the form of higher real wages. The Bureau anticipates that productivity will grow at a rate of 2.1 percent per year over the 2002–12 period, virtually the same as that recorded between 1992 and 2002. This expected solid productivity growth in the aggregate economic projections is consistent with the strong growth of capital stocks, resulting from the projected rates of business investment, especially in efficiency-enhancing equipment and computer software.[18] □

Notes

[1] In this article, discussions of GDP and its final demand components are couched in terms of real values unless otherwise noted. Real GDP and its components are stated in 1996 chain-weighted dollars. Chain weighting replaces the past practice of computing those indicators by reference to fixed base-year prices with an averaging technique. The chain-weighted methodology calculates the prices of goods and services in order to use weights that are appropriate for the specific periods or years being measured. As a result, for a particular year, the most detailed GDP components do not add up to their chain-weighted aggregates, and the chain-weighted aggregates do not add up to the chain-weighted real GDP For more details, 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,* November 2003, pp. 8–16. It should be noted that in the Bureau of Economic Analysis' latest released comprehensive revision of National Income and Product Accounts (NIPA's), the reference year has been changed from 1996 to 2000 for the chain-weighted-dollar estimates. All data presented in this article are still measured on a chained-1996 dollars basis because the BLS projections presented in this issue were completed prior to the NIPA revision.

[2] For the first time, the macroeconomic model developed by the Macroeconomic Advisers, LLC forecasting group, is used to prepare the 2002–12 aggregate economic projections. The Macroeconomic Advisers firm developed and supports the Washington University Macro Model, which the Macroeconomic Advisers team uses as a central analytical tool for the short-term and long-term forecasts of the U.S. economy. The macro model is a quarterly econometric system of 609 variables—440 equations and 169 exogenous variables. It operates and simulates on a Windows-based software program called WUMMSIM.

[3] The Business Cycle Dating Committee, National Bureau of Economic Research, determined in July 2003 that the 2001 recession began in March 2001 and ended in November 2001. This 8-month recession is slightly shorter than the average duration of recessions of 11 months since World War II.

[4] The Federal Reserve cut the funds rate 11 times during the year 2001, from 6.50 percent to 1.75 percent. It then held the rates steady through most of 2002, until a half-percentage-point cut in November. A further reduction occurred in June 2003 that lowered the funds rate by another 25 basis point to 1.00 percent, the lowest rate since 1958.

[5] The tax provisions of the "Economic Growth and Tax Relief Reconciliation Act of 2001" came just after the economy had entered into the 2001 recession. It lowered marginal tax rates for all taxpayers. Its immediate tax relief in the summer and the fall of 2001 boosted consumer demand and helped to ensure the recession was short and shallow. The major tax provisions will expire in 2010. The tax provisions of the "Job Creation and Worker Assistance Act of 2002" provided incentives for business investment to jump-start the recovery, along with extended unemployment benefits for individuals who remain unemployed as a result of the 2001 recession. The tax provisions of the "Jobs and Growth Tax Relief Reconciliation Act of 2003," enacted as an extended plan to speed up the 2001 tax cuts, strengthen the economic recovery, and accelerate job creation from its current slow pace. The Macroeconomic Advisers model, assumes

that nearly all of the provisions of the Jobs and Growth Tax Relief Reconciliation Act and the Economic Growth and Tax Relief Reconciliation Act are permanent.

[6] The Department of Defense spending and force-level estimates through the year 2009 are published in *National Defense Budget Estimates For FY 2004* (Office of the Under Secretary of Defense (Comptroller), March 2003). For a brief description of the budget, see, "Fiscal 2004 Department of Defense Budget Release," No. 044–03 (Department of Defense, February 03, 2003).

[7] Each year, the Energy Information Administration of the Department of Energy publishes a range of estimates regarding energy supply and demand over the coming 20 years. The Bureau's energy assumptions for nominal world oil prices are based on the Department of Energy results. See "*Annual Outlook 2003 with Projections to 2025*" (U.S. Department of Energy, Energy Information Administration, January 2003). The real imported oil prices are derived from their nominal prices, deflated by the GDP chain-weighted deflators.

[8] For a further discussion of labor force projections, see Mitra Toossi's article in this issue, pp. 37–57.

[9] In November 2003, the Department of Commerce reported that the economy grew at a robust 8.2-percent annual rate in the third quarter of 2003 as a result of strong increases in consumer spending, business investment, housing construction, and exports. It was the highest growth rate since the first quarter of 1984, but job creation continued to lag.

[10] In December 1999, The National Income and Product Accounts recognized business expenditures for computer software as investment. Previously, only software embedded in equipment by the producer of that equipment was counted as investment. Business purchases for own-account production (that is, software produced by a business for its own use) were classified as inputs to production. For further reading and information, see "A Preview of the 1999 Comprehensive Revision of the National Income and Product Accounts: Definitional and Classificational Changes," *Survey of Current Business*, August 1999, pp. 7–20, and "Improved Estimates of the National Income and Product Accounts for 1959–98, Results of the Comprehensive Revision," *Survey of Current Business*, December 1999, pp. 19–37.

[11] The Congressional Budget Office closed its books in the fiscal year 2003 that ended September 30. The deficit for fiscal 2003 was $374 billion; $27 billion less than the CBO forecast in August 2003. In this article, the budget surplus or deficit is measured in calendar year and on the National Income and Product Accounts basis.

[12] In January 1996, The National Income and Product Accounts recognized government expenditures on equipment and structures as investment. Accordingly, government purchases are now divided into consumption expenditures and gross investment. This approach treats government purchases of fixed assets in a manner more symmetric to the treatment of such assets in the private sector. For more details, see "Preview of the Comprehensive Revision of the National Income and Product Accounts: Recognition of Government Investment and Incorporation of a New Methodology for Calculating Depreciation," *Survey of Current Business*, September 1995, pp. 33–41. In December 1999, The National Income and Product Accounts reclassified government purchases of own-account production of software (that is, software produced by a government agency for its own use) from government consumption expenditures to gross government investment. This shift has no effect on GDP. (See footnote 10 for further readings.)

[13] In November 2003, the U.S. Congress approved an $87.5 billion spending package for U.S. military operations and aid in Iraq and Afghanistan. It is the second major special funding bill for Iraq and for combating terror that President Bush has requested and Congress has produced in less than 7 months. In April 2003, a $78.5 billion package was enacted that included $62.4 billion for war costs and $7.5 billion for Iraqi relief and reconstruction. Also see footnote 6 for a discussion of defense spending and military force-level estimates.

[14] Employment on a household basis, the concept of employment used in the aggregate economic projections discussed in this article, is a count of persons who are working or actively seeking work. The historical estimates for household employment are derived from the Current Population Survey, a survey carried out for the Bureau of Labor Statistics by the U.S. Bureau of the Census. The concept of employment on an industry level of detail, discussed elsewhere in this issue of the *Review*, is a count of jobs and is based on an establishment-level survey called the Current Employment Statistics survey. Since 1994, these two measures have diverged sharply. For an explanation of the increase in this employment gap, see Thomas Nardone, Mary Bowler, Jurgen Kropf, Katie Kirkland, and Signe Wetrogan, "Examining the Discrepancy in Employment Growth between the CPS and the CES," a paper prepared for the presentation to the Federal Economic Statistics Advisory Committee on October 17, 2003.

[15] Population and labor force estimates from 2000 reflect the results of Census 2000 adjustments. The new weighting procedures resulted in the higher population estimates and higher civilian labor force figures due to a major reevaluation of the international migration estimate. Data from 2000 are not strictly comparable with prior years because the revisions did not weighted back to the previous years. For this reason, data before 2000 are still on the 1990-based estimates. For a further discussion of population and labor force projections, see Mitra Toossi's article in this issue, pp. 37–57.

[16] Productivity, measured as output per hour in the private nonfarm business sector, increased by 5.4 percent annually from 2001 to 2002. In 2003, productivity growth registered 7.0 percent in the second quarter and 9.4 percent in the third quarter, the best performance in 20 years.

[17] See "Productivity Growth: A Realistic Assessment," remarks by Vice Chairman Roger W. Ferguson, Jr. (The Federal Reserve Board, at the Stockton Lectures 2002, London Business School, London, U.K., Oct. 24, 2002); and "Recent Experience and Economic Outlook," remarks by Vice Chairman Roger W. Ferguson, Jr. (The Federal Reserve Board, at the 2003 Global Economic and Investment Outlook Conference, Carnegie Mellon University, Pittsburgh, Pennsylvania, Nov. 12, 2002).

[18] For a further, detailed discussion of labor productivity and employment, see Jay M. Berman's article on industry output and employment in this issue, pp. 58–79.

Employment outlook: 2002–12

Labor force projections to 2012: the graying of the U.S. workforce

The labor force will continue to age, with the annual growth rate of the 55-years-and-older group projected to be nearly 4 times that of the overall labor force; as the participation rates of older age groups increase, the older population's share of the workforce will rise

Mitra Toossi

This article examines projected trends in the labor force over the 2002–12 period. By 2012, the number of persons working or looking for work is expected to reach 162.3 million. The labor force is anticipated to exhibit steady growth and increase by 17.4 million, or 12 percent, over the 2002 figure. The growth in the labor force during 2002–12 is projected to be larger than in the previous 10-year period, 1992–2002, when the labor force grew by 14.4 million, or 11.3 percent.

The annual rate of growth in the women's labor force is expected to remain the same as it was during the 1992–2002 period, namely, 1.3 percent, but it will still increase at a faster rate than that of men. (See table 1.) The men's labor force is expected to grow at an annual rate of 1.0 percent, more rapidly than the growth rate in the 1992–2002 period, even though the aggregate labor force participation rate for men is projected to continue to decline. Women's share of the labor force is expected to increase from 46.5 percent in 2002 to 47.5 percent in 2012. By contrast, men's share is projected to decline from 53.5 percent in 2002 to 52.5 percent in 2012.

The projected labor force growth will be affected by the aging of the baby-boom generation—persons born between 1946 and 1964. In 2012, the baby-boom cohort will be 48 to 66 years. This age group is expected to show significant growth over the 2002–12 period. The labor force will continue to age, with the annual growth rate of the 55-and-older group projected to be 4.1 percent, nearly 4 times the rate of growth of the overall labor force. It is anticipated that, in 2012, youths will constitute 15 percent of the labor force, and prime-age workers—those between the ages of 25 and 54—will make up about 66 percent of the labor force. The share of the 55-and-older age group will increase from 14.3 percent to 19.1 percent of the labor force.

As a result of divergent rates of population growth in the past, racial and Hispanic-origin groups are projected to continue to show widely varied rates of growth. By 2012, due to faster population growth resulting from a younger population, higher fertility rates, and increased immigration levels, the Hispanic labor force is expected to reach 23.8 million. Despite slower-than-average growth, white non-Hispanics will continue to make up about 66 percent of the labor force.

Every 2 years, the Bureau of Labor Statistics produces medium-term, or 10-year, labor force projections. The present set of projections covers the 2002–12 period and estimates the future size and composition of the labor force.[1] The labor force projections are used as input in projecting the industrial and occu-

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Table 1. Civilian labor force by sex, age, race, and Hispanic origin, 1982, 1992, 2002, and projected 2012

[Numbers in thousands]

Group	Level					Change			Percent change		
	1982	1992	2002: 1990 census weights	2002: 2000 census weights	2012	1982–92	1992–2002	2002–12	1982–92	1992–2002	2002–12
Total, 16 years and older	110,204	128,105	142,534	144,863	162,269	17,901	14,429	17,406	16.2	11.3	12.0
16 to 24	24,606	21,616	22,425	22,366	24,377	–2,990	809	2,011	–12.2	3.7	9.0
25 to 54	70,506	91,429	99,865	101,720	106,866	20,923	8,436	5,146	29.7	9.2	5.1
55 and older	15,092	15,060	20,244	20,777	31,026	–32	5,184	10,249	–.2	34.4	49.3
Men	62,450	69,964	76,052	77,500	85,252	7,514	6,088	7,751	12.0	8.7	10.0
Women	47,754	58,141	66,481	67,363	77,017	10,387	8,340	9,654	21.8	14.3	14.3
One race:											
White	96,143	108,837	118,569	120,150	130,358	12,694	9,732	10,208	13.2	8.9	8.5
Black	11,331	14,162	16,834	16,564	19,765	2,831	2,672	3,201	25.0	18.9	19.3
Asian[1]	2,730	5,106	7,130	5,949	8,971	2,376	2,024	3,022	87.0	39.6	50.8
All other groups[2]	...	...	...	2,200	3,175	...	...	975	...	...	44.3
Hispanic origin	6,734	11,338	16,200	17,942	23,785	4,604	4,862	5,843	68.4	42.9	32.6
Other than Hispanic origin	103,470	116,767	126,334	126,921	138,484	13,297	9,567	11,562	12.9	8.2	9.1
White non-Hispanic	89,630	98,724	103,360	103,348	106,237	9,094	4,636	2,889	10.1	4.7	2.8

See footnotes at end of table.

pational employment patterns of the U.S. economy.

The labor force projections are estimated by combining population projections calculated by the U.S. Census Bureau with the labor force participation rate projections developed by the Bureau of Labor Statistics.[2] Consequently, the labor force is a reflection of changes in either the population trend or the labor force participation rate. Changes in the labor force are better understood if they are decomposed into these two components, each of which is therefore discussed separately in what follows.

Population projections

The population projections provided to the Bureau of Labor Statistics by the Census Bureau for this round of projections were based on the 2000 census of the U.S. population (hereafter referred to as Census 2000; see box on this page). The Census Bureau makes several alternative population projections based on different assumptions about future fertility, mortality, and migration. The Bureau of Labor Statistics selects the middle-series scenario of the population projections as a basis for its labor force projections. The main assumptions of the middle series are as follows:

- The level of childbearing among women is assumed to remain close to the present levels, with differences by race and Hispanic origin diminishing over time.
- Mortality is assumed to decline gradually, with less variation by race and Hispanic origin than at present.
- International migration is assumed to vary over

Census 2000 and the U.S. population

Census 2000 counted 281.4 million people in the United States, a 13.2-percent increase over the 1990-census population of 248.7 million. Numerically, the increase was 32.7 million, the largest between two censuses. In April 1999, the Census Bureau had estimated that the U.S. population would reach 274.6 million in 2000. Although the difference between the estimates and the projections—the so-called error of closure—was a considerable 6.8 million, Census 2000 resulted in a more accurate count and higher population controls for all racial, sex, age, and ethnicity categories. According to Census 2000, the number of Hispanics had grown substantially from the previous census, making Hispanics the largest minority in the U.S. population. This higher population count was reflected most significantly among Hispanic men and in the younger age category of 18 to 29 years. (More information is available on the Census Bureau website, **http://www.census.gov/population/www/projections/popproj.html**.)

Table 1. Continued—Civilian labor force by sex, age, race, and Hispanic origin, 1982, 1992, 2002, and projected 2012

[Numbers in thousands]

Group	Percent distribution 1982	1992	2002, 1990 census weights	2002, 2000 census weights	2012	Annual growth rate (percent) 1982–92	1992–2002	2002–12
Total, 16 years and older	100.0	100.0	100.0	100.0	100.0	1.5	1.1	1.1
16 to 24	22.3	16.9	15.7	15.4	15.0	–1.3	.4	.9
25 to 54	64.0	71.4	70.1	70.2	65.9	2.6	.9	.5
55 and older	13.7	11.8	14.2	14.3	19.1	.0	3.0	4.1
Men	56.7	54.6	53.4	53.5	52.5	1.1	.8	1.0
Women	43.3	45.4	46.6	46.5	47.5	2.0	1.3	1.3
One race:								
White	87.2	85.0	83.2	82.9	80.3	1.2	.9	.8
Black	10.3	11.1	11.8	11.4	12.2	2.3	1.7	1.8
Asian[1]	2.5	4.0	5.0	4.1	5.5	6.5	3.4	4.2
All other groups[2]	...	...	...	1.5	2.0	...	...	3.7
Hispanic origin	6.1	8.9	11.4	12.4	14.7	5.3	3.6	2.9
Other than Hispanic origin	93.9	91.1	88.6	87.6	85.3	1.2	.8	.9
White non-Hispanic	81.3	77.1	72.5	71.3	65.5	1.0	.5	.3

[1] Data for 1982 and 1992 represent the "Asian and other" category with 1990 census weights. Data for 2002 with 1990 census weights represent the "Asian and other" category. Data for 2002 with 2000 census weights represent the "Asian only" category. Data for 2012 represent the "Asian only" category with 2000 census weights.

[2] The "All other groups" category includes those reporting the racial categories of (1a) American Indian and Alaska Native or (1b) Native Hawaiian and Other Pacific Islanders and those reporting (2) two or more races. The category was not defined prior to 2003. Data for 2002 were calculated by BLS.

time and decrease, in general, relative to the size of the population.[3]

Race and ethnicity projections

To comply with the 1964 Civil Rights Act, the 1965 Voting Rights Act, and other domestic laws, Federal agencies, including the Census Bureau, are required to collect data on race and ethnicity. The number of racial categories has gone through numerous changes between the censuses. The categories established by the Office of Management and Budget prior to Census 2000 were "white," "black," and "Asian and other." American Indians/Alaska Natives and Hawaiian and Pacific Islanders constituted the "other" part of the "Asian and other" category.

The 2000 census allowed persons to choose more than one racial identity. Thus, the 2000 census uses the following racial categories: "white (only)," "black (only)," "Asian (only)," "American Indian or Alaska Native," and "Native Hawaiian and Pacific Islander." The term "only" refers to those who selected one race. Anyone who indicated that he or she was of more than one race was categorized as belonging to a multiple racial group.[4] As a result of these changes, the 1990 and 2000 censuses are not directly comparable with regard to racial categories of population and the labor force. There are no historical data for the new categories, causing breaks in the continuity of old categories. This situation has presented the Bureau of Labor Statistics with great challenges in the process of constructing labor force projections.

Problem of historical comparability. The Current Population Survey (CPS) is the source of historical data on the civilian noninstitutional population, labor force levels, and labor force participation rates used in BLS labor force projections.[5] Although the CPS totals have been adjusted for the 2000 census, the actual transition to 2000-based racial categories began with the January 2003 release of CPS data.

The new racial categories are not exactly the same as those used in the past, but they are close enough to allow the development of time series of labor force participation rates as a basis for projecting these rates over the 2002–12 period. On the basis of projections of both the population and labor force participation rates of the new racial and ethnicity categories, labor force levels are projected for the various groups. However, the levels calculated under the new categories will not be the same as under the old ones. For example, the "white only," "black only," and "Asian only" groups in 2000-based actual and projected data are not directly comparable to the white, black, and "Asian and other" groups, respectively, in the historical data. In particular, the

Table 2. Civilian noninstitutional population by sex, age, race, and Hispanic origin, 1982, 1992, 2002, and projected 2012

[Numbers in thousands]

Group	Level					Change			Annual growth rate			Percent distribution				
	1982	1992	2002: 1990 census weights	2002: 2000 census weights	2012	1982–92	1992–2002	2002–12	1982–92	1992–2002	2002–12	1982	1992	2002: 1990 census weights	2002: 2000 census weights	2012
Total, 16 years and older	172,271	192,805	213,976	217,570	241,604	20,534	21,171	24,034	1.1	1.0	1.1	100.0	100.0	100.0	100.0	100.0
16 to 24	36,608	32,687	35,458	35,343	37,833	–3,921	2,771	2,490	–1.1	.8	.7	21.3	17.0	16.6	16.2	15.7
16 to 19	15,763	13,840	16,223	15,995	16,433	–1,923	2,383	438	–1.3	1.6	.3	9.2	7.2	7.6	7.4	6.8
20 to 24	20,845	18,846	19,235	19,348	21,400	–1,999	389	2,052	–1.0	.2	1.0	12.1	9.8	9.0	8.9	8.9
25 to 54	88,367	109,336	119,849	122,076	125,594	20,969	10,513	3,518	2.2	.9	.3	51.3	56.7	56.0	56.1	52.0
25 to 34	38,492	42,278	36,857	38,471	41,510	3,786	–5,421	3,039	.9	–1.4	.8	22.3	21.9	17.2	17.7	17.2
35 to 44	27,611	39,852	43,954	43,894	40,043	12,241	4,102	–3,851	3.7	1.0	–.9	16.0	20.7	20.5	20.2	16.6
45 to 54	22,264	27,206	39,038	39,711	44,040	4,942	11,832	4,329	2.0	3.7	1.0	12.9	14.1	18.2	18.3	18.2
55 and older	47,297	50,783	58,669	60,151	78,178	3,486	7,886	18,027	.7	1.5	2.7	27.5	26.3	27.4	27.6	32.4
55 to 64	21,909	20,604	25,662	26,343	37,829	–1,305	5,058	11,486	–.6	2.2	3.7	12.7	10.7	12.0	12.1	15.7
65 and older	25,387	30,179	33,007	33,808	40,349	4,792	2,828	6,541	1.7	.9	1.8	14.7	15.7	15.4	15.5	16.7
65 to 74	15,856	18,012	17,635	17,999	22,924	2,156	–378	4,925	1.3	–.2	2.4	9.2	9.3	8.2	8.3	9.5
75 and older	9,556	12,167	15,373	15,809	17,426	2,611	3,206	1,617	2.4	2.4	1.0	5.5	6.3	7.2	7.3	7.2
Men, 16 years and older	81,523	92,270	102,925	104,585	116,634	10,747	10,655	12,049	1.2	1.1	1.1	47.3	47.9	48.1	48.1	48.3
16 to 24	18,015	16,349	17,798	17,773	18,973	–1,666	1,449	1,200	–1.0	.9	.7	10.5	8.5	8.3	8.2	7.9
16 to 19	7,879	7,023	8,250	8,146	8,319	-856	1,227	173	–1.1	1.6	.2	4.6	3.6	3.9	3.7	3.4
20 to 24	10,136	9,326	9,548	9,627	10,654	–810	222	1,027	–.8	.2	1.0	5.9	4.8	4.5	4.4	4.4
25 to 54	42,923	53,648	58,736	59,939	61,988	10,725	5,088	2,049	2.3	.9	.3	24.9	27.8	27.4	27.5	25.7
25 to 34	18,787	20,792	18,013	19,036	20,620	2,005	–2,779	1,584	1.0	–.4	.8	10.9	10.8	8.4	8.7	8.5
35 to 44	13,410	19,585	21,665	21,524	19,775	6,175	2,080	–1,749	3.9	1.0	–.8	7.8	10.2	10.1	9.9	8.2
45 to 54	10,726	13,271	19,058	19,379	21,594	2,545	5,787	2,215	2.2	3.7	1.1	6.2	6.9	8.9	8.9	8.9
55 and older	20,586	22,273	26,392	26,873	35,673	1,687	4,119	8,800	.8	1.7	2.9	11.9	11.6	12.3	12.4	14.8
55 to 64	10,215	9,776	12,267	12,640	18,184	–439	2,491	5,544	–.4	2.3	3.7	5.9	5.1	5.7	5.8	7.5
65 and older	10,371	12,496	14,124	14,233	17,489	2,125	1,628	3,256	1.9	1.2	2.1	6.0	6.5	6.6	6.5	7.2
65 to 74	6,867	7,969	8,045	8,160	10,583	1,102	76	2,423	1.5	.1	2.6	4.0	4.1	3.8	3.8	4.4
75 and older	3,504	4,527	6,079	6,073	6,906	1,023	1,552	833	2.6	3.0	1.3	2.0	2.3	2.8	2.8	2.9
Women, 16 years and older	90,748	100,535	111,051	112,985	124,971	9,787	10,516	11,986	1.0	1.0	1.0	52.7	52.1	51.9	51.9	51.7
16 to 24	18,593	16,338	17,660	17,570	18,860	–2,255	1,322	1,290	–1.3	.8	.7	10.8	8.5	8.3	8.1	7.8
16 to 19	7,884	6,818	7,973	7,849	8,114	–1,066	1,155	265	–1.4	1.6	.3	4.6	3.5	3.7	3.6	3.4
20 to 24	10,709	9,520	9,688	9,721	10,746	–1,189	168	1,025	–1.2	.2	1.0	6.2	4.9	4.5	4.5	4.4
25 to 54	45,444	55,688	61,113	62,137	63,606	10,244	5,425	1,469	2.1	.9	.2	26.4	28.9	28.6	28.6	26.3
25 to 34	19,705	21,486	18,844	19,435	20,891	1,781	–2,642	1,456	.9	–1.3	.7	11.4	11.1	8.8	8.9	8.6
35 to 44	14,201	20,267	22,289	22,370	20,269	6,066	2,022	–2,101	3.6	1.0	–1.0	8.2	10.5	10.4	10.3	8.4
45 to 54	11,538	13,935	19,980	20,332	22,446	2,397	6,045	2,114	1.9	3.7	1.0	6.7	7.2	9.3	9.3	9.3
55 and older	26,711	28,510	32,277	33,278	42,505	1,799	3,767	9,227	.7	1.2	2.5	15.5	14.8	15.1	15.3	17.6
55 to 64	11,694	10,828	13,395	13,703	19,645	–866	2,567	5,942	–.8	2.1	3.7	6.8	5.6	6.3	6.3	8.1
65 and older	15,017	17,682	18,883	19,575	22,861	2,665	1,201	3,286	1.6	.7	1.6	8.7	9.2	8.8	9.0	9.5
65 to 74	8,989	10,043	9,589	9,839	12,341	1,054	–454	2,502	1.1	–.5	2.3	5.2	5.2	4.5	4.5	5.1
75 and older	6,052	7,640	9,293	9,736	10,519	1,588	1,653	783	2.4	2.0	.8	3.5	4.0	4.3	4.5	4.4

See footnotes at end of table.

Table 2. Continued—Civilian noninstitutional population by sex, age, race, and Hispanic origin, 1982, 1992, 2002, and projected 2012

[Numbers in thousands]

Group	Level					Change			Annual growth rate			Percent distribution				
	1982	1992	2002		2012	1982–92	1992–2002	2002–12	1982–92	1992–2002	2002–12	1982	1992	2002		2012
			1990 census weights	2000 census weights										1990 census weights	2000 census weights	
White, 16 years and older	149,441	162,972	177,313	179,783	193,831	13,531	14,341	14,048	0.9	0.8	0.8	86.7	84.5	82.9	82.6	80.2
Men	71,211	78,651	86,160	87,361	94,647	7,440	7,509	7,286	1.0	1.0	.8	41.3	40.8	40.3	40.2	39.2
Women	78,230	84,321	91,152	92,422	99,184	6,091	6,831	6,762	.8	.8	.7	45.4	43.7	42.6	42.5	41.1
Black, 16 years and older	18,584	22,147	25,956	25,578	29,800	3,563	3,809	4,222	1.8	1.6	1.5	10.8	11.5	12.1	11.8	12.3
Men	8,283	9,896	11,657	11,391	13,486	1,613	1,761	2,095	1.8	1.7	1.7	4.8	5.1	5.4	5.2	5.6
Women	10,300	12,251	14,299	14,187	16,314	1,951	2,048	2,127	1.7	1.6	1.4	6.0	6.4	6.7	6.5	6.8
Asian, 16 years and older[1]	4,211	7,685	10,707	8,971	11,877	3,474	3,022	2,906	6.2	3.4	2.8	2.4	4.0	5.0	4.1	4.9
Men	1,991	3,721	5,108	4,252	5,507	1,730	1,387	1,255	6.5	3.2	2.6	1.2	1.9	2.4	2.0	2.3
Women	2,220	3,964	5,599	4,719	6,370	1,744	1,635	1,651	6.0	3.5	3.0	1.3	2.1	2.6	2.2	2.6
All other groups, 16 years and older[2]	...	...	...	4,728	6,097	...	...	1,369	...	...	2.6	...	...	...	2.2	2.5
Men	...	...	...	2,309	2,994	...	...	685	...	...	2.6	...	...	...	1.1	1.2
Women	...	...	...	2,419	3,103	...	...	684	...	...	2.5	...	...	...	1.1	1.3
Hispanic origin, 16 years and older	10,580	16,961	23,899	25,965	34,561	6,381	6,938	8,596	4.8	3.5	2.9	6.1	8.8	11.2	11.9	14.3
Men	5,203	8,553	11,767	13,221	17,298	3,350	3,214	4,077	5.1	3.2	2.7	3.0	4.4	5.5	6.1	7.2
Women	5,360	8,408	12,131	12,742	17,263	3,048	3,723	4,521	4.6	3.7	3.1	3.1	4.4	5.7	5.9	7.1
Other than Hispanic origin, 16 years and older	161,691	175,844	190,077	191,605	207,043	14,153	14,233	15,438	.8	.8	.8	93.9	91.2	88.8	88.1	85.7
Men	76,320	83,717	91,158	91,364	99,335	7,397	7,441	7,971	.9	.9	.8	44.3	43.4	42.6	42.0	41.1
Women	85,388	92,127	98,919	100,243	107,708	6,739	6,792	7,465	.8	.7	.7	49.6	47.8	46.2	46.1	44.6
White non-Hispanic, 16 and older	139,201	148,029	154,818	155,458	161,729	8,828	6,790	6,271	.6	.4	.4	80.8	76.8	72.4	71.5	66.9
Men	66,177	71,076	75,070	74,956	78,542	4,898	3,995	3,586	.7	.5	.5	38.4	36.9	35.1	34.5	32.5
Women	73,024	76,953	79,748	80,502	83,187	3,929	2,795	2,685	.5	.4	.3	42.4	39.9	37.3	37.0	34.4
Age of baby boomers	18 to 36	28 to 46	38 to 56	38 to 56	48 to 66	...	...	...	...	...	...	...	...	...	...	...

[1] Data for 1982 and 1992 represent the "Asian and other" category with 1990 census weights. Data for 2002 with 1990 census weights represent the "Asian and other" category. Data for 2002 with 2000 census weights represent the "Asian only" category. Data for 2012 represent the "Asian only" category with 2000 census weights.

[2] The "All other groups" category includes those reporting the racial categories of (1a) American Indian and Alaska Native or (1b) Native Hawaiian and Other Pacific Islanders and those reporting (2) two or more races. The category was not defined prior to 2003. Data for 2002 were calculated by BLS.

sum of the three new one-race groups will not add to the total, because there is a residual comprising "all other racial groups," a category that includes American Indians, Alaska Natives, Native Hawaiians, and Pacific Islanders, as well as those reporting that they belong to multiple racial groups.

Trends in Population

Table 2 provides a snapshot of the U.S. population at 10-year intervals over the 1982–2012 period. The civilian noninstitutional population is expected to continue to grow at 1.1 percent annually during the 2002–12 projection period, reaching 241.6 million in 2012.

Beginning with the 20th century, several demographic events have had significant impacts on the size, composition, and growth of the population:

- High rates of reproduction for the population born prior to the 1920s, plus high immigration from Europe (chiefly from Italy, Ireland, and Poland) that occurred in the first two decades of the 20th century.

- The "birth dearth" of the late 1920s and early 1930s. The effect of the birth dearth is reflected in the declining number of persons aged 55 to 64 years from 1982 to 1992 and the drop in the number of those aged 65 to 74 years from 1992 to 2002. In 2002–12, the birth dearth is manifested in the slow growth of the 75-and-older age group.

- The "baby boom" starting in 1946 and lasting until 1964—a period of 18 years. The impact of this surge in the population level can be traced by following the movements of the baby-boom generation through age groups with the greatest increase in each period. For example, the 35- to 44-year age group increased most significantly (almost 12.2 million) over the 1982–92 period, and the 45- to 54-year age group had its greatest increase (nearly 11.8 million) over the 1992–2002 period. For the 2002–12 projection period, persons aged 55 to 64 years include the boomers and are expected to have the greatest growth in population, 11.5 million.

- The "baby bust," reflecting the drop in birthrates after 1965 and through the 1970s. The population in the age group following the baby boomers, including those aged 16 to 24 years in 1982–92, 25 to 34 years from 1992 to 2002, and 35 to 44 years in the 2002–12 projection period, show declining numbers. From 2002 to 2012, the number of persons aged 35 to 44 years is expected to decline by 3.8 million. This same age group increased by 12.2 million during 1982–92, when it contained a high concentration of baby boomers.

- The "baby-boom echo," reflecting a modest increase in births from the late 1970s through the early 1990s. The baby-boom echo is traceable to the increase in births of the women of the baby-boom generation and is reflected in the growth of the population aged 16 to 24 years during 2002–12.

- The massive migration to the United States that started in the 1970s and is continuing today. The dramatic increase in the immigrant population has resulted in higher growth rates for the U.S. population. In addition, because all children born to immigrants in the United States are, by definition, natives, immigration has resulted in increased fertility rates for specific groups, again adding to the growth of the population.

The estimated future trends in the civilian noninstitutional population are based on the Census Bureau's middle population projection assumptions and reflect all of the foregoing demographic events. The Census Bureau provides the Bureau of Labor Statistics with an estimate of the future resident population. The Bureau of Labor Statistics then transforms the projections for the resident population to a projection of the civilian noninstitutional population by making several adjustments to the data. First, the Bureau estimates trends in the Armed Forces, to produce an estimate of the civilian population. Then, on the basis of another set of assumptions about the institutionalization of the different categories of population, the civilian population is transformed to the civilian noninstitutional population for the years covered by the BLS projections.

Table 2 shows the two estimates of the 2002 civilian noninstitutional population, one with the 1990 census weights and one with the 2000 census weights. In accordance with the 2000 weights, the civilian noninstitutional population was 217.6 million in 2002 and is projected to reach nearly 242 million, in 2012. The share of youths—persons aged 16 to 24 years—was 16.2 percent in 2002 and is projected to decrease to 15.7 percent in 2012. The working-age population (those aged 25 to 54 years) also will decrease in share, from 56 percent in 2002 to 52 percent in 2012. The older age segment of the civilian noninstitutional population, those aged 55 years and older, will increase its relative share, from 27.6 percent to more than 32 percent. The fastest-growing age category is the 55-to-64 age group, with 3.7 percent annual growth, followed by the 65-to-74 age group, with 2.4 percent growth.

As regards the sex categories, the civilian noninstitutional population of men stood at 104.6 million in 2002 and is projected to be 116.6 million in 2012, 48 percent of the total civilian noninstitutional population that year. The women's civilian noninstitutional population was around 113 million in 2002 and is projected to be nearly 125 million in 2012, 52 percent of the total civilian noninstitutional population that year. In 2012, the civilian noninstitutional population of women will thus be nearly 8 million more than men.

Census 2000 resulted in higher numbers than previous estimates for the total population and for some segments of the population. The group most affected was Hispanics, especially the younger age groups, which showed much higher population numbers. The Hispanic population was nearly 26 million in 2002 and is projected to increase to nearly 35 million in 2012, a growth rate of 2.9 percent, much faster than the white non-Hispanic growth rate of 0.4 percent, over the 2002–12 period.

The youth population, aged 16 to 24 years, is expected to grow 0.7 percent annually. The population of the 55-and-older age group is projected to increase by 18 million over the projection period, or 2.7 percent per year. Those aged 55 to 64 are estimated to increase by 11.5 million over the period, or 3.7 percent annually, a rate higher than that of all other age groups. As a result of the birth dearth that followed the baby boom, the 35-to-44 age group will be the only group to decrease in numbers.

The impact of migration

Among the three major components of national population change—births, deaths, and international migration—the last is hardest to project, in large part because international migration is affected by many factors, some of which are difficult to predict. The Census Bureau uses age- and sex-specific rates from the 1980s to project net migration as a basis for its population projections. However, overall net migration still would account for a sizable proportion of the net population growth over the projected 2002–12 period.

Migration affects the demographic composition of the population in several ways. (See table 2.) The first is reflected in the rapid growth rate of some of the racial and ethnic categories, such as the Hispanic population. The projected growth rates for some of these racial groups are expected to be greater than they were the previous decade, increasing the groups' shares of the labor force.

The second way migration affects the composition of the population is by age distribution. For example, persons aged 25 to 34 years numbered 38.5 million in 1982. Ten years later, this same cohort was even larger, nearly 40 million. Similarly, the number of persons aged 20 to 24 years grew from almost 21 million to slightly more than 42 million 10 years later. Because everyone in these age groups has already been born, an increase in births does not affect the size of the groups. The only way these cohorts could increase their numbers is through net migration. Thus, the population at these relatively young age cohorts is significantly affected by migration.[6] The increase in immigration levels since the mid-1980s was at least partially the result of the provisions of the Immigration Reform and Control Act of 1986. As the immigrants admitted into the country under the Act became citizens, they could sponsor the legal immigration of immediate relatives without being subject to numerical limits.

Labor force participation rates

The labor force participation rates—the proportion of the civilian noninstitutional population in the labor force—by age, sex, race, and Hispanic origin are shown in table 3. The Census 2000 changes in the racial categories affected both population and labor force data in a comparable fashion. Therefore, it did not generally affect the observed trends in the labor force participation rates in any considerable way.

Participation rates by age. The youth labor force, consisting of persons aged 16 to 24 years, had a participation rate of 63.3 percent in 2002. The participation rate of this age group is expected to rise slightly, to 64.4 percent, in 2012. School attendance has been the main reason for the group's relatively low participation rate. Within the group, the participation rate for those aged 20 to 24 years is expected to rise from 76.4 percent to 78.2 percent.

The participation rate is highest among 25- to 54-year-olds; the group's rate has been higher than 80 percent for the last several decades. The participation rate of this group is projected to rise to 85.1 percent in 2012, from 83.3 percent in 2002.

Labor force participation rates generally decline dramatically for the 55-and-older age group relative to other age groups. The participation rate for these older persons historically had been declining until 1985. Since then, the 55-to-64 age group increased its participation rate from 55.1 percent in 1982 to 56.2 percent in 1992. The rate rose to 61.9 percent in 2002 and is expected to reach 65.1 percent by 2012. The 65-to-74 age group had a participation rate of 16.2 percent in 1982. The rate increased to 20.4 percent in 2000 and is projected to rise to 23.6 percent by 2012.

Participation rates by sex and age. The labor force participation rates of men always have been higher than those of women, both at the aggregate level and for the various age groups. As table 3 illustrates, the gap between the labor force participation rates of men and women has been shrinking for decades, reflected in the two groups' different trends in participation rates. In general, except for those 55 years and older, the rates for men have been declining. The overall labor force participation rate of men stood at 76.6 in 1982 and fell to 75.8 in 1992. In 2002, the participation rate of men declined further, to 74.1. The men's participation rate is expected to continue to decrease and reach 73.1 in 2012. In contrast, the rates for women have been increasing over these periods. The overall labor force participation rate of women was 52.6 percent in 1982, increasing to 57.8 percent in 1992 and 59.6 percent in 2002. The labor force participation rate of women is projected to be 61.6 percent in 2012. The labor force participation rate of women 55 years and older is expected to be 34.5 percent in 2012. Included in this age group are women 55 to 64 years, whose participation rate has the highest percentage-point change between 2002 and 2012. These women are projected to have a 60.6-percent participation rate in 2012.

The age-specific participation rates of men have been decreasing across many age groups; as a result, the aggregate

Table 3. Civilian labor force participation rates by sex, age, race, and Hispanic origin, 1982, 1992, 2002, and projected 2012

Group	Participation rate					Percentage-point change			Annual growth rate		
	1982	1992	2002: 1990 census weights	2002: 2000 census weights	2012	1982–92	1992–2002	2002–12	1982–92	1992–2002	2002–12
Total, 16 years and older	64.0	66.4	66.6	66.6	67.2	2.5	0.2	0.6	0.4	0.0	0.1
16 to 24	67.2	66.1	63.2	63.3	64.4	–1.1	–2.9	1.2	–.2	–.4	.2
16 to 19	54.1	51.3	47.6	47.4	46.5	–2.8	–3.7	–1.0	–.5	–.7	–.2
20 to 24	77.2	77.1	76.4	76.4	78.2	–.1	–.6	1.8	.0	–.1	.2
25 to 54	79.8	83.6	83.3	83.3	85.1	3.8	–.3	1.8	.5	.0	.2
25 to 34	81.0	83.7	83.6	83.7	85.3	2.6	.0	1.6	.3	.0	.2
35 to 44	81.2	85.1	84.2	84.1	86.0	3.8	–.9	1.9	.5	–.1	.2
45 to 54	75.9	81.5	82.1	82.1	84.1	5.6	.6	2.0	.7	.1	.2
55 and older	31.9	29.7	34.5	34.5	39.7	–2.3	4.9	5.1	–.7	1.5	1.4
55 to 64	55.1	56.2	61.8	61.9	65.1	1.2	5.6	3.2	.2	1.0	.5
65 and older	11.9	11.5	13.3	13.2	15.9	–.4	1.8	2.7	–.4	1.4	1.9
65 to 74	16.2	16.3	20.4	20.4	23.6	.1	4.1	3.2	.1	2.3	1.5
75 and older	4.9	4.5	5.1	5.1	5.7	–.4	.7	.7	–.9	1.4	1.2
Men, 16 years and older	76.6	75.8	73.9	74.1	73.1	–.8	–1.9	–1.0	–.1	–.3	–.1
16 to 24	72.6	70.5	65.3	65.5	65.7	–2.1	–5.2	.2	–.3	–.8	.0
16 to 19	56.7	53.4	47.6	47.5	45.6	–3.3	–5.8	–1.9	–.6	–1.1	–.4
20 to 24	84.9	83.3	80.6	80.7	81.4	–1.6	–2.7	.7	–.2	–.3	.1
25 to 54	94.0	93.0	91.0	91.0	91.0	–1.0	–2.0	.0	–.1	–.2	.0
25 to 34	94.7	93.8	92.4	92.4	92.5	–.9	–1.4	.0	–.1	–.2	.0
35 to 44	95.3	93.7	92.1	92.1	92.3	–1.6	–1.6	.1	–.2	–.2	.0
45 to 54	91.2	90.7	88.5	88.5	88.6	–.5	–2.3	.1	–.1	–.3	.0
55 and older	43.8	38.4	41.7	42.0	45.8	–5.4	3.2	3.8	–1.3	.8	.9
55 to 64	70.2	67.0	69.2	69.2	69.9	–3.2	2.2	.7	–.5	.3	.1
65 and older	17.8	16.1	17.8	17.9	20.8	–1.7	1.7	3.0	–1.0	1.1	1.5
65 to 74	22.5	21.1	25.4	25.5	29.1	–1.4	4.3	3.6	–.7	1.9	1.3
75 and older	8.5	7.3	7.6	7.6	8.2	–1.2	.4	.5	–1.5	.5	.7
Women, 16 years and older	52.6	57.8	59.9	59.6	61.6	5.2	2.0	2.0	.9	.3	.3
16 to 24	62.0	61.8	61.2	61.1	63.2	–.2	–.6	2.1	.0	–.1	.3
16 to 19	51.4	49.1	47.6	47.3	47.4	–2.4	–1.4	.1	–.5	–.3	.0
20 to 24	69.8	70.9	72.3	72.1	75.1	1.1	1.4	3.0	.2	.2	.4
25 to 54	66.3	74.6	76.0	75.9	79.3	8.3	1.4	3.4	1.2	.2	.4
25 to 34	68.0	73.9	75.3	75.1	78.2	5.9	1.4	3.1	.8	.2	.4
35 to 44	68.0	76.7	76.5	76.4	79.9	8.8	–.2	3.4	1.2	.0	.4
45 to 54	61.6	72.6	76.0	76.0	79.8	11.0	3.3	3.8	1.7	.5	.5
55 and older	22.7	22.8	28.7	28.5	34.5	.1	5.9	6.0	.0	2.3	1.9
55 to 64	41.8	46.5	55.1	55.2	60.6	4.7	8.6	5.4	1.1	1.7	.9
65 and older	7.9	8.3	9.9	9.8	12.1	.4	1.6	2.3	.5	1.8	2.1
65 to 74	11.3	12.5	16.1	16.1	18.9	1.1	3.7	2.8	1.0	2.6	1.6
75 and older	2.8	2.8	3.5	3.5	4.1	.0	.7	.6	.1	2.3	1.7

See footnote at end of table.

Table 3. Continued—Civilian labor force participation rates by sex, age, race, and Hispanic origin, 1982, 1992, 2002, and projected 2012

Group	Participation rate					Percentage-point change			Annual growth rate		
	1982	1992	2002		2012	1982–92	1992–2002	2002–12	1982–92	1992–2002	2002–12
			1990 census weights	2000 census weights							
White, 16 years and older	64.3	66.8	66.9	66.8	66.2	2.4	0.1	–0.6	0.4	0.0	–0.1
Men	77.4	76.5	74.6	74.8	73.5	–.9	–1.9	–1.2	–.1	–.3	–.2
Women	52.4	57.7	59.6	59.3	59.2	5.3	1.9	–.1	1.0	.3	.0
Black, 16 years and older	61.0	63.9	64.9	64.8	66.3	3.0	.9	1.6	.5	.1	.2
Men	70.1	70.7	66.4	68.4	69.1	.6	–4.3	.7	.1	–.6	.1
Women	53.7	58.5	62.0	61.8	64.0	4.8	3.5	2.2	.9	.6	.4
Asian, 16 years and older[1]	64.8	66.5	66.6	66.3	68.7	1.7	.1	2.4	.3	.0	.4
Men	76.0	75.2	75.2	75.6	77.3	–.7	–.1	1.7	–.1	.0	.2
Women	54.8	58.2	58.8	57.9	61.3	3.5	.5	3.4	.6	.1	.6
Hispanic origin, 16 years and older	63.6	66.8	67.8	69.1	68.8	3.2	.9	–.3	.5	.1	.0
Men	79.5	80.7	78.8	80.2	79.0	1.2	–1.9	–1.2	.1	–.2	–.1
Women	48.2	52.8	57.1	57.5	58.6	4.5	4.3	1.0	.9	.8	.2
Other than Hispanic origin, 16 years and older	64.0	66.4	66.5	72.3	66.9	2.4	.1	–5.4	0.4	.0	–.8
Men	76.4	75.3	73.3	78.3	72.1	–1.1	–2.1	–6.3	–.1	–.3	–.8
Women	52.9	58.3	60.2	66.7	62.1	5.4	1.9	–4.6	1.0	.3	–.7
White non-Hispanic, 16 years and older	64.4	66.7	66.8	66.5	65.7	2.3	.1	–.8	0.4	.0	–.1
Men	77.2	76.0	73.9	73.8	72.4	–1.3	–2.0	–1.4	–.2	–.3	–.2
Women	52.7	58.1	60.0	59.6	59.4	5.5	1.9	–.3	1.0	.3	.0

[1] Data for 1982 and 1992 represent the "Asian and other" category with 1990 census weights. Data for 2002 with 1990 census weights represent the "Asian and other" category. Data for 2002 with 2000 census weights represent the "Asian only" category. Data for 2012 represent the "Asian only" category with 2000 census weights.

NOTE: Because the transition to 2000-based racial categories began with the January 2003 CPS data, the labor force participation rate of the "All other groups" category was not calculated.

labor force participation rates of men have consistently moved downward. The labor force participation rate for men 65 years and older began to increase in the 1980s. The labor force participation rate for men 65 to 74 years increased by 4.3 percentage points from 1992 to 2002, reversing a trend dating back to 1890. This group's labor force participation rate is projected to be 29.1 percent in 2012, up 3.6 percentage points from the 2002 figure.

The overall expansion of the U.S. economy over the past several decades, the provision of inflation-adjusted Social Security and Medicare benefits, and the growth of pensions and nonpension assets has provided more people with an adequate standard of living in retirement. All these factors may explain the declining labor force participation of men, particularly aged 65 years and older. However, since 1985, the decrease in the labor force participation rate has stabilized.

A number of reasons explain why the overall labor force participation rate of men had been decreasing up until the mid-1980s and why the labor force participation rate of men aged 55 years and older has started an upward trend.

First, during the 1950–80 period, defined benefit pension coverage became more widespread. Under this plan, workers realized a higher return on pension benefits by retiring as soon as they became eligible. During most of the 1980s, employment downsizing plans frequently included early pensions and lump-sum payments to older workers. By contrast, since the end of the 1980s, the conversion of pension plans from a defined benefit to a defined contribution approach has discouraged early retirements and reversed the declining trends of participation rates for men aged 55 years and older. The share of defined contribution plans increased from about 20 percent in 1981 to nearly 60 percent in 2000.[7]

Research has shown that labor force participation rates drop significantly at ages 62 and 65, which are, respectively, the earliest age at which one can retire and receive Social Security benefits and the "normal" age at which one can retire and receive full Social Security benefits.[8]

Second, beginning with the year 2000, the normal retirement age for receiving Social Security benefits increased, and it will continue to do so gradually on a prescheduled basis.[9] According to the new schedule, the size of the benefit is lowered for each month a recipient retires younger than the normal retirement age. The new provision will encourage workers to continue working later in life. Under this plan, starting in the year 2000, the age of retirement increased by 2 months for those born in 1938, 4 months for those born in 1939, 6 months for those born in 1940, and so on. All those who were born in 1937 or earlier are exempted from the law. People born between 1943 and 1954 (a large portion of the baby boomers) will be eligible for retirement when they reach 66. For people born in 1960 and later, the normal retirement age will be 67 years. The reduced benefits will encourage the large number in the labor force who are dependent on Social Security benefits for their entire income to work longer, or else they will end up with lower benefits during their retirement years.

The removal of the "earnings limit" law, better known as the Senior Citizens Freedom to Work Act, in 2000 has eliminated work disincentives for seniors. Prior to 2000, the earnings penalty, in the form of reduced benefits for those workers aged 65 to 70 years who earned wages, was a major disincentive to working and resulted in lower participation rates.

Participation rates by sex. Men aged 25 to 54 years are strongly attached to the labor force, and their labor force participation rates are mostly in the low- to mid-90-percent range. For most age groups of men under 55 years, the drop in participation was greater in the 1992–2002 period than in the 1982–92 period.

Unlike men's rates, the labor force participation rates of women have been increasing across all age groups over the past several decades. Women aged 45 to 54 years increased their participation by 11 percentage points during 1982–92, the highest among all age groups. The same cohort displayed the greatest increase in participation, 8.6 percent, in the 1992–2002 period, when they reached ages 55 to 64. However, for the 2002–12 period, when this cohort will be 65 to 74 years, they will yield their number-one ranking to a group of younger women: those aged 55 to 64 years, whose labor force participation rate will increase by 5.4 percent. Interestingly, men aged 65 to 74 years are expected to increase their participation more than women in that age range.

As table 3 indicates, the labor force participation rates of women and men have been converging. The gap in aggregate rates is expected to shrink by 12.5 percentage points over the 1982–2012 period, from more than 24 percentage points in 1982 to 11.5 points in 2012. In 1982, each group of women aged 25 to 54 years had labor force participation rates 28 percentage points lower than men the same age. By 2002, these differences had dropped by 15 percentage points; by 2012, they will be less than 11.5 percentage points. For workers aged 16 to 24 years, the difference in 2002 was relatively small and is expected to get even smaller. For older men and women, the difference in participation rates, measured by percentage points, was even smaller, reflecting a significantly lower participation at older ages.

Participation rate by race and Hispanic origin. Differences in labor force participation by race and Hispanic origin are usually not as great as those observed by age and sex.

Table 4. Comparison of labor force participation rates and age composition of Hispanic and white non-Hispanic men, 2002

[In percent]

Age	Labor force participation rate			Composition of population by age		
	Hispanic	White non-Hispanic	Difference (white non-Hispanic less Hispanic)	Hispanic	White non-Hispanic	Difference (white non-Hispanic less Hispanic)
16 and 17	29.8	39.0	9.3	4.7	3.6	–1.1
18 and 19	66.2	63.0	–3.2	5.1	3.4	–1.7
20 and 21	79.8	76.0	–3.8	5.7	3.3	–2.4
22 to 24	90.2	86.7	–3.5	8.6	4.7	–3.9
25 to 29	92.8	93.1	.2	13.3	7.6	–5.8
30 to 34	94.1	94.3	.3	14.9	8.4	–6.4
35 to 39	92.5	93.8	1.3	10.5	9.7	–.8
40 to 44	91.7	93.0	1.3	11.3	10.4	–.8
45 to 49	87.6	91.5	3.9	6.9	10.4	3.5
50 to 54	84.4	88.2	3.7	6.1	9.2	3.1
55 to 59	75.9	79.4	3.5	3.9	7.6	3.8
60 and 61	65.5	68.5	3.0	1.3	2.5	1.2
62 to 64	48.9	51.2	2.2	1.7	3.3	1.6
65 to 69	29.8	32.7	2.8	1.9	4.8	2.9
70 to 74	16.4	18.0	1.6	1.6	4.2	2.6
75 and older	7.1	7.8	.7	2.7	6.9	4.2

However, changes in labor force rates over time differ among the various groups. When changes in participation rates are combined with different patterns of population growth, substantial differences in the future labor force result.

The following tabulation ranks the various racial and ethnic categories in terms of their labor force participation rates in 2002, with 1 indicating the highest rate and 4 the lowest:

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

Note that the rankings by race differ by sex. Hispanic men have the highest overall labor force participation rate. Hispanic women, by contrast, have the lowest participation in the workforce relative to other racial and ethnic categories. For blacks, the situation is reversed, with men having the lowest participation rate and women the highest.

The high labor force participation rate for Hispanic men reflects, in part, their age structure. Hispanics have a younger population, with a greater proportion at the ages of higher labor force participation. As table 4 shows, the labor force participation rates for Hispanic men are higher at ages 18 and 19, 20 and 21, and 22 to 24. The table also shows that Hispanic men have proportionally more young men than the white non-Hispanic population has. The aggregate labor force participation rate for a given racial or ethnic group can be expressed as the weighted sum of the age-specific rates, in which the weight for each age group is its share of the total population. If, on the one hand, Hispanic men had the age distribution of white non-Hispanic men in 2002, while retaining their own labor force participation rates, their aggregate labor force participation rate would have been 72.2 percent, significantly lower than their actual rate (80.2 percent) and only slightly lower than the rate for white non-Hispanic men (73.8 percent). (See table 4.) If, on the other hand, white non-Hispanic men had the population distribution of Hispanic men in 2002, their overall participation rate would have been 81.1 percent, higher than their actual rate and above the 80.2-percent rate for Hispanic men. Thus, the aggregate labor force participation rate is a result of the age distribution of the population, as well as the labor force participation rates of the different age categories.

The preceding examples indicate that age, sex, and race are important in describing the variations in labor force participation rates. The ranking of the overall participation rates in 2012 is projected to change the rankings of the different racial and ethnic categories that year:

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

For the total labor force participation rates by racial groups, compared with 2002, Hispanics retained their place in the ranking and Asians achieved second place, followed by blacks and white non-Hispanics. The rankings for men did not change from 2002. Asians are projected to have the greatest increase, with a 2.4-percentage-point rise in their overall rate over the 2002–12 period. This increase reflects a 3.4-percentage-point gain in participation rate by Asian women. Overall labor force participation rates for blacks are expected to increase during the 2002–12 timeframe as well. The labor force participation of white non-Hispanics is expected to decrease slightly, reflecting decreasing trends for both women and men.

Projected labor force participation rates

The overall labor force participation rate is projected to rise by 0.6 percentage point between 2002 and 2012. Increases in the rate are expected to be greatest for the 55-to-64 and 65-to-74 age groups. The age range of peak labor force participation in both 2002 and 2012 is still 25 to 54 years, with a participation rate in the mid-80-percent range. Thus, the baby-boom generation's aging by itself will act to slow overall participation growth, because baby boomers will be older than the age of highest participation.

The labor force participation rate of men is projected to decrease by 1.0 percentage point, slightly less than the 1.9-point decline registered over the last decade. The overall men's rate is a summary of the changes in the age composition of the population and changes in labor force participation for each age, as well as of the increased racial and ethnic diversity of the male population. For men in the peak ages of labor force participation, 25 to 54 years, the rates show no growth. Older men are expected to continue to have increasing participation.

The increase in the women's labor force participation rate over the past two decades has displayed a pattern of slower growth in each successive period. The Bureau projects that this pattern will continue for the 2002–12 period. For most age groups, labor force participation growth is projected to be greater during that period than during the previous 10 years. With the aging of the population, however, the increase in the aggregate women's labor force participation rate is anticipated

Table 5. Civilian labor force by sex, age, race, and Hispanic origin, 1982, 1992, 2002, and projected 2012

[Numbers in thousands]

Group	Level					Change			Percent change		
	1982	1992	2002: 1990 census weights	2002: 2000 census weights	2012	1982–92	1992–2002	2002–12	1982–92	1992–2002	2002–12
Total, 16 years and older	110,204	128,105	142,534	144,863	162,269	17,901	14,429	17,406	16.2	11.3	12.0
16 to 24	24,608	21,617	22,425	22,366	24,377	–2,991	808	2,011	–12.2	3.7	9.0
16 to 19	8,526	7,096	7,723	7,586	7,636	–1,430	627	50	–16.8	8.8	0.7
20 to 24	16,082	14,521	14,702	14,780	16,740	–1,561	181	1,960	–9.7	1.2	13.3
25 to 54	70,506	91,429	99,865	101,720	106,866	20,923	8,436	5,146	29.7	9.2	5.1
25 to 34	31,186	35,369	30,831	32,196	35,406	4,183	–4,538	3,210	13.4	–12.8	10.0
35 to 44	22,431	33,899	36,998	36,927	34,434	11,468	3,099	–2,493	51.1	9.1	–6.8
45 to 54	16,889	22,160	32,036	32,597	37,026	5,271	9,876	4,429	31.2	44.6	13.6
55 and older	15,092	15,060	20,244	20,777	31,026	–32	5,184	10,249	–.2	34.4	49.3
55 to 64	12,062	11,587	15,863	16,308	24,616	–475	4,276	8,308	–3.9	36.9	50.9
65 and older	3,030	3,473	4,381	4,469	6,410	443	908	1,941	14.6	26.2	43.4
65 to 74	2,566	2,932	3,593	3,665	5,411	366	661	1,746	14.3	22.5	47.6
75 and older	464	542	789	804	1,000	78	247	196	16.8	45.5	24.3
Men, 16 years and older	62,450	69,964	76,052	77,500	85,252	7,514	6,088	7,751	12.0	8.7	10.0
16 to 24	13,074	11,521	11,619	11,639	12,461	–1,553	98	822	–11.9	.8	7.1
16 to 19	4,470	3,751	3,926	3,870	3,791	–719	175	–79	–16.1	4.7	–2.0
20 to 24	8,604	7,770	7,693	7,769	8,670	–834	–77	901	–9.7	–1.0	11.6
25 to 54	40,357	49,882	53,439	54,568	56,435	9,525	3,557	1,866	23.6	7.1	3.4
25 to 34	17,793	19,495	16,635	17,596	19,069	1,702	–2,860	1,473	9.6	–14.7	8.4
35 to 44	12,781	18,347	19,946	19,829	18,244	5,566	1,599	–1,585	43.5	8.7	–8.0
45 to 54	9,784	12,040	16,858	17,143	19,122	2,256	4,818	1,978	23.1	40.0	11.5
55 and older	9,019	8,561	10,995	11,293	16,356	–458	2,434	5,063	–5.1	28.4	44.8
55 to 64	7,174	6,551	8,486	8,750	12,714	–623	1,935	3,964	–8.7	29.5	45.3
65 and older	1,845	2,010	2,509	2,543	3,641	165	499	1,098	8.9	24.8	43.2
65 to 74	1,548	1,681	2,045	2,079	3,077	133	364	998	8.6	21.6	48.0
75 and older	297	329	464	464	564	32	135	100	10.8	41.1	21.6
Women, 16 years and older	47,755	58,141	66,481	67,363	77,017	10,386	8,340	9,654	21.7	14.3	14.3
16 to 24	11,533	10,096	10,806	10,727	11,916	–1,437	710	1,189	–12.5	7.0	11.1
16 to 19	4,056	3,345	3,797	3,716	3,845	–711	452	129	–17.5	13.5	3.5
20 to 24	7,477	6,750	7,009	7,011	8,070	–727	259	1,059	–9.7	3.8	15.1
25 to 54	30,149	41,547	46,426	47,152	50,431	11,398	4,879	3,279	37.8	11.7	7.0
25 to 34	13,393	15,875	14,196	14,600	16,337	2,482	–1,679	1,737	18.5	–10.6	11.9
35 to 44	9,651	15,552	17,052	17,098	16,189	5,901	1,500	–909	61.1	9.6	–5.3
45 to 54	7,105	10,120	15,178	15,454	17,905	3,015	5,058	2,451	42.4	50.0	15.9
55 and older	6,073	6,499	9,250	9,485	14,671	426	2,751	5,186	7.0	42.3	54.7
55 to 64	4,888	5,035	7,377	7,558	11,902	147	2,342	4,344	3.0	46.5	57.5
65 and older	1,185	1,464	1,873	1,927	2,769	279	409	842	23.5	27.9	43.7
65 to 74	1,018	1,251	1,548	1,586	2,333	233	297	747	22.9	23.7	47.1
75 and older	167	213	325	340	436	46	112	96	27.5	52.4	28.1
White, 16 years and older	96,143	108,837	118,569	120,150	130,358	12,694	9,732	10,208	13.2	8.9	8.5
Men	55,133	60,168	64,241	65,308	70,592	5,035	5,284	6,291	9.1	6.8	8.1
Women	41,010	48,669	54,328	54,842	59,766	7,659	4,924	5,924	18.7	11.6	9.0

See footnotes at end of table.

Table 5. Continued—Civilian labor force by sex, age, race, and Hispanic origin, 1982, 1992, 2002, and projected 2012

[Numbers in thousands]

Group	Percent distribution					Annual growth rate (percent)		
	1982	1992	2002: 1900 census weights	2002: 2000 census weights	2012	1982–92	1992–2002	2002–12
Total, 16 years and older	100.0	100.0	100.0	100.0	100.0	1.5	1.1	1.1
16 to 24	22.3	16.9	15.7	15.4	15.0	–1.3	.4	.9
16 to 19	7.7	5.5	5.4	5.2	4.7	–1.8	.9	.1
20 to 24	14.6	11.3	10.3	10.2	10.3	–1.0	.1	1.3
25 to 54	64.0	71.4	70.1	70.2	65.9	2.6	.9	.5
25 to 34	28.3	27.6	21.6	22.2	21.8	1.3	–1.4	1.0
35 to 44	20.4	26.5	26.0	25.5	21.2	4.2	.9	–.7
45 to 54	15.3	17.3	22.5	22.5	22.8	2.8	3.8	1.3
55 and older	13.7	11.8	14.2	14.3	19.1	.0	3.0	4.1
55 to 64	10.9	9.0	11.1	11.3	15.2	–.4	3.2	4.2
65 and older	2.7	2.7	3.1	3.1	4.0	1.4	2.4	3.7
65 to 74	2.3	2.3	2.5	2.5	3.3	1.3	2.1	4.0
75 and older	.4	.4	.6	.6	.6	1.6	3.8	2.2
Men, 16 years and older	56.7	54.6	53.4	53.5	52.5	1.1	.8	1.0
16 to 24	11.9	9.0	8.2	8.0	7.7	–1.3	.1	.7
16 to 19	4.1	2.9	2.8	2.7	2.3	–1.7	.5	–.2
20 to 24	7.8	6.1	5.4	5.4	5.3	–1.0	–.1	1.1
25 to 54	36.6	38.9	37.5	37.7	34.8	2.1	.7	.3
25 to 34	16.1	15.2	11.7	12.1	11.8	.9	–1.6	.8
35 to 44	11.6	14.3	14.0	13.7	11.2	3.7	.8	–.8
45 to 54	8.9	9.4	11.8	11.8	11.8	2.1	3.4	1.1
55 and older	8.2	6.7	7.7	7.8	10.1	–.5	2.5	3.8
55 to 64	6.5	5.1	6.0	6.0	7.8	–.9	2.6	3.8
65 and older	1.7	1.6	1.8	1.8	2.2	.9	2.2	3.7
65 to 74	1.4	1.3	1.4	1.4	1.9	.8	2.0	4.0
75 and older	.3	.3	.3	.3	.3	1.0	3.5	2.0
Women, 16 years and older	43.3	45.4	46.6	46.5	47.5	2.0	1.3	1.3
16 to 24	10.5	7.9	7.6	7.4	7.3	–1.3	.7	1.1
16 to 19	3.7	2.6	2.7	2.6	2.4	–1.9	1.3	.3
20 to 24	6.8	5.3	4.9	4.8	5.0	–1.0	.4	1.4
25 to 54	27.4	32.4	32.6	32.5	31.1	3.3	1.1	.7
25 to 34	12.2	12.4	10.0	10.1	10.1	1.7	–1.1	1.1
35 to 44	8.8	12.1	12.0	11.8	10.0	4.9	.9	–.5
45 to 54	6.4	7.9	10.6	10.7	11.0	3.6	4.1	1.5
55 and older	5.5	5.1	6.5	6.5	9.0	.7	3.6	4.5
55 to 64	4.4	3.9	5.2	5.2	7.3	.3	3.9	4.6
65 and older	1.1	1.1	1.3	1.3	1.7	2.1	2.5	3.7
65 to 74	.9	1.0	1.1	1.1	1.4	2.1	2.2	3.9
75 and older	.2	.2	.2	.2	.3	2.5	4.3	2.5
White, 16 years and older	87.2	85.0	83.2	82.9	80.3	1.2	.9	.8
Men	50.0	47.0	45.1	45.1	43.5	.9	.7	.8
Women	37.2	38.0	38.1	37.9	36.8	1.7	1.1	.9

See footnotes at end of table.

Table 5. Continued—Civilian labor force by sex, age, race, and Hispanic origin, 1982, 1992, 2002, and projected 2012

[Numbers in thousands]

Group	Level					Change			Percent change		
	1982	1992	2002		2012	1982–92	1992–2002	2002–12	1982–92	1992–2002	2002–12
			1990 census weights	2000 census weights							
Black, 16 years and older	11,331	14,162	16,834	16,564	19,765	2,831	2,672	3,201	25.0	18.9	19.3
Men	5,804	6,997	7,745	7,793	9,318	1,193	748	1,525	20.6	10.7	19.6
Women	5,527	7,166	9,089	8,771	10,447	1,639	1,923	1,676	29.7	26.8	19.1
Asian, 16 years and older [1]	2,770	5,109	7,130	5,949	8,971	2,339	2,021	3,022	84.4	39.6	50.8
Men	1,513	2,800	3,839	3,215	4,941	1,287	1,039	1,726	85.1	37.1	53.7
Women	1,257	2,309	3,291	2,734	4,030	1,052	982	1,296	83.7	42.5	47.4
All other groups, 16 years and older	...	...	...	2,200	3,175	...	...	975	...	...	44.3
Men	...	...	...	1,189	1,732	...	...	543	...	...	45.7
Women	...	...	...	1,011	1,443	...	...	432	...	...	42.7
Hispanic origin, 16 years and older	6,734	11,338	16,200	17,942	23,785	4,604	4,862	5,843	68.4	42.9	32.6
Men	4,148	6,900	9,273	10,609	13,674	2,752	2,373	3,065	66.3	34.4	28.9
Women	2,586	4,439	6,927	7,332	10,111	1,853	2,488	2,779	71.7	56.0	37.9
Other than Hispanic origin, 16 years and older	103,470	116,767	126,334	126,921	138,484	13,297	9,567	11,562	12.9	8.2	9.1
Men	58,302	63,064	66,779	66,891	71,577	4,762	3,715	4,686	8.2	5.9	7.0
Women	45,169	53,702	59,555	60,031	66,906	8,533	5,853	6,875	18.9	10.9	11.5
White non-Hispanic, 16 years and older	89,630	98,724	103,360	103,348	106,237	9,094	4,636	2,889	10.1	4.7	2.8
Men	51,121	53,984	55,489	55,340	56,849	2,862	1,505	1,509	5.6	2.8	2.7
Women	38,508	44,740	47,871	48,008	49,388	6,232	3,130	1,380	16.2	7.0	2.9
Age of baby boomers	18 to 36	28 to 46	38 to 56	38 to 56	48 to 66	...	...	...	...	...	...

See footnotes at end of table.

to be the same as it was during the previous 10 years. Each of the major age groups—16 to 24 years, 25 to 54 years, and 65 years and older—is expected to maintain or modestly increase its participation rate. The participation rate of 20-to-24-year-old women continues to increase and is expected to reach 75.1 percent in 2012. It is projected that the labor force participation rates of women 25 to 34 years, 35 to 44 years, and, in particular, 45 to 54 years also will increase over the projection period.

The 55-to-64 age group, consisting of members of the baby-boom generation, is projected to have the next-greatest increase of a 5.4-percentage-point change in its labor force participation rate.

Historical changes in the labor force size

This section examines changes in the size of the labor force over two periods: 1982–92 and 1992–2002. Over the 1982–92 period, larger numbers of the younger baby-boom generation entering the labor force resulted in a high annual labor force growth rate of 1.5 percent. At 1.1 percent, annual labor force growth over the 1992–2002 period was much slower. The labor force grew by nearly 18 million between 1982 and 1992 and by 14.4 million between 1992 and 2002. (See table 5.) The men's labor force grew by 12 percent over the 1982–92 period and then by 8.7 percent between 1992 and 2002. Women increased their numbers in the labor force by 21.7 percent over the 1982–92 period. This growth rate was reduced to 14.3 percent over the 1992–2002 period.

Age. Labor force changes by age over the 1982–92 period were influenced by the baby boomers and the birth-dearth group born in the late 1920s and early 1930s. The labor force

Table 5. Continued—Civilian labor force by sex, age, race, and Hispanic origin, 1982, 1992, 2002, and projected 2012

[Numbers in thousands]

Group	Percent distribution					Annual growth rate (percent)		
	1982	1992	2002: 1990 census weights	2002: 2000 census weights	2012	1982–92	1992–2002	2002–12
Black, 16 years and older	10.3	11.1	11.8	11.4	12.2	2.3	1.7	1.8
Men	5.3	5.5	5.4	5.4	5.7	1.9	1.0	1.8
Women	5.0	5.6	6.4	6.1	6.4	2.6	2.4	1.8
Asian, 16 years and older[1]	2.5	4.0	5.0	4.1	5.5	6.3	3.4	4.2
Men	1.4	2.2	2.7	2.2	3.0	6.3	3.2	4.4
Women	1.1	1.8	2.3	1.9	2.5	6.3	3.6	4.0
All other groups, 16 years and older[2]	...	...	...	1.5	2.0	...	...	3.7
Men	...	...	...	.8	1.1	...	...	3.8
Women	...	...	...	.7	.9	...	...	3.6
Hispanic origin, 16 years and older	6.1	8.9	11.4	12.4	14.7	5.3	3.6	2.9
Men	3.8	5.4	6.5	7.3	8.4	5.2	3.0	2.6
Women	2.3	3.5	4.9	5.1	6.2	5.6	4.5	3.3
Other than Hispanic origin, 16 years and older	93.9	91.1	88.6	87.6	85.3	1.2	.8	.9
Men	52.9	49.2	46.9	46.2	44.1	.8	.6	.7
Women	41.0	41.9	41.8	41.4	41.2	1.7	1.0	1.1
White non-Hispanic, 16 years and older	81.3	77.1	72.5	71.3	65.5	1.0	.5	.3
Men	46.4	42.1	38.9	38.2	35.0	.5	.3	.3
Women	34.9	34.9	33.6	33.1	30.4	1.5	.7	.3

[1] Data for 1982 and 1992 represent the "Asian and other" category with 1990 census weights. Data for 2002 with 1990 census weights represent the "Asian and other" category. Data for 2002 with 2000 census weights represent the "Asian only" category. Data for 2012 represent the "Asian only" category with 2000 census weights.

[2] The "All other groups" category includes those reporting the racial categories of (1a) American Indian and Alaska Native or (1b) Native Hawaiian and Other Pacific Islanders and those reporting (2) two or more races. The category was not defined prior to 2003. Data for 2002 were calculated by BLS.

growth of the baby boomers during 1982–92 was affected by both population growth and the rapid increases in women's labor force participation rates.

Between 1982 and 1992, the 25-to-54 age group grew by more than 20.9 million. Those aged 25 to 34 increased by 4 million, those 35 to 44 by more than 11.5 million, and those 45 to 54 by more than 5 million. Over the 1992–2002 period, the age group with the greatest change was those 45 to 54 years, with 9.9 million workers.

The baby bust that followed the baby boom caused a drop in the labor force of those aged 16 to 24 during the 1982–92 period and also of those aged 25 to 34 in 1992–2002. It is projected that this segment of the labor force will again decrease (by 2.5 million) in the 2002–12 labor force.

Sex. Although population growth was similar for both sexes during the 1982–92 and 1992–2002 periods, men's labor force participation rates declined while women's increased. As a result, the labor force growth of men was slower than that of women in both the 1982–92 and 1992–2002 periods, whether measured by numbers of persons or rates of change. The population and labor force of post-baby-boom cohorts aged 16 to 24 years decreased for both men and women in the 1982–92 period. The labor force of young women aged 16 to 24 years dropped more than that for young men (12.5 percent, compared with 11.9 percent).

In 1992, the baby-boom generation was in the 25-to-54-year-old age group. The labor force of men in this age group soared by 23.6 percent over the 1982 figure. Meanwhile, the labor force of women in the same age group expanded even more rapidly, by 37.8 percent. Overall, however, the labor force growth of baby boomers during 1992 to 2002 was markedly lower than in the 1982–92 period.

From 1982 to 1992, both the population and the labor force participation of men between the ages of 55 and 64 years decreased. Consequently, the labor force of men aged 55 to 64 dropped by 8.7 percent. During the same period, the population of women in the same age group dropped by 0.8 percent, but because their participation rates increased by 4.7 percent, their labor force population increased by 3.0 percent.

During 1992–2002, the men's population grew nearly as much as in the previous decade. Men's participation rates declined across all age groups, except those aged 55 and older; as a result, the labor force of men continued to shrink. Women continued to experience rising labor force participation for all age groups, and as a result, their labor force still exhibited considerable growth.

Race and Hispanic origin. White non-Hispanics were the largest group in the labor force in 1982 and 1992, accounting for 81 percent and 77 percent of the total, respectively. This group accounted for 71 percent of the total labor force in 2002. Hispanics increased their share from 8.9 percent in 1992 to 12.4 percent in 2002. Blacks' share of the labor force increased from 10.3 percent in 1982 to 11.1 percent in 2002. In 1982 and 1992, the category of "Asians and others" had the smallest share of the civilian noninstitutional population, but also had the fastest labor force growth rate. As noted before, in Census 2000, the Asians in "Asians and others" became a separate group named "Asian only." As a result, the new "All other" racial group now includes Native Americans, Alaska Natives, Hawaiian and Pacific Islanders, and those identifying themselves as having a multiple racial heritage. The category of "Asians and others" was the fastest-growing racial group in the past, and that of "Asian only" is expected to be in the future.

Projected changes in the labor force

During 2002–12, the various age, sex, racial, and ethnic groups will experience different rates of change in their populations, leading to significant changes in the composition of the labor force. The total labor force is projected to grow by 1.1 percent annually and reach 162.3 million in 2012.

Age. The youth labor force stood at 22.4 million in 2002 and is projected to grow by 2 million, to 24.4 million, by 2012. The increase is significantly more than that posted in the previous decade. For the labor force aged 25 to 54 years, the projected increase is 5.1 million, significantly less than the increase over the 1992–2002 period. The labor force size of those aged 25 to 34 dropped by 4.5 million over the 1992–2002 period, but is expected to increase by 3.2 million in the 2002–12 period. The 35-to-44-year age group, which increased by 3.0 million during the 1992–2002 period, is projected to drop by 2.5 million from 2002 to 2012, an effect of the baby bust following the baby-boom expansion. The 45-to-54-year age group, made up of the younger members of the baby-boom generation, is expected to increase at a slower rate than earlier.

The labor force of workers 55 and older is anticipated to grow by more than 10.2 million by 2012, the fastest growth among all age groups. Within that group, the 55-to-64-year-olds are expected to add 8.3 million to the labor force.

Sex. The men's labor force is projected to grow by 1.0 percent annually during 2002–12, while that of women is expected to grow by 1.3 percent per year. Because of the differential growth rates, women's *share* of the labor force is projected to increase from 46.5 percent to 47.5 percent.

Race and Hispanic origin. Hispanics are projected to grow 2.9 percent annually over the 2002–12 period and total about 24 million, or 14.7 percent of the labor force, in 2012.

The new "Asian only" racial group is not directly comparable to the "Asian and other" group in terms of historical data. The category of "Asians only" is expected to be the fastest-growing segment of the labor force. As was noted earlier, the data for 1982 and 1992 represent the "Asian and other" racial category with 1990 census weights. The data for 2002 and 2012, by contrast, represent the "Asian only" racial category with 2000 census weights.

The black labor force is projected to have an annual growth rate of 1.8 percent from 2002 to 2012 and is expected to reach 19.8 million the latter year.

The white non-Hispanic group will grow at a meager 0.3 percent, but will still remain the most populous group in 2012. The group's labor force is anticipated to grow by 2.8 million between 2002 and 2012, while its share is expected to drop from 71.3 percent to 65.5 percent over the period.

Dynamics

From 2002 through 2012, the dynamics of labor force change emerge from three distinct groups: entrants—those who will be in the labor force in 2012, but who were not in it in 2002; leavers—those who will exit the labor force after 2002 and before 2012; and stayers—those who were in the labor force in 2002 and will remain through 2012.[10] To the extent that the demographic composition of labor force entrants between 2002 and 2012 is different from the composition of those now in the labor force, the 2012 labor force will be different from today's labor force. The labor force also will affected by the demographic composition of those leaving it. Thus, the labor force of 2012 may be regarded as consisting of the labor force of 2002, plus the entrants, less the leavers.

The Bureau of Labor Statistics projects that, between 2002 and 2012, 40.5 million workers will enter the labor force and 23 million will leave. (See table 6.) These figures compare with 33.5 million entrants and 19 million leavers over the 1992–2002

Table 6.	Civilian labor force, 1992, 2002, and projected 2012, and entrants and leavers, 1992–2002 and projected 2002–12

[Numbers in thousands]

Group	1992	1992–2002			2002		2002—2012			2012
		Entrants	Leavers	Stayers	1990 census weights	2000 census weights	Entrants	Leavers	Stayers	
Number, 16 years and older										
Total	128,105	33,527	19,098	109,007	142,534	144,863	40,461	23,055	121,808	162,269
Men	69,964	17,183	11,095	58,869	76,052	77,500	20,539	12,788	64,712	85,252
Women	58,141	16,344	8,003	50,139	66,481	67,363	19,922	10,267	57,096	77,017
White	108,837	26,250	16,516	92,321	118,569	120,150	31,019	20,811	99,339	130,358
Men	60,168	13,826	9,753	50,415	64,241	65,308	16,691	11,407	53,901	70,592
Women	48,669	12,423	6,763	41,906	54,328	54,842	14,327	9,403	45,439	59,766
Black	14,162	4,782	2,111	12,051	16,834	16,564	5,538	2,338	14,226	19,765
Men	6,997	2,078	1,103	5,894	7,745	7,793	2,671	1,146	6,647	9,318
Women	7,165	2,704	1,008	6,157	9,089	8,771	2,868	1,192	7,579	10,447
Asian[1]	5,106	2,538	516	4,593	7,130	5,949	1,783	1,771	4,178	8,971
Men	2,800	1,291	252	2,548	3,839	3,215	853	997	2,218	4,941
Women	2,306	1,247	264	2,045	3,291	2,734	928	775	1,959	4,030
All other groups[2]	...	...	...	...	...	2,200	...	...	...	3,175
Men	...	...	...	...	...	1,189	...	...	...	1,732
Women	...	...	...	...	...	1,011	...	...	...	1,443
Hispanic origin	11,338	6,029	1,170	10,168	16,200	17,941	7,866	2,022	15,919	23,785
Men	6,900	3,214	843	6,057	9,273	10,609	4,335	1,270	9,339	13,674
Women	4,438	2,815	327	4,111	6,927	7,332	3,531	751	6,581	10,111
Other than Hispanic	116,767	27,499	17,928	98,839	126,334	126,922	32,595	21,034	105,889	138,484
Men	63,064	13,970	10,252	52,812	66,779	66,891	16,204	11,518	55,374	71,577
Women	53,703	13,529	7,675	46,028	59,555	60,031	16,391	9,516	50,515	66,906
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	100.0
Men	54.6	51.3	58.1	54.0	53.4	53.5	50.8	55.5	53.1	52.5
Women	45.4	48.7	41.9	46.0	46.6	46.5	49.2	44.5	46.9	47.5
White	85.0	78.3	86.5	84.7	83.2	82.9	76.7	90.3	81.6	80.3
Men	47.0	41.2	51.1	46.2	45.1	45.1	41.3	49.5	44.3	43.5
Women	38.0	37.1	35.4	38.4	38.1	37.9	35.4	40.8	37.3	36.8
Black	11.1	14.3	11.1	11.1	11.8	11.4	13.7	10.1	11.7	12.2
Men	5.5	6.2	5.8	5.4	5.4	5.4	6.6	5.0	5.5	5.7
Women	5.6	8.1	5.3	5.6	6.4	6.1	7.1	5.2	6.2	6.4
Asian[1]	4.0	7.6	2.7	4.2	5.0	4.1	4.4	7.7	3.4	5.5
Men	2.2	3.9	1.3	2.3	2.7	2.2	2.1	4.3	1.8	3.0
Women	1.8	3.7	1.4	1.9	2.3	1.9	2.3	3.4	1.6	2.5
All other groups[2]	...	...	...	....	...	1.5	...	...	...	2.0
Men	...	...	...	...	...	.8	...	...	...	1.1
Women	...	...	...	...	...	.7	...	...	...	.9
Hispanic origin	8.9	18.0	6.1	9.3	11.4	12.4	19.4	8.8	13.1	14.7
Men	5.4	9.6	4.4	5.6	6.5	7.3	10.7	5.5	7.7	8.4
Women	3.5	8.4	1.7	3.8	4.9	5.1	8.7	3.3	5.4	6.2
Other than Hispanic	91.1	82.0	93.9	90.7	88.6	87.6	80.6	91.2	86.9	85.3
Men	49.2	41.7	53.7	48.4	46.9	46.2	40.0	50.0	45.5	44.1
Women	41.9	40.4	40.2	42.2	41.8	41.4	40.5	41.3	41.5	41.2

[1] Data for 1982 and 1992 represent the "Asian and other" category with 1990 census weights. Data for 2002 with 1990 census weights represent the "Asian and other" category. Data for 2002 with 2000 census weights represent the "Asian only" category. Data for 2012 represent the "Asian only" category with 2000 census weights.

[2] The "All other groups" category includes those reporting the racial categories of (1a) American Indian and Alaska Native or (1b) Native Hawaiian and Other Pacific Islanders and those reporting (2) two or more races. The category was not defined prior to 2003. Data for 2002 were calculated by BLS.

period. Between 1992 and 2002, entrants were more likely to be men. Leavers also were more likely to be men, because the men's labor force was, and is, older than the women's. However, the difference in share exhibited for the 1992–2002 period is projected to narrow somewhat, resulting in an almost equal share of women and men entering the labor force.

According to the BLS projections, by 2012, 20.5 million men will have joined the 2002 men's labor force of 77.5 million, and 12.8 million men will have left the labor force, resulting in a labor[2] force of 85 million men in 2012. Similarly, nearly 20 million women are expected to enter the labor force over the 2002–12 period, while 10 million women are projected to leave. The relatively smaller number of women leaving the labor force will raise their share from 46.5 percent in 2002 to 47.5 percent in 2012.

The largest share of the 2002 labor force—83 percent—was made up of whites. More than 76 percent of the population expected to enter the labor force between 2002 and 2012 are projected to be whites, smaller than their 78.3-percent share of entrants over the 1992–2002 period. These proportions also are smaller than whites' share of the workforce, reflecting the group's lower population growth. As a result of the 31 million whites entering the labor force and the 20.8 million leaving over the 2002–12 period, the share of whites in the labor force is projected to be 80 percent in 2012—a drop of 4.7 percentage points from 1992. In the 1992–2002 period, white men supplied the most entrants—41 percent. However, they also supplied most of those leaving—50 percent.

The white labor force is projected to have an annual growth rate of 0.8 percent, less than that of the overall labor force. The slower growth reflects little migration of this demographic group to the United States and lower birthrates in the past, compared with other population groups. This combination results in relatively fewer labor force entrants and relatively more labor force leavers—a reflection of the aging white male labor force. White women are projected to increase their participation more than any other group, but this faster growth rate will not be enough to offset the slow growth of their labor force of only 0.9 percent per year.

Blacks are projected to make up 12.2 percent of the labor force, or a total of 19.8 million, in 2012. Blacks are expected to add 5.5 million entrants to the labor force between 2002 and 2012—13.7 percent of all new entrants during the period and less than the 14.3 percent that entered between 1992 and 2002. With the 2.3 million blacks projected to leave the labor force over the period, the group will increase in number, and by 2012, the black share of the labor force is expected to be 12.2 percent, up 1.1 percentage point from the 2002 figure. The black labor force is anticipated to grow faster than the overall labor force because of the higher-than-average population growth of blacks resulting primarily from higher-than-average birthrates.

In 2002, Hispanics represented 12.4 percent of the labor force, with nearly 18 million workers. Because of their higher levels of migration, nearly 8 million Hispanics are projected to enter the labor force during the 2002–12 period. Reflecting their relatively young age composition, only 2 million Hispanics are expected to leave the labor force, so the number of Hispanics in the labor force is projected to grow by more than 5.8 million. By 2012, the Hispanic labor force is anticipated to reach 23.8 million, 4 million more than the black labor force. The Hispanic share of the labor force is expected to grow both because of overall population growth—from higher birth levels and increased migration—and because of increases in the participation rate of Hispanic women.

In 2002, the Asian labor force totaled 6 million. About 1.8 million members of this group are expected to enter the labor force during the 2002–12 period, and a similar number are

Table 7. Median ages of the labor force, by sex, race, and Hispanic origin, 1982, 1992, 2002, and projected 2012

Group	1982	1992	2002	2012
Total, 16 years and older	34.6	36.6	40.0	41.4
Men	35.1	36.7	39.9	41.2
Women	33.9	36.4	40.1	41.5
White	34.8	36.8	40.4	42.2
Black	33.3	34.9	38.0	39.1
Asian[1]	33.8	36.5	38.4	40.9
Hispanic origin	30.7	33.2	34.2	36.6
White non-Hispanic	35.2	37.7	41.4	43.2

[1] The "Asian" racial group corresponds to the "Asian and other" racial group prior to Census 2000.

Table 8. Distribution of the population and labor force by age and sex, 1982, 1992, 2002, and projected 2012

[In percent]

Group	Population 1982	Population 1992	Population 2002	Population 2012	Labor force 1982	Labor force 1992	Labor force 2002	Labor force 2012
Total, 16 years and older	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
16 to 24	21.3	17.0	16.2	15.7	22.3	16.9	15.7	15.0
25 to 39	31.2	32.8	27.5	25.1	39.5	41.5	34.6	31.8
40 and older	47.6	50.2	56.3	59.2	38.1	41.6	50.0	52.9
65 and older	14.7	15.7	15.4	16.7	2.3	2.3	2.5	3.3
75 and older	5.5	6.3	7.2	7.2	.4	.4	.6	.6
Men, 16 years and older	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
16 to 24	22.1	17.7	17.0	16.3	20.9	16.5	15.0	14.6
25 to 39	32.1	33.7	28.2	25.8	39.9	41.8	35.2	32.7
40 and older	45.8	48.6	54.8	57.9	39.2	41.8	49.8	52.7
65 and older	12.7	13.5	13.6	15.0	3.0	2.9	3.3	4.3
75 and older	4.3	4.9	5.8	5.9	.5	.5	.6	.7
Women, 16 years and older	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
16 to 24	20.5	16.3	15.6	15.1	24.2	17.4	15.9	15.5
25 to 39	30.4	32.0	26.8	24.5	39.1	41.2	36.1	31.2
40 and older	49.2	51.8	57.6	60.4	36.7	41.5	50.3	53.4
65 and older	16.5	17.6	17.3	18.3	2.5	2.5	2.9	3.6
75 and older	6.7	7.6	8.6	8.4	.3	.4	.5	.6

projected to leave, so the group is expected to number nearly 9 million by 2012.

The aging labor force

Median age. Median age is one of the various ways by which the age of the labor force can be measured. The median age of the labor force was at a peak level in 1962 at 40.5 years. 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. With both the population and the labor force aging, the median age of the labor force in 2012 is projected to exceed the level reached in 1962. (See table 7.) The following tabulation gives median ages for the civilian noninstitutional population and labor force aged 16 years and older:

	1992	*2002*	*2012*
Population	40.1	40.3	45.3
Labor force	36.6	40.0	41.4
Difference	3.5	.3	3.9

The median age of both groups is increasing, but the median age of the population was increasing more than that of the labor force between 1992 and 2002. Over the 2002–12 period, the median age of the population is expected to rise by 5.0 years, while the median age of the labor force is projected to increase by 1.4 years. The median age of the labor force is less than that of the population because the labor force participation rates of older persons are much lower than the rates of young workers. The growth of the older population, combined with the increase in the group's participation rates, resulted in the projected increase by 1.4 years in the median age of the 2012 labor force, exceeding the highest level ever recorded, in 1962.

Historically, white non-Hispanic labor force participants have been older than the rest of the labor force. This disparity is projected to continue and reach 1.8 years in 2012. Compared with whites, the black and Hispanic segments of the labor force both are younger and have higher fertility rates. As a result, young black and Hispanic workers—those between 16 and 24 years—are expected to increase the shares of their respective labor forces. Black participants in the labor force have been about 1.5 to 3.1 years younger than the overall labor force—a gap that is projected to continue through 2012. In 2002, the median age of Asian labor force participants was 1.6 years less than that of the overall labor force; the difference is expected to decrease to 0.5 year by 2012. Hispanic participants generally have been younger, due to their higher fertility rate. Hispanics are projected to continue having a lower median age than that of the overall labor force, but to age from a median of 34.2 years in 2002 to 36.6 years in 2012, reflecting the aging of earlier immigrants. The median ages of all racial and Hispanic groups are expected to increase during the 2002–12 period.

Age composition. Another way to measure the age of the labor force is by looking into its age structure. The labor force is getting older if the proportion of the 55-and-older or the 65-and-older age group in it is increasing or if the share of those under 25 is decreasing. Table 8 presents such information for the population and labor force aged 16 and older, by sex and age groups.

From 1982 to 2002, the proportion of those 65 and older in the population increased. This proportion is expected to rise to 16.7 percent by 2012. The proportion of persons 16 to 24 years in the labor force decreased over the 1982–2002 period and is expected to decline further, to 15.7 percent by 2012. Accordingly, on the basis of both the median age and the age structure of the labor force, the population is getting older. Since 1992, the proportion of 25-to-39-year-olds has decreased, and it is expected to continue decreasing through 2012.

Looking at the composition of the population by sex, one sees that the same general patterns hold. However, the male population has proportionately more youths than the female population, reflecting men's higher proportion of births, slightly higher current migration, and higher mortality. Relatively more women are in the older ages.

Economic dependency. The economic dependency ratio is the number of persons in the total population (including the Armed Forces overseas and children) who are not in the labor force per 100 of those who are in the labor force. The following tabulation shows the economic dependency ratio by age for selected years from 1975 to 2002 and for 2012 (projected):

Year	Total population	Under 16 years	16 to 64 years	65 years and older
1975	126.3	61.4	44.2	20.7
1980	108.9	50.7	37.4	20.8
1985	103.3	47.3	34.2	21.8
1990	98.3	45.8	30.5	22.1
1995	96.6	48.6	25.7	22.3
2000	95.4	45.3	25.9	21.9
2002	91.7	43.6	26.9	21.2
2012	85.0	38.9	25.9	20.1

For every 100 persons in the 2002 labor force, about 92 were not. Of the 92, 44 were children, 27 were 16 to 64 years of age, and 21 were 65 years and older.

In 1987, for the first time ever, more Americans were in the labor force than were not. This trend is expected to continue throughout the entire projection period, with the estimated number of persons not working falling to 85 per 100 workers in 2012.

Over the last three decades, as the number of births diminished and the baby boomers moved to ages older than 16, the economic dependency ratio dropped. Most of the 34-percentage-point drop for the total population between 1975 and 2002 stemmed from the decline in the number of births. The portion of the ratio attributed to children is projected to continue dropping, despite somewhat higher fertility. The remainder of the historical drop is attributable to higher labor force participation among women aged 16 to 64 years. The ratio for this group dropped 17.3 points, from 44.2 in 1975 to 26.9 in 2002. The ratio is projected to continue decreasing and reach 25.9 in 2012.

The part of the dependency ratio that had been steadily increasing is the portion attributable to older persons (those 65 years and older). In 1975, this was by far the smallest part of the dependency ratio, and it is expected to still be the smallest proportion by 2012. However, between 1975 and 1990, the older persons' dependency ratio grew 1.4 percentage points. It fell again in 2002, to 21.2 per 100, representing the entry of the birth dearth of the 1930s into the 65-and-older group. The dependency of this group is expected to decline further, to 20.1 in 2012.

THE LABOR FORCE IN 2012 IS EXPECTED TO BE OLDER AND TO BECOME MORE DIVERSE. With the aging of the baby-boom generation, the workforce is projected to grow older. The median age of the labor force is expected to rise; the projected age of 41.4 for 2012 would exceed the highest level ever recorded. Hispanics are anticipated to become the largest minority group in the labor force, and women will likely continue to participate more. The dependency ratio is projected to continue to decline and is expected to reach 85 people not working per 100 people working. Between 2002 and 2012, nearly 122 million workers are expected to remain in the labor force, 40 million workers to enter, and 23 million to leave. As a result, the labor force of 2012 would be 162.3 million—up 17.4 million from the 2000 level. The increase represents a continuation of the 1992–2002 growth rate. □

Notes

[1] The civilian labor force consists of employed and unemployed persons actively seeking work, but does not include any Armed Forces personnel. Historical data for this series are from the Current Population Survey, conducted by the U.S. Census Bureau for the Bureau of Labor Statistics.

[2] Projections of labor force participation rates for 136 age, sex, race, and Hispanic-origin groups are developed by first estimating a trend rate of change, usually based on participation rate behavior during the previous 8-year period. Then the rate is modified whenever the time-series projections for a given group appear inconsistent with the results of cross-sectional and cohort analyses. This second step ensures consistency in the projections across the various demographic groups. For further information, see *Handbook of Methods* (Bureau of Labor Statistics, 1999), Chapter 13, "Employment Projection"; on the Internet at **http://stats.bls.gov/opub/hom/homch13_a.htm**.

[3] Frederick W. Hollmann, Tammany J. Mulder, and Jeffrey E. Kallan, "Population Projections of the United States: 1999 to 2100: Methodology and Assumptions," working paper no. 38 (U.S. Depart-

ment of Commerce, Bureau of the Census, 1999).

[4] More information on the change in racial categories is available on the Census Bureau website, **http://www.census.gov/Press-Release/www/2001/raceqandas.html**.

[5] The CPS is a monthly survey conducted by the Census Bureau for the Bureau of Labor Statistics. The survey provides statistics on the labor force status of the civilian noninstitutional population 16 years of age and older and is collected from a probability sample of approximately 60,000 households.

[6] For a discussion of theories of migration, see Douglass S. Massey, Joaquin Arango, Graeme Hugo, Ali Kouaouci, Adela Pellegrino, and J. Edward Taylor, "Theories of International Migration: A Review and Appraisal," *Population and Development Review*, September 1993, pp. 431–66.

[7] See Alicia Munnell, Kevin E. Cahill, and Natalia A. Jivan, *How Has the Shift to 401ks Affected the Retirement Age?* no. 13 (Boston, Center for Retirement Research at Boston College, September 2003).

[8] Thomas P. Burke, "Social Security earnings limit removed" (Bureau of Labor Statistics, Office of Compensation and Working Conditions, summer 2001).

[9] *Normal Retirement Age* (Social Security Administration, Dec. 4, 2000); on the Internet at **http://www.ssa.gov/retirement/nra.html** (last visited Feb. 4, 2004).

[10] The numbers of entrants and leavers are computed by comparing the labor force numbers for a given birth cohort at two points in time. If the numbers at the second point are larger, the difference is termed the entrants; if the numbers at the second point are smaller, the difference is the leavers. These concepts understate the numbers likely to enter and leave the labor force over the period covered by the two points in time, but are still a valid comparison. As with measures of geographic mobility, which also do not measure all the changes over a period, we do not call the two groups *net* entrants and leavers. For a further discussion of the methods involved, see Howard N Fullerton, Jr., "Measuring Rates of Labor Force Dynamics," *Proceedings of the Social Statistics Section*, American Statistical Association, 1993.

Employment outlook: 2002–12

Industry output and employment projections to 2012

Employment in the dominant service-providing sector is expected to grow at a slower pace than in the 1992–2002 period, thereby slowing the projected growth in total employment

Jay M. Berman

The Bureau of Labor Statistics projects total employment in the United States to increase by 21.3 million during the 2002–12 period, rising from 144.0 million to 165.3 million. This increase results in a projected annual growth rate of 1.4 percent, which is slightly slower than the 1.6-percent rate of growth experienced during the preceding decade. The increase of nonfarm wage and salary jobs, from 131.1 million in 2002 to 152.7 million in 2012, is expected to account for most of the growth in total employment. The number of nonfarm self-employed workers and unpaid family workers is expected to increase by 144,000. Countering these gains, agricultural employment, which includes wage and salary workers, the self-employed, and unpaid family workers, is projected to decrease by 340,000 to settle at 1.9 million by 2012. (See table 1.)

Real industry output is projected to expand to $23.3 trillion by 2012, an increase of $6.4 trillion from the $16.8 trillion level achieved in 2002.[1] This translates into a projected 3.3-percent average annual growth rate and parallels the rate of growth exhibited during the past decade. Accounting for approximately 70.8 percent of the growth in total nominal output, the service-providing industries are projected to reach $15.5 trillion by 2012. Even though output in this sector is expected to grow by $4.5 trillion by 2012, its projected 3.5 percent growth rate is slightly slower than that generated during the past decade. This is contrasted against the 3.0-percent annual growth expected by the goods-producing sector, which is faster than the historical 2.3 percent growth rate that this sector experienced between 1992 and 2002. Even with the relatively accelerated rate of output growth in the goods-producing sector, excluding agriculture, its share of current-dollar total output, however, will continue to decline from 31.4 percent in 1992 to 25.1 percent by 2012.[2] Annual output growth in agriculture is expected to grow slightly from the previous 10-year period, to 1.6 percent annually. Its share of total output, however, will also decline, dropping from 2.2 percent in 1992 to 1.3 in 2002. (See table 2.)

The aggregate picture of the 2002–12 economy sets the projected labor force growth rate equivalent to that of the previous 10-year period, assumes a slower growth rate for GDP, and projects output to continue to outpace labor force growth due to productivity gains. Macroeconomic factors provide the foundation for the industry and output projections and include the labor force and demographic changes, Government defense

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Table 1. Employment by major industry sector, 1992, 2002, and projected 2012

Industry sector	Thousands of jobs			Change		Percent distribution			Average annual rate of change	
	1992	2002	2012	1992–2002	2002–12	1992	2002	2012	1992–2002	2002–12
Total[1]	123,325	144,014	165,319	20,689	21,305	100.0	100.0	100.0	1.6	1.4
Nonfarm wage and salary	109,526	131,063	152,690	21,537	21,627	88.8	91.0	92.4	1.8	1.5
Goods-producing, excluding agriculture	22,016	22,550	23,346	534	796	17.9	15.7	14.1	.2	.3
Mining	610	512	451	–98	–61	.5	.4	.3	–1.7	–1.3
Construction	4,608	6,732	7,745	2,124	1,014	3.7	4.7	4.7	3.9	1.4
Manufacturing	16,799	15,307	15,149	–1,492	–158	13.6	10.6	9.2	–.9	–.1
Service-providing	87,510	108,513	129,344	21,003	20,831	71.0	75.3	78.2	2.2	1.8
Utilities	726	600	565	–126	–34	.6	.4	.3	–1.9	–.6
Wholesale trade	5,110	5,641	6,279	531	638	4.1	3.9	3.8	1.0	1.1
Retail trade	12,828	15,047	17,129	2,219	2,082	10.4	10.4	10.4	1.6	1.3
Transportation and warehousing	3,462	4,205	5,120	744	914	2.8	2.9	3.1	2.0	2.0
Information	2,641	3,420	4,052	779	632	2.1	2.4	2.5	2.6	1.7
Financial activities	6,540	7,843	8,806	1,303	964	5.3	5.4	5.3	1.8	1.2
Professional and business services	10,969	16,010	20,876	5,040	4,866	8.9	11.1	12.6	3.9	2.7
Education and health services	11,891	16,184	21,329	4,293	5,145	9.6	11.2	12.9	3.1	2.8
Leisure and hospitality	9,437	11,969	14,104	2,532	2,135	7.7	8.3	8.5	2.4	1.7
Other services	5,120	6,105	7,065	985	960	4.2	4.2	4.3	1.8	1.5
Federal Government	3,111	2,767	2,779	–344	12	2.5	1.9	1.7	–1.2	.0
State and local government	15,675	18,722	21,240	3,047	2,518	12.7	13.0	12.8	1.8	1.3
Agriculture[2]	2,639	2,245	1,905	–394	–340	2.1	1.6	1.2	–1.6	–1.6
Nonagriculture self-employed and unpaid family workers.	9,009	9,018	9,162	10	144	7.3	6.3	5.5	.0	.2
Secondary wage and salary job in agricultural production, forestry, fishing, and private household industries[3]	178	143	128	–35	–15	.1	.1	.1	–2.2	–1.1
Secondary jobs as a self-employed or unpaid family worker[4]	1,973	1,545	1,434	–428	–111	1.6	1.1	.9	–2.4	–.7

[1] Employment data for wage and salary workers are from the BLS Current Employment Statistics (payroll) 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 agricutlure, forestry, fishing, and hunting data from the Current Population survey, except logging, which is from the Current Employment Survey and government wage and salary workers, which are excluded.

[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.

spending and tax policies, foreign economic activity, business investment decisions, personal consumption patterns, and aggregate productivity trends.[3]

Ten-year comparisons

BLS projects the labor force to grow at an annual rate of 1.1 percent between 2002 and 2012. This mirrors the 1.1-percent growth rate experienced over the 1992–2002 period. The growth rate of the nonfarm labor productivity index is projected to average 2.1 percent per year from 2002 to 2012, which is about the same rate that was observed over the previous 10 years. Annual GDP growth is expected to marginally retreat from its 3.2-percent rate over the 1992–2002 period to 3.0 percent over the projection period. Fixed nonresidential investment, with a projected 6.6-percent annual rate of growth, is expected to be the GDP component with the fastest growth potential, followed by exports' 5.7 percent. Expected to still account for almost 70 percent of the economy's output, personal consumption expenditure is expected to grow at 2.8 percent over the projected period.

Trends by sector and industry. Virtually all of the projected employment growth in the economy will be posted by the service-providing sector, reflecting its large relative size. Making up 75.3 percent of total employment in 2002, this sector will continue to enhance its dominance by almost eclipsing the 130 million job mark by 2012 and increasing its share of total employment to 78.2 percent. The goods-providing sector is expected to add 262,000 more jobs over the projected period than it did over the past decade, for a total employment level of 23.3 million jobs in 2012. However, its relatively slow 0.3-percent projected annual rate of growth is dwarfed by the expected 1.8-percent pace and the 20.8 million jobs created by the service-providing sector. Three out of four jobs in the U.S. economy are accounted for by the service-providing sector.[4]

Within the service-prodviding sector, education and health services and professional and business services represent the industry divisions with the strongest employment growth, both in terms of absolute and percentage changes. Education and health services is expected to grow at an average annual rate of 2.8 percent and professional and business services is projected to grow 2.7 percent—double the expected rate for the economy as a whole, adding 5.1 million and 4.9 million jobs respectively—both making up almost half of the total employment increases that are expected by 2012. State and local government will be responsible for the economy's next largest source of employment growth, increasing by 2.5 million jobs. This sector's employment will grow to 21.2 million workers in 2012, while Federal Government employment is expected to hold steady at its 2002 level of 2.8 million jobs.

The construction industry, the only major goods-producing sector expected to post positive employment growth, is projected to increase by 1.0 million jobs, reaching 7.8 million in 2012. Manufacturing employment is projected to show little change over the projection period, declining by a mere 0.1 percent annually and slightly dipping below its 2002 level of 15.3 million. This is in contrast to the sharper average annual employment declines in manufacturing of almost 1.0 percent experienced during the previous, 1992–2002, decade when this sector lost 1.5 million jobs. This trend is tempered by the fact that 76 percent of this total decline, or 1.1 million jobs, occurred during the recent 2001 recession.[5] Employment in the mining industries is projected to continue its 1992–2002 historical decline by shedding jobs at a 1.3-percent annual rate to settle at 451,000 by 2012.

The limited employment growth in the goods-producing sector is expected to take place despite strong growth in output. Through productivity gains, output for the goods-producing sector is projected to increase by 3.0 percent annually, which translates into $1.6 trillion in additional output. Output generated by manufacturing industries, the dominant goods-producing sector, is projected to expand by $1.5 trillion to $5.4 trillion in 2012. This sector's projected 3.4 percent average annual rate of growth in output augments the relatively slower 1.7-percent projected growth rate for the construction industry and rivals the 3.5-percent output growth expected by the service-providing industries.

Table 2. Output by major industry sector (gross duplicated output), 1992, 2002, and projected 2012

Industry sector	Billions of chained 1996 dollars			Average annual rate of change		Billions of dollars			Percent distribution		
	1992	2002	2012	1992–02	2002–12	1992	2002	2012	1992	2002	2012
Total	12,272.1	16,822.0	23,249.8	3.2	3.3	11,104.3	18,409.6	31,599.4	100.0	100.0	100.0
Goods-producing, excluding agriculture	3,766.9	4,732.8	6,362.1	2.3	3.0	3,491.1	4,904.5	7,917.6	31.4	26.6	25.1
Mining	154.9	166.1	156.0	.7	–.6	139.1	158.8	208.0	1.3	.9	.7
Construction	547.1	718.7	851.8	2.8	1.7	475.6	865.5	1,204.9	4.3	4.7	3.8
Manufacturing	3,066.7	3,840.1	5,360.9	2.3	3.4	2,876.4	3,880.3	6,504.7	25.9	21.1	20.6
Service-providing	7,682.1	11,052.4	15,542.4	3.7	3.5	6,878.4	12,352.2	22,360.8	61.9	67.1	70.8
Utilities	278.0	267.2	320.3	–.4	1.8	262.1	302.4	460.0	2.4	1.6	1.5
Wholesale trade	600.3	1,025.3	1,622.5	5.5	4.7	559.4	951.0	1,898.2	5.0	5.2	6.0
Retail trade	666.9	1,013.1	1,420.0	4.3	3.4	609.8	1,064.9	1,993.9	5.5	5.8	6.3
Transportation and warehousing	436.4	575.7	819.6	2.8	3.6	448.0	685.4	1,183.3	4.0	3.7	3.7
Information	481.3	891.2	1,498.2	6.4	5.3	439.5	965.3	1,981.0	4.0	5.2	6.3
Financial activities	1,524.7	2,229.8	3,037.5	3.9	3.1	1,340.0	2,497.9	4,315.4	12.1	13.6	13.7
Professional and business services	1,063.3	1,778.3	2,669.4	5.3	4.1	934.6	2,089.2	4,136.8	8.4	11.3	13.1
Education and health services	813.9	1,087.5	1,476.3	2.9	3.1	707.7	1,289.7	2,455.0	6.4	7.0	7.8
Leisure and hospitality	441.2	592.3	797.2	3.0	3.0	400.4	687.9	1,160.8	3.6	3.7	3.7
Other services	298.3	381.7	505.6	2.5	2.9	268.7	444.1	739.7	2.4	2.4	2.3
Federal government	394.2	377.7	443.4	–.4	1.6	299.1	376.4	542.9	2.7	2.0	1.7
State and local Government	685.3	838.9	980.4	2.0	1.6	609.1	998.0	1,493.7	5.5	5.4	4.7
Agriculture, forestry, fishing, and hunting	273.8	299.6	351.6	.9	1.6	247.4	299.2	414.2	2.2	1.6	1.3
Special industries[1]	550.3	704.1	908.3	2.5	2.6	487.4	853.7	906.9	4.4	4.6	2.9
Residual[2]	–1.0	33.2	84.6	...	...	.0	.0	.0	.0	.0	.0

[1] Consists of nonproducing accounting categories to reconcile 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 byproduct of chainweighting.

International comparisons. Mirroring the trends in agriculture production and productivity in the beginning of the last century, output in the goods-producing industries and specifically manufacturing continued to grow, while employment declined as productivity increased. As the following tabulation illustrates, this phenomena is shared by most industrialized countries:[6]

Country	*Average annual rates of change, 1982–2002*	
	Manufacturing employment	*Manufacturing output*
United States	–0.7	3.0
United Kingdom	–2.1	1.3
Italy	–.9	1.8
Japan	–.9	2.3

The United Kingdom and Italy, examples of the industrialized nations of Europe, and Japan also experienced continual productivity-led employment declines in their manufacturing sectors. However, spurred by capital investments, advances in technologies, and improvements in operational methods, production was able to increase, while fewer workers were required. On average, these four countries managed annual output increases of 2.1 percent between 1982 and 2002. However, increasing labor productivity allowed these countries to demand less labor—dropping by an average annual rate of 1.1 percent over the same 20-year period. Even though these countries share similar employment patterns with the United States, productivity levels in the United States have historically surpassed the rest of these countries—contributing to this country's historical higher rates of output growth.

The U.S. economy, however, is expected to remain service-dominated as that sector's output reaches $15.5 trillion by 2012. The goods-producing sector, alternatively, is expected to generate $6.4 trillion in output by 2012. Mirroring their employment influence, 37.8 percent of the projected nominal output for the service-providing industries will be attributed to financial activities and professional and business services. Highlighting this sector and setting the pace for the overall economy, information industries are projected to post the fastest output growth with a 5.3 annual rate, reaching $1.5 trillion by 2012.

Service-providing sector

Information. The fastest growing sector in the economy, with a 5.3-percent projected output growth rate, is the information sector, which provides publishing, Internet, cable, and telecommunication services. Accounting for 39.8 percent of this sector's projected growth in output and 27.3 percent of its total employment, telecommunications, except cable and other programming distribution is expected to grow by 4.9 percent annually to reach $645 billion by 2012. Providing domestic and international telephone communications, including cellular services, this industry's main demand sources will be advanced technology and competition lowering prices for high-speed Internet access and wireless telephone services, as well as deregulation expanding the breadth of offered residential telecommunication services. In addition, business demand is expected to rise as companies increasingly rely on their telecommunication systems to conduct electronic commerce. This industry's employment gains, however, are expected to be limited by productivity gains, as technological improvements such as fiber optic lines and advanced switching equipment, increase the data transmission capacity of telecommunication networks. Employment for this industry is projected to stabilize at its 2002 level of 1.1 million jobs. (See table 3.)

The software publishing industry is expected to be the Nation's fastest growing employer by 2012, with a projected annual growth rate of 5.3 percent. (See table 4.) Even though this represents a slowdown relative to the past decade, the 173.7 million more jobs created by this industry during the projected period will be the result of firms continuing to invest heavily in software. Such investments boost productivity, increase efficiencies, and have become the backbone of a largely technology based economy. One of the fastest sources of output growth is expected to come from the software publishing industry—an 8.4-percent increase in output.

Also resonating the information sector's trend, the Internet services, data processing, and other information services industry, is expected to be the third fastest and one of the largest sources of output growth in the economy by 2012. (See table 5.) Mainly providing Internet publishing and broadcasting, general access, and search facilities, this industry's output is expected to reach $232.6 billion by 2012, reflecting an increase of $145.7 billion and a 10.3-percent annual rate from its 2002 level.

Professional and business services. Adding 4.9 million jobs at an average annual rate of 3.9 percent between 1992 and 2002, the professional and business services group was the economy's largest and fastest growing sector. Jobs in this industry cluster are projected to increase at a 2.7-percent annual rate, to 20.9 million in 2012 from 16.0 million in 2002. Despite the relative slowdown in the rate of employment growth, it is still expected to almost double the 1.4 percent posted by the economy as a whole, which will maintain its position as one of the economy's fastest and largest source of job creation. With accompanying above-average output gains of 4.1 percent, rising by $891.1 billion to $2.7 trillion in 2012, this industry group is also expected to be the largest source of output growth in the service-providing sector.

Text continues on p. 70.

Table 3. Employment and output by industry, 1992, 2002, and projected 2012

2002 NAICS	Industry	Employment: Thousands of jobs 1992	2002	2012	Change 1992–2002	Change 2002–12	Average annual rate of change 1992–2002	2002–12	Output: Billions of chained 1996 dollars 1992	2002	2012	Average annual rate of change 1992–2002	2002–12
NA	Nonagriculture wage and salary[1]	109,526	131,063	152,690	21,537	21,627	1.8	1.5	11,448	15,818	21,973	3.3	3.3
21	Mining	610	512	451	–98	–61	–1.7	–1.3	155	166	156	.7	–.6
211	Oil and gas extraction	182	123	88	–60	–34	–3.9	–3.2	94	87	80	–.7	–.9
212	Mining (except oil and gas)	272	212	180	–60	–32	–2.5	–1.6	47	54	52	1.4	–.5
2121	Coal mining	118	75	52	–43	–23	–4.4	–3.5	22	26	23	1.8	–1.1
2122	Metal ore mining	50	29	18	–21	–11	–5.2	–4.8	11	10	11	–.6	.8
2123	Nonmetallic mineral mining and quarrying	104	108	110	3	2	.3	.2	14	18	17	2.1	–.5
213	Support activities for mining	156	177	183	22	6	1.3	.3	14	24	26	5.3	.9
22	Utilities	726	600	565	–126	–34	–1.9	–.6	278	267	320	–.4	1.8
2211	Electric power generation, transmission, and distribution	537	436	405	–101	–31	–2.1	–.7	207	207	254	.0	2.0
2212	Natural gas distribution	154	116	90	–38	–26	–2.8	–2.5	66	53	58	–2.1	.9
2213	Water, sewage, and other systems	35	49	71	13	23	3.2	3.9	5	6	8	2.2	2.7
23	Construction	4,608	6,732	7,745	2,124	1,014	3.9	1.4	547	719	852	2.8	1.7
31–33	Manufacturing	16,799	15,307	15,149	–1,492	–158	–.9	–.1	3,067	3,840	5,361	2.3	3.4
311	Food manufacturing	1,518	1,525	1,597	7	72	.0	.5	384	437	517	1.3	1.7
3111	Animal food manufacturing	55	52	52	–4	1	–.7	.1	25	30	38	2.1	2.2
3112	Grain and oilseed milling	71	62	61	–9	–1	–1.3	–.1	49	57	70	1.6	2.0
3113	Sugar and confectionery product manufacturing	103	83	80	–20	–3	–2.1	–.3	22	26	30	1.7	1.6
3114	Fruit and vegetable preserving and specialty food manufacturing	218	182	180	–36	–2	–1.8	–.1	44	50	59	1.4	1.7
3115	Dairy product manufacturing	143	137	124	–6	–13	–.4	–1.0	57	56	58	–.3	.4
3116	Animal saughtering and processing	438	520	601	83	80	1.7	1.4	98	118	144	1.9	2.0
3117	Seafood product preparation and packaging	55	44	40	–11	–4	–2.3	–.8	8	7	8	–1.2	1.2
3118	Bakeries and tortilla manufacturing	290	295	303	4	9	.1	.3	39	43	53	1.1	2.0
3119	Other food manufacturing	146	152	155	5	4	.4	.2	44	51	59	1.5	1.5
312	Beverage and tobacco product manufacturing	209	206	179	–3	–27	–.1	–1.4	96	98	105	.3	.7
3121	Beverage manufacturing	165	172	158	7	–14	.4	–.8	59	64	74	.8	1.3
3122	Tobacco manufacturing	44	33	20	–10	–13	–2.7	–4.8	36	34	33	–.5	–.3
313	Textile mills	479	293	157	–186	–136	–4.8	–6.1	51	45	36	–1.4	–2.2
3131	Fiber, yarn, and thread mills	97	64	37	–33	–27	–4.1	–5.3	12	11	8	–1.0	–2.5
3132	Fabric mills	256	147	80	–109	–67	–5.4	–5.9	26	22	21	–1.7	–.4
3133	Textile and fabric finishing and fabric coating mills	126	82	40	–44	–42	–4.2	–6.9	13	12	7	–1.0	–6.0
314	Textile product mills	202	196	181	–6	–16	–.3	–.8	26	30	35	1.4	1.3
3141	Textile furnishings mills	120	119	111	–1	–8	–.1	–.7	18	21	23	1.8	1.0
3149	Other textile product mills	82	78	70	–5	–8	–.6	–1.1	9	9	11	.6	2.1
315	Apparel manufacturing	905	358	112	–548	–246	–8.9	–11.0	64	50	23	–2.4	–7.6
3151	Apparel knitting mills	110	50	20	–60	–30	–7.7	–8.7	10	6	2	–4.3	–9.7
3152	Cut and sew apparel manufacturing	752	282	77	–470	–205	–9.4	–12.2	50	40	17	–2.2	–8.1
3159	Apparel accessories and other apparel manufacturing	43	26	15	–17	–11	–4.8	–5.4	4	4	3	–1.3	–1.5
316	Leather and allied product manufacturing	121	50	33	–71	–17	–8.5	–4.0	10	8	6	–2.5	–2.6
3161	Leather and hide tanning and finishing	15	9	5	–7	–4	–5.7	–6.3	3	3	1	–1.5	–7.7
3162	Footwear manufacturing	72	21	18	–51	–4	–11.5	–1.8	5	3	4	–3.6	2.1

See footnotes at end of table.

Table 3. Continued—Employment and output by industry, 1992, 2002, and projected 2012

2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 1996 dollars			Average annual rate of change	
		1992	2002	2012	1992–2002	2002–12	1992–2002	2002–12	1992	2002	2012	1992–2002	2002–12
3169	Other leather and allied product manufacturing	33	20	11	–13	–9	–5.0	–5.9	3	2	1	–1.6	–7.7
321	Wood product manufacturing	502	557	634	55	77	1.0	1.3	73	83	112	1.2	3.0
3211	Sawmills and wood preservation	134	121	110	–13	–11	–1.0	–1.0	25	26	34	.6	2.7
3212	Veneer, plywood, and engineered wood product manufacturing	88	116	138	28	21	2.8	1.7	17	20	26	1.8	2.6
3219	Other wood product manufacturing	280	320	386	39	67	1.3	1.9	32	37	52	1.5	3.4
322	Paper manufacturing	640	550	477	–90	–72	–1.5	–1.4	146	141	144	–.4	.2
3221	Pulp, paper, and paperboard mills	232	168	126	–63	–42	–3.1	–2.8	73	68	65	–.8	–.5
3222	Converted paper product manufacturing	408	382	351	–26	–31	–.7	–.8	73	73	79	.0	.8
323	Printing and related support activities	780	710	734	–70	24	–.9	.3	92	91	94	–.1	.3
324	Petroleum and coal products manufacturing	152	119	102	–33	–18	–2.4	–1.6	161	181	199	1.2	1.0
325	Chemical manufacturing	1,029	930	891	–99	–38	–1.0	–.4	363	401	450	1.0	1.2
3251	Basic chemical manufacturing	246	171	140	–76	–31	–3.6	–2.0	117	98	76	–1.8	–2.5
3252	Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	151	114	89	–37	–26	–2.8	–2.5	54	56	54	.4	–.4
3253	Pesticide, fertilizer, and other agricultural chemical manufacturing	54	45	35	–10	–10	–1.9	–2.4	23	19	22	–2.1	1.9
3254	Pharmaceutical and medicine manufacturing	225	293	361	68	68	2.7	2.1	72	112	157	4.5	3.5
3255	Paint, coating, and adhesive manufacturing	81	72	62	–8	–11	–1.1	–1.6	22	24	30	.8	2.1
3256	Soap, cleaning compound, and toilet preparation manufacturing	127	122	125	–5	3	–.4	.3	43	52	64	1.8	2.0
3259	Other chemical product and preparation manufacturing	144	112	79	–32	–33	–2.4	–3.4	34	36	42	.6	1.3
326	Plastics and rubber products manufacturing	819	854	991	35	138	.4	1.5	122	164	245	3.0	4.1
3261	Plastics product manufacturing	620	668	797	48	128	.8	1.8	95	133	198	3.4	4.1
3262	Rubber product manufacturing	199	185	195	–14	10	–.7	.5	27	31	47	1.4	4.0
327	Nonmetallic mineral product manufacturing	487	519	579	32	60	.6	1.1	69	85	114	2.1	2.9
3271	Clay product and refractory manufacturing	79	72	80	–7	9	–.9	1.1	7	8	10	.2	3.2
3272	Glass and glass product manufacturing	145	126	125	–19	–1	–1.4	–.1	19	22	33	1.6	3.9
3273	Cement and concrete product manufacturing	178	230	278	52	48	2.6	1.9	27	38	49	3.4	2.5
3274	Lime and gypsum product manufacturing	14	19	21	5	2	3.0	.9	4	5	6	1.6	2.1
3279	Other nonmetallic mineral product manufacturing	72	72	75	0	3	.1	.4	12	13	16	1.0	2.3
331	Primary metal manufacturing	630	511	494	–119	–17	–2.1	–.3	140	137	160	–.2	1.5
3311	Iron and steel mills and ferroalloy manufacturing	168	107	76	–61	–31	–4.4	–3.4	47	49	56	.4	1.4

See footnotes at end of table.

Table 3. Continued—Employment and output by industry, 1992, 2002, and projected 2012

2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 1996 dollars			Average annual rate of change	
		1992	2002	2012	1992–2002	2002–12	1992–2002	2002–12	1992	2002	2012	1992–2002	2002–12
3312	Steel product manufacturing from purchased steel	66	63	60	–3	–3	–.4	–.5	16	15	18	–.7	1.5
3313	Alumina and aluminum production and processing	100	80	79	–19	–1	–2.1	–.2	29	25	26	–1.5	.3
3314	Nonferrous metal (except aluminum) production and processing	102	81	80	–20	–1	–2.2	–.2	26	22	21	–1.9	–.3
3315	Foundries	196	180	199	–16	20	–.9	1.0	21	25	38	2.1	4.2
332	Fabricated metal product manufacturing	1,497	1,548	1,645	51	97	.3	.6	186	226	315	2.0	3.4
3321	Forging and stamping	122	114	132	–9	18	–.7	1.5	18	23	36	2.6	4.5
3322	Cutlery and handtool manufacturing	73	65	70	–8	6	–1.2	.8	8	10	15	1.9	3.7
3323	Architectural and structural metals manufacturing	327	400	478	74	77	2.1	1.8	41	55	81	3.1	3.9
3324	Boiler, tank, and shipping container manufacturing	108	95	90	–13	–5	–1.3	–.5	21	20	26	–.6	2.6
3325	Hardware manufacturing	54	43	45	–11	3	–2.3	.6	9	10	14	.8	3.9
3326	Spring and wire product manufacturing	74	71	59	–4	–12	–.5	–1.8	6	8	9	2.2	1.2
3327	Machine shops; turned product; and screw, nut, and bolt manufacturing	287	318	333	32	15	1.1	.5	29	41	62	3.7	4.2
3328	Coating, engraving, heat treating, and allied activities	137	148	151	11	4	.8	.2	12	16	25	2.8	4.4
3329	Other fabricated metal product manufacturing	316	296	287	–20	–9	–.7	–.3	42	43	49	.3	1.2
333	Machinery manufacturing	1,309	1,237	1,357	–72	120	–.6	.9	186	230	341	2.1	4.0
3331	Agriculture, construction, and mining machinery manufacturing	201	201	212	1	10	.0	.5	33	42	60	2.5	3.5
3332	Industrial machinery manufacturing	142	132	125	–10	–6	–.7	–.5	22	31	47	3.3	4.4
3333	Commercial and service industry machinery manufacturing	138	132	141	–6	9	–.5	.6	22	19	27	–1.3	3.6
3334	Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing	161	167	189	7	22	.4	1.2	22	29	40	2.8	3.2
3335	Metalworking machinery manufacturing	241	217	251	–24	34	–1.0	1.5	21	23	38	.9	4.9
3336	Engine, turbine, and power transmission equipment manufacturing	111	100	100	–11	0	–1.0	.0	23	34	44	4.1	2.7
3339	Other general purpose machinery manufacturing	317	288	339	–29	51	–.9	1.6	43	51	84	1.7	5.2
334	Computer and electronic product manufacturing	1,707	1,521	1,333	–186	–189	–1.1	–1.3	225	557	1,705	9.5	11.8
3341	Computer and peripheral equipment manufacturing	329	250	182	–79	–68	–2.7	–3.1	28	263	2,293	24.9	24.2
3342	Communications equipment manufacturing	210	191	201	–19	10	–.9	.5	45	100	268	8.2	10.4
3343	Audio and video equipment manufacturing	58	42	38	–16	–3	–3.2	–.8	8	9	10	1.0	1.2
3344	Semiconductor and other electronic component manufacturing	519	531	452	12	–79	.2	–1.6	67	134	149	7.2	1.1
3345	Navigational, measuring, electromedical, and control instruments manufacturing	549	451	396	–98	–55	–1.9	–1.3	79	92	126	1.4	3.2

See footnotes at end of table.

Table 3. Continued—Employment and output by industry, 1992, 2002, and projected 2012

2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 1996 dollars			Average annual rate of change	
		1992	2002	2012	1992–2002	2002–12	1992–2002	2002–12	1992	2002	2012	1992–2002	2002–12
3346	Manufacturing and reproducing magnetic and optical media	44	57	63	13	6	2.7	1.1	8	7	9	–1.4	2.1
335	Electrical equipment, appliance, and component manufacturing	580	499	486	–81	–13	–1.5	–.3	88	103	142	1.6	3.3
3351	Electric lighting equipment manufacturing	74	72	70	–2	–2	–.2	–.3	10	12	14	1.8	1.4
3352	Household appliance manufacturing	106	98	84	–8	–14	–.8	–1.5	18	22	29	2.2	2.8
3353	Electrical equipment manufacturing	219	176	180	–43	4	–2.1	.2	26	29	46	.8	4.7
3359	Other electrical equipment and component manufacturing	180	152	151	–28	–1	–1.7	–.1	33	41	54	1.9	2.9
336	Transportation equipment manufacturing	1,977	1,829	1,787	–148	–41	–.8	–.2	462	600	802	2.6	3.0
3361	Motor vehicle manufacturing	260	267	251	7	–16	.3	–.6	166	236	319	3.6	3.1
3362	Motor vehicle body and trailer manufacturing	126	154	172	28	18	2.0	1.1	15	22	39	3.7	5.7
3363	Motor vehicle parts manufacturing	661	731	758	70	27	1.0	.4	115	187	275	5.0	3.9
3364	Aerospace product and parts manufacturing	711	468	386	–242	–83	–4.1	–1.9	138	116	117	–1.7	.1
3365	Railroad rolling stock manufacturing	27	23	24	–4	1	–1.7	.6	5	8	12	4.0	4.2
3366	Ship and boat building	157	146	157	–10	11	–.7	.7	16	19	27	1.6	3.8
3369	Other transportation equipment manufacturing	36	40	40	4	0	1.0	.1	7	12	16	5.9	2.4
337	Furniture and related product manufacturing	563	605	666	42	62	.7	1.0	51	66	89	2.7	3.0
3371	Household and institutional furniture and kitchen cabinet manufacturing	373	400	450	28	49	.7	1.2	30	39	53	2.7	3.0
3372	Office furniture (including fixtures) manufacturing	146	151	155	5	5	.3	.3	16	20	27	2.2	3.1
3379	Other furniture related product manufacturing	44	54	61	10	7	2.0	1.3	5	7	10	4.1	2.8
339	Miscellaneous manufacturing	693	692	715	–1	24	.0	.3	85	114	151	3.0	2.9
3391	Medical equipment and supplies manufacturing	297	309	329	12	20	.4	.6	37	55	91	4.1	5.2
3399	Other miscellaneous manufacturing	395	383	387	–12	4	–.3	.1	49	59	60	2.0	.1
42	Wholesale trade	5,110	5,641	6,279	531	638	1.0	1.1	600	1,025	1,622	5.5	4.7
44–45	Retail trade	12,828	15,047	17,129	2,219	2,082	1.6	1.3	667	1,013	1,420	4.3	3.4
48, 492, 493	Transportation and warehousing	4,262	5,050	5,927	788	877	1.7	1.6	488	637	895	2.7	3.5
481	Air transportation	520	559	626	40	67	.7	1.1	100	142	229	3.6	4.9
482	Rail transportation	248	218	197	–30	–21	–1.3	–1.0	37	44	58	1.8	2.7
483	Water transportation	57	52	50	–5	–1	–.9	–.3	21	21	28	–.1	2.8
484, 492	Truck transportation and couriers and messengers	1,496	1,897	2,404	401	507	2.4	2.4	170	240	349	3.5	3.8
485	Transit and ground passenger transportation	288	372	488	84	116	2.6	2.8	21	26	30	2.2	1.2

See footnotes at end of table.

Table 3. Continued—Employment and output by industry, 1992, 2002, and projected 2012

2002 NAICS	Industry	Employment: Thousands of jobs 1992	2002	2012	Change 1992–2002	2002–12	Average annual rate of change 1992–2002	2002–12	Output: Billions of chained 1996 dollars 1992	2002	2012	Average annual rate of change 1992–2002	2002–12
486	Pipeline transportation	60	42	42	–19	0	–3.6	.0	30	27	29	–1.0	.7
487,488	Scenic and sightseeing transportation and support activities for transportation	388	553	652	165	100	3.6	1.7	36	44	57	2.1	2.6
493	Warehousing and storage	406	514	660	108	147	2.4	2.5	21	31	42	4.1	3.1
51	Information	2,641	3,420	4,052	779	632	2.6	1.7	481	891	1,498	6.4	5.3
511	Publishing indutries	854	970	1,133	115	163	1.3	1.6	134	222	334	5.1	4.2
5111	Newspaper, periodical, book, `and directory publishers	740	714	703	–27	–11	–.4	–.1	105	122	132	1.5	0.8
5112	Software publishers	114	256	430	142	174	8.4	5.3	31	102	229	12.6	8.4
516, 518, 519	Internet services, data processing, and other information services ...	307	529	773	222	244	5.6	3.9	25	87	233	13.1	10.3
512	Motion picture and soundrecording Industries	254	387	503	133	116	4.3	2.7	50	93	178	6.3	6.7
515, 517	Broadcasting and telecommunications	1,226	1,535	1,643	309	109	2.3	.7	272	491	745	6.1	4.3
5151	Radio and television broadcasting	226	241	235	15	–6	0.6	–.2	34	40	46	1.7	1.5
5152, 5175	Cable and other subscription programming and program distribution	126	221	300	95	79	5.7	3.1	36	53	64	3.9	1.9
517, except 5175	Telecommunications, except cable and other programming distribution	873	1,073	1,108	200	35	2.1	.3	202	401	645	7.1	4.9
52–53	Financial activities	6,540	7,843	8,806	1,303	964	1.8	1.2	1,525	2,230	3,038	3.9	3.1
521, 522, 525, 533	Credit intermediation and related activities, monetary authorities, and funds, trusts, and other financial vehicles	2,414	2,819	3,126	405	308	1.6	1.0	527	794	1,114	4.2	3.4
521, 5221	Monetary authorities and depository credit intermediation	1,793	1,761	1,873	–31	112	–.2	.6	281	408	584	3.8	3.7
5222, 5223,525, 533	Nondepository credit intermediation and related support activities, funds, trusts, and lessors of nonfinancial intangible (except copyrighted works)	621	1,058	1,253	436	196	5.5	1.7	246	386	530	4.6	3.2
523	Securities, commodity contracts, and other financial investments and related activities ..	476	801	925	325	124	5.3	1.5	97	350	526	13.6	4.2
524	Insurance carriers and related activities ..	2,040	2,223	2,391	184	168	.9	.7	313	347	419	1.0	1.9
5241	Insurance carriers	1,367	1,402	1,451	35	49	.3	.3	237	237	288	.0	2.0
5242	Agencies, brokerages, and other insurance related activities	672	821	940	149	119	2.0	1.4	76	112	133	3.9	1.7

See footnotes at end of table.

Table 3. Continued—Employment and output by industry, 1992, 2002, and projected 2012

2002 NAICS	Industry	Employment: Thousands of jobs 1992	2002	2012	Change 1992–2002	2002–12	Average annual rate of change 1992–2002	2002–12	Output: Billions of chained 1996 dollars 1992	2002	2012	Average annual rate of change 1992–2002	2002–12
531	Real estate	1,115	1,348	1,513	233	165	1.9	1.2	542	660	873	2.0	2.8
532	Rental and leasing services	496	652	852	156	200	2.8	2.7	52	88	127	5.3	3.8
5321	Automotive equipment rental and leasing	151	197	225	46	28	2.7	1.3	14	34	51	9.4	4.2
53,225, 323	Consumer goods rental and general rental centers	267	353	484	86	131	2.8	3.2	15	20	27	3.2	2.7
5324	Commercial and industrial machinery and equipment rental and leasing	78	102	143	24	41	2.7	3.4	24	34	50	3.5	3.9
54	Professional, scientific, and technical services	4,594	6,715	8,579	2,122	1,864	3.9	2.5	568	881	1,370	4.5	4.5
5411	Legal services	950	1,112	1,330	162	218	1.6	1.8	142	151	171	0.6	1.3
5412	Accounting, tax preparation, bookkeeping, and payroll services	658	867	1,082	209	215	2.8	2.2	58	80	98	3.2	2.1
5413	Architectural, engineering, and related services	902	1,251	1,306	349	54	3.3	.4	110	157	217	3.7	3.3
5414	Specialized design services	81	123	161	42	38	4.2	2.7	13	21	29	5.0	3.6
5415	Computer systems design and related services	445	1,163	1,798	718	635	10.1	4.5	55	127	302	8.8	9.0
5416	Management, scientific, and technical consulting services	358	732	1,137	374	406	7.4	4.5	59	114	169	6.7	4.1
5417, 5419	Scientific research and development and other and technical services	830	1,026	1,241	196	215	2.1	1.9	90	166	284	6.3	5.5
5418	Advertising and related services	370	442	525	72	84	1.8	1.7	42	67	111	4.8	5.2
55	Management of companies and enterprises	1,623	1,711	1,906	88	195	.5	1.1	256	468	669	6.2	3.6
56	Administrative and support and waste management and remediation services	4,753	7,584	10,391	2,831	2,807	4.8	3.2	240	433	638	6.1	4.0
561	Administrative support services	4,516	7,267	9,987	2,751	2,720	4.9	3.2	206	384	572	6.4	4.1
5611, 2	Office administrative and facilities support services	275	390	508	116	117	3.6	2.7	27	58	87	8.1	4.2
5613	Employment services	1,593	3,249	5,012	1,656	1,764	7.4	4.4	47	104	172	8.3	5.1
5614, 5616, 5619	Business support and investigation and security services and support services, n.e.c.	1,244	1,772	2,261	528	489	3.6	2.5	64	114	165	6.0	3.7
5615	Travel arrangement and reservation services	245	258	226	13	–32	.5	–1.3	21	25	36	1.8	3.7
5617	Services to buildings and dwellings	1,160	1,597	1,980	438	383	3.3	2.2	47	81	109	5.5	3.1
562	Waste management and remediation services	237	317	404	80	87	3.0	2.5	34	49	66	3.7	3.0
61	Educational services	1,713	2,651	3,410	938	759	4.5	2.6	95	125	149	2.8	1.8

See footnotes at end of table.

Table 3. Continued—Employment and output by industry, 1992, 2002, and projected 2012

2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 1996 dollars			Average annual rate of change	
		1992	2002	2012	1992–2002	2002–12	1992–2002	2002–12	1992	2002	2012	1992–2002	2002–12
62	Health care and social assistance ...	10,178	13,533	17,919	3,355	4,386	2.9	2.8	719	962	1,326	3.0	3.3
621	Ambulatory health care services	3,200	4,634	6,532	1,434	1,899	3.8	3.5	332	452	656	3.1	3.8
6211–3	Offices of health practitioners	2,267	3,190	4,419	923	1,229	3.5	3.3	251	332	469	2.9	3.5
6214–6, 6219	Ambulatory health care services except offices of health practitioners	933	1,444	2,113	511	670	4.5	3.9	82	120			
622	Hospitals	3,711	4,153	4,785	442	632	1.1	1.4	256	334	424	2.7	2.4
623	Nursing and residential care facilities	2,044	2,743	3,685	700	942	3.0	3.0	71	88	114	2.1	2.6
6231–2	Nursing care and residential mental health facilities	1,578	2,048	2,607	470	559	2.6	2.4	56	65	82	1.5	2.4
6233, 6239	Community care facilities for the elderly and residential care facilities, n.e.c	465	695	1,078	230	382	4.1	4.5	16	23	33	4.2	3.4
624	Social assisiatnce	1,223	2,004	2,917	780	913	5.1	3.8	59	88	132	4.1	4.1
6241–3	Individual, family, community, and vocational rehabilitation services	777	1,269	1,867	493	597	5.0	3.9	34	52	78	4.2	4.1
6244	Child day care services	447	734	1,050	288	316	5.1	3.6	24	37	55	4.3	4.0
71	Arts, entertainment, and recreation	1,236	1,778	2,275	542	497	3.7	2.5	95	143	200	4.2	3.4
711	Performing arts, spectator sports, and related industries	290	358	421	68	63	2.1	1.6	41	53	65	2.4	2.2
7111, 7113–5	Performing arts companies, promoters, agents, managers and independent artists	195	240	277	45	37	2.1	1.4	27	34	43	2.4	2.3
7112	Spectator sports	95	118	144	23	26	2.2	2.0	15	19	22	2.3	1.9
712	Museums, historical sites, and similar institutions	75	113	136	38	24	4.1	1.9	4	7	9	5.9	2.7
713	Amusement, gambling, and recreation industries	872	1,308	1,717	436	410	4.1	2.8	49	83	126	5.5	4.2
72	Accomodation and food services	8,201	10,191	11,829	1,991	1,638	2.2	1.5	347	449	597	2.6	2.9
721	Accommodation	1,562	1,780	2,080	218	301	1.3	1.6	90	116	173	2.5	4.1
7211	Traveler accommodation	1,517	1,726	2,019	209	293	1.3	1.6	88	113	169	2.5	4.1
7212–3	RV parks, recreational camps, and rooming and boarding houses	44	53	62	9	8	1.9	1.5	2	3	4	2.1	3.2
722	Food services and drinking places	6,639	8,412	9,749	1,773	1,337	2.4	1.5	256	333	423	2.7	2.4

See footnotes at end of table.

Table 3. Continued—Employment and output by industry, 1992, 2002, and projected 2012

2002 NAICS	Industry	Employment: Thousands of jobs 1992	2002	2012	Change 1992–2002	2002–12	Average annual rate of change 1992–2002	2002–12	Output: Billions of chained 1996 dollars 1992	2002	2012	Average annual rate of change 1992–2002	2002–12
81	Other services	5,120	6,105	7,065	985	960	1.8	1.5	298	382	506	2.5	2.9
811	Repair and maintenance	964	1,241	1,418	277	177	2.6	1.3	118	158	205	2.9	2.7
8111	Automotive repair and maintenance	636	897	1,046	261	149	3.5	1.6	69	93	124	3.1	2.9
8112	Electronic and precision equipment repair and maintenance	99	105	101	7	–5	.6	–.5	17	17	18	.5	.2
8113	Commercial and industrial equipment (except automotive and electronic) repair and maintenance	149	156	185	8	29	.5	1.7	16	28	42	5.4	4.1
8114	Personal and household goods repair and maintenance	80	82	86	2	3	.2	.4	17	20	22	2.0	.7
812	Personal and laundry serivces	1,099	1,247	1,485	148	238	1.3	1.8	76	98	125	2.6	2.4
8121	Personal care services	434	523	667	89	144	1.9	2.5	20	27	35	2.8	2.6
8122	Death care services ..	116	139	155	22	16	1.8	1.1	12	12	13	.5	.8
8123	Drycleaning and laundry services	359	366	393	7	27	.2	.7	18	21	25	1.5	1.7
8129	Other personal Services	190	219	270	29	51	1.4	2.1	26	38	53	4.0	3.3
813	Religious, grantmaking, civic, professional, and similar organizations	2,177	2,861	3,460	684	600	2.8	1.9	94	117	166	2.2	3.6
8131–3	Religious, grantmaking and giving services, and social advocacy organizations	1,403	1,944	2,372	541	428	3.3	2.0	49	66	107	3.1	4.9
81,348,139	Civic, social, business, and similar organizations	774	917	1,088	143	172	1.7	1.7	45	50	59	1.2	1.5
814	Private households ...	880	757	703	–123	–54	–1.5	–.7	10	9	11	–.8	1.1
...., 491	Federal Government ..	3,111	2,767	2,779	–344	12	–1.2	.0	394	378	443	–.4	1.6
491	Postal Service	800	845	807	45	–38	.5	–.5	51	61	76	1.7	2.2
....	Federal electric utilities	28	28	24	1	–4	.2	–1.7	7	9	11	2.5	2.0
....	Federal Government enterprises, n.e.c. ...	138	52	32	–86	–20	–9.3	–4.6	6	7	11	1.4	4.1
....	Federal general government	2,145	1,842	1,915	–303	73	–1.5	.4	252	209	216	–1.9	.4
....	Federal Government capital services	–	–	–	–	–	–	–	78	93	133	1.7	3.7
....	Local government passenger transit	210	231	260	21	29	1.0	1.2	7	9	10	2.6	.4
....	State and local government	15,675	18,722	21,240	3,047	2,518	1.8	1.3	685	839	980	2.0	1.6
....	State and local electric utilities	85	93	108	9	14	1.0	1.4	18	24	29	2.5	2.2
....	State and local government enterprises	532	689	734	157	46	2.6	.6	78	104	131	2.9	2.4

See footnotes at end of table.

Table 3. Continued—Employment and output by industry, 1992, 2002, and projected 2012

2002 NAICS	Industry	Employment							Output				
		Thousands of jobs			Change		Average annual rate of change		Billions of chained 1996 dollars			Average annual rate of change	
		1992	2002	2012	1992–2002	2002–12	1992–2002	2002–12	1992	2002	2012	1992–2002	2002–12
....	State and local government hospitals	1,083	995	1,024	–89	29	–.9	.3	41	48	56	1.5	1.5
....	State and local government education	7,875	9,876	11,606	2,002	1,730	2.3	1.6	276	321	375	1.5	1.5
....	State and local general government, n.e.c.	5,890	6,838	7,508	948	670	1.5	.9	207	241	260	1.5	.8
....	State and local government capital services	–	–	–	–	–	–	–	58	93	122	4.9	2.8
....	Owner–occupied dwellings	–	–	–	–	–	–	–	552	710	907	2.6	2.5
11	Agriculture[1]	2,639	2,245	1,905	–394	–340	–1.6	–1.6	274	300	352	.9	1.6
111, 112	Agricultural products ...	2,318	1,955	1,632	–362	–324	–1.7	–1.8	221	246	286	1.1	1.5
1131–2, 114	Forestry, fishing, hunting, and trapping	96	68	50	–28	–17	–3.4	–2.9	12	12	14	–.4	1.7
1133	Logging	120	98	90	–23	–7	–2.1	–.8	29	31	36	.8	1.4
115	Support activities for agriculture and forestry	105	124	133	19	9	1.6	.7	11	11	16	–.3	3.4
	Nonagriculture self-employed and unpaid family workers[2]	9,009	9,018	9,162	10	144	.0	.2	–	–	–	–	–
	Secondary wage and salary jobs in agricultural production, forestry, fishing, and private household industries[3]	178	143	128	–35	–15	–2.2	–1.1	–	–	–	–	–
	Secondary jobs as a self-employed or unpaid family worker[4]	1,973	1,545	1,434	–428	–111	–2.4	–.7	–	–	–	–	–
....	Total[5,6]	123,325	144,014	165,319	20,689	21,305	1.6	1.4	12,272	16,822	23,250	3.2	3.3

[1] Includes agricutlure, forestry, fishing, and hunting data from the Current Population Survey, except logging, which is from the Current Employment Survey and government wage and salary workers, which 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 wage and salary job as a self-employed or unpaid family worker.

[5] Wage and salary data are from the 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 which counts workers.

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

Note: Dash indicates data not available.
n.e.c. = not elsewhere classified.

Fueling 7.4 percent average annual increases between 1992 and 2002, the demand for employment services, the largest industry within the professional and business services group, heightened as companies sought new ways to reduce costs and become more responsive to changes in market demand. Even though this industry, which includes temporary staffing services, professional employer organizations, and employment placement agencies, is projected to grow significantly slower than in the past, its 4.4 percent growth rate still ranks among the top five industries with the fastest employment increases. The projected addition of 1.8 million workers by 2012 translates into 5.0 million total jobs, and positions this industry as the second largest source of jobs created by 2012. (See table 6.) The catalyst for this industry's positive relative momentum will be increases in the demand for temporary staffing services, as flexible work arrangements and schedules continue to proliferate. In addition, professional employer organizations are expected to continue their historical growth as companies, facing increasingly complex employee-related laws and regulations look to control costs, reduce risks, and provide more integrated services by contracting out their personnel management, health benefits, workers' compensation and unemployment insurance, tax, and payroll responsibilities. Employment placement agencies, which provide preliminary employment screening tasks and executive recruitment services, are expected to be the slowest employment services sector. Employment increases for this industry are projected to be tempered by reduced labor needs from online employment placement agencies and various segments of competition, for example, job matching Internet sites operated by educational institutions and professional associations.

The projected growth rate for employment in computer systems design and related services is 4.5 percent—among the five fastest in the economy and more than three times faster than the economy's average. Setting a staggering precedent over the 1992–2002 period, this industry's employment grew at a 10.1-percent annual rate, compared with 1.8 percent for total nonfarm job growth. Employment in computer systems design and related services, providing expertise in the field of information technologies, grew from 445,000 jobs in 1992 to 1.2 million in 2002, and is projected to increase to 1.8 million by 2012. Reflecting the expansion of electronic commerce, a growing reliance on the Internet, faster and more efficient internal and external communication, and the implementation of new technologies and applications, the 635,000 projected growth in jobs also ranks this industry among the economy's largest growing.[7]

The importance of computer systems design and related services industry can also be realized by its output growth position. As table 5 shows, this industry is one of the fastest growing, with a projected output growth rate of 9.0 percent annually. This projected growth rate is slightly higher than the 8.8-percent average annual rate of increase posted during the 1992–2002 period.

Employment in management, scientific, and technical consulting services is expected to increase from 732,000 in 2002 to 1.1 million in 2012—an annual rate of 4.5 percent and among the five fastest in the economy. Attributed to continued economic development and growing business complexity, businesses will continue to need advice on planning and logistics, implementation of new technologies, and compliance with government tax, environmental, and employee benefits and workplace safety laws and regulations.

Health services. The gradual aging of the population, coupled with advances in medical technologies that increase life expectancies, will place health services as a dominant source of projected employment growth. This sector, comprising mostly health practitioners offices, private hospitals, and nursing and residential care facilities, is expected to account for 1 out of every 6 new jobs created by 2012. The resulting 3.5 million additional workers will be spread throughout this large and diverse sector.

Of the 241.6 million people aged 16 and older, 32.4 percent or 78.2 million are projected to be 55 or older by 2012. Their projected 2.7 percent annual growth rate is more than double the average annual increases for the population as a whole. The reality of an aging population will result in employment in nursing care and residential mental health facilities, which include hospices, nursing and convalescent homes, to grow by 559,000 and reach 2.6 million in 2012. However, this trend will be eclipsed by potential Government budget constraints, a continued shift towards less expensive home health care and assisted living, and a healthier elderly population.[8] Community care facilities for the elderly and residential care facilities (not elsewhere classified), which provide assisted living services, is expected to grow at an average annual rate of 4.5 percent—third fastest in the economy. Growth in these types of facilities reflects the desire of many elderly to maintain an independent lifestyle. Employment in this industry is expected to expand by 382,000 to reach above the 1.0 million mark by 2012.

Echoing the same rational of maintained independence and nursing home avoidance, health care for the elderly that is provided at their home is expected to be the main driver behind the aggressive growth in ambulatory health care services—almost 670,000 additional jobs added at a average annual rate of 3.9 percent from 2002 to 2012.

Employment growth in private hospitals, facing industry cost pressures and increased utilization of clinics and other alternative care sites, will be the slowest within the health services industry. However, due to this industry's relatively large size, private hospitals are projected to be the fourteenth largest source of employment growth in 2012—adding 632,000 jobs and reaching a total employment level of 4.8 million. Spurred to reduce costs, hospitals are increasingly providing services on an outpatient or ambulatory basis, limiting unnecessary or low-priority services, and stressing preventative care.[9] These trends, in turn, will provide the impetus for the aggressive growth that is expected for offices of health practitioners and the outpatient care center portion of the ambulatory health care services industry. Offices of health practitioners, providing medical, surgical, and dental services outside the traditional hospital setting are expected to grow at a 3.3-percent average annual rate—significantly faster than the economy as a whole. The 1.2 million new jobs expected to be generated by offices of health practitioners rank this industry among the largest sources of employment growth in the economy. Reflecting the growing demand for services provided by offices of health practitioners, rising expenditures will also rank this industry among the largest in terms of output growth—consumers are expected to demand $468.9 billion by 2012, an increase of $136.6 billion over its 2002 level.

Social assistance. Employment within the social assistance sector, surpassing the 2 million mark in 2002, grew at a staggering 5.1 percent from 1992 to 2002—almost triple the employment growth rate for the overall economy. Even though that rate is expected to slow to 3.8 percent over the projected period, this sector, which provides diverse services ranging from community food, housing, and emergency relief services to child daycare services, is expected to be responsible for generating almost a million more jobs. This sector is also expected to maintain its robust historical 4.1 percent output growth rate over the projected period.

Leading this sector in terms of employment size and growth, employment in the individual, family, community, and vocational rehabilitation services industry is projected to increase at a 3.9-percent annual rate, to 1.9 million jobs in 2012 from 1.3 million jobs in 2002. This reflects the continued expansion of services for the elderly and families in crisis, as well as an increased emphasis on earlier and better integration of the physically disabled and mentally ill into society.

As the increase in the population of women of childbearing age was accompanied by a slight increase in the proportion of such women in the labor force, demand for child daycare services, the other industry within this sector, grew at a staggering pace—5.1 percent annually from 1992 to 2002. Even though these demographic changes are expected to abate over the projected 2002–12 period, government increases in funding and promotion, welfare reform legislation that require more welfare recipients to work, and an increasing amount of employer-operated daycare centers will keep this industry among the fastest growing in terms of projected employment. Employment in child daycare services is expected to increase by 316,000 jobs to 1.1 million by 2012.

Leisure and hospitality. Employment in leisure and hospitality industries increased by 2.5 million over the 1992–2002 period, posting an above average 2.4-percent annual growth rate. The projected 2002–2012 employment increase of 2.1 million translates into 14.1 million total jobs, and represents a slower annual growth rate of 1.7 percent. Primarily including food services and drinking places, this sector will continue to play a prominent job creation role in the economy—approximately 10 percent of new jobs are expected to be stimulated by this diverse industry group. Real output for this sector is expected to be maintained at its historical 3.0 percent annual pace, reaching $797.2 billion by 2012.

Jobs in food services and drinking places are projected to increase by 1.3 million from the 2002 level of 8.4 million to arrive at the 2012 level of 9.8 million. On an annual average basis, the projected employment growth rate of 1.5 percent is slower than 2.4 percent rate and 1.8 million jobs posted during the 1992–2002 period. Demographic factors such as increases in population, personal incomes, leisure time, and dual-income families will still contribute to this industry being the fifth largest source of employment growth by 2012. Output for food services and drinking places is projected to keep close pace with its 1992–2002 historical growth rate of 2.7 percent.

The amusement, gambling, and recreation industry, which includes a diverse group of casinos, amusement parks, and fitness clubs, is expected to be one of the fastest and largest sources of employment growth by 2012. Reflecting increasing personal incomes, leisure time, and awareness of the health benefits of physical fitness, the strong gain in jobs for this industry is an expected 410,000, rising to 1.7 million from the 2002 level of 1.3 million. Output is projected to grow at a rapid 4.2-percent annual rate, making this a $126.0 billion industry by 2012.

Wholesale and retail trade. Wholesale trade is projected to add 638,000 jobs to its 2002 level of 5.6 million, to reach 6.3 million by 2012. Due in part to its relative size, the wholesale trade industry ranks as one of the main sources of employment growth over the projected period. The annual employment growth rate of 1.1 percent is comparable to the industry's annual growth rate over the previous decade. Hedging the growth in employment, the wholesale trade industry is expected to continue its consolidation trends because of globalization, and cost pressures. In addition, productivity-enhancing technology such as e-commerce will further constrain the pace of employment growth. However, the expansion of customer services should increase demand for this industry's supply and distribution services. Real output for wholesale trade is expected to increase by 4.7 percent annually through 2012, expanding by almost $600 billion to $1.6 trillion. This gives this industry the distinction of being the second largest source of projected output growth and one of the economy's fastest.

The retail trade industry is the Nation's largest employer, with about 15.0 million jobs in 2002. Even though the projected employment annual growth rate of 1.3 percent represents a slowdown relative to the past decade, this industry, by adding 2.1 million new jobs and reaching 17.1 million by 2012, will continue to be the dominant source of employment. Real output for retail trade is expected to grow to $1.4 trillion in 2012 from $1.0 trillion in 2002, or at an average annual rate of 3.4 percent.

Government. Employment in the public sector is projected to increase by 2.5 million from its 2002 level of 21.5 million

Table 4. Industries with the fastest growing and most rapidly declining wage and salary employment, 2002–12					
2002 NAICS	Industry description	Thousands of jobs		Change	Average annual rate of change
		2002	2012	2002–12	2002–12
	Fastest growing				
5112	Software publishers	256.0	429.7	173.7	5.3
5416	Management, scientific, and technical consulting services	731.8	1,137.4	405.6	4.5
6233, 6239	Community care facilities for the elderly and residential care facilities, n.e.c.	695.3	1,077.6	382.3	4.5
5415	Computer systems design and related services	1,162.7	1,797.7	635.0	4.5
5613	Employment services	3,248.8	5,012.3	1,763.5	4.4
6241–3	Individual, family, community, and vocational rehabilitation services	1,269.3	1,866.6	597.3	3.9
6214–6,6219	Ambulatory health care services except offices of health practitioners	1,443.6	2,113.4	669.8	3.9
2213	Water, sewage, and other systems	48.5	71.0	22.5	3.9
516, 518, 519	Internet services, data processing, and other information services	528.8	773.1	244.3	3.9
6244	Child day care services	734.2	1,050.3	316.1	3.6
5324	Commercial and industrial machinery and equipment rental and leasing	102.2	142.8	40.6	3.4
6211–3	Offices of health practitioners	3,189.9	4,418.8	1,228.9	3.3
5322,5323	Consumer goods rental and general rental centers	352.9	484.2	131.3	3.2
5152, 5175	Cable and other subscription programming and program distribution	220.9	299.8	78.9	3.1
713	Amusement, gambling, and recreation industries	1,307.6	1,717.3	409.7	2.8
485	Transit and ground passenger transportation	371.5	487.7	116.2	2.8
5414	Specialized design services	122.9	160.8	37.9	2.7
5611, 2	Office administrative and facilities support services	390.3	507.6	117.3	2.7
512	Motion picture and sound recording industries	387.1	503.1	116.0	2.7
61	Educational services	2,650.6	3,409.8	759.2	2.6
	Most rapidly declining				
3152	Cut and sew apparel manufacturing	281.8	77.1	–204.7	–12.2
3151	Apparel knitting mills	49.6	20.0	–29.6	–8.7
3133	Textile and fabric finishing and fabric coating mills	82.4	40.1	–42.3	–6.9
3161	Leather and hide tanning and finishing	8.6	4.5	–4.1	–6.3
313	Textile mills	293.2	156.9	–136.3	–6.1
3169	Other leather and allied product manufacturing	19.9	10.8	–9.1	–5.9
3132	Fabric mills	146.6	79.6	–67.0	–5.9
3159	Apparel accessories and other apparel manufacturing	26.2	15.1	–11.1	–5.4
3131	Fiber, yarn, and thread mills	64.2	37.2	–27.0	–5.3
3122	Tobacco manufacturing	33.2	20.2	–13.0	–4.8
2122	Metal ore mining	29.4	18.0	–11.4	–4.8
NA	Federal Government enterprises, n.e.c.	51.9	32.4	–19.5	–4.6
2121	Coal mining	74.9	52.3	–22.6	–3.5
3259	Other chemical product and preparation manufacturing	112.4	79.4	–33.0	–3.4
3311	Iron and steel mills and ferroalloy manufacturing	107.1	76.0	–31.1	–3.4
211	Oil and gas extraction	122.5	88.4	–34.1	–3.2
3341	Computer and peripheral equipment manufacturing	249.8	182.1	–67.7	–3.1
1131–2, 114	Forestry, fishing, hunting, and trapping	67.6	50.4	–17.2	–2.9
3221	Pulp, paper, and paperboard mills	168.2	126.4	–41.8	–2.8
3252	Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	114.3	88.5	–25.8	–2.5

NOTE: n.e.c. = not elsewhere classified.

through 2012. This reflects an annual growth rate of 1.1 percent, slower than the total nonfarm wage and salary increase of 1.5 percent. Federal Government employment is projected to maintain its 2002 level of 2.8 million, adding only 12,000 jobs by 2012. Job growth generated by increased homeland security needs is expected to be offset by other Federal agency budgetary constraints, the growing use of private contractors, and the transfer of some functions to State and local government. The expected stabilizing outcome is a divergence from this sector's historical employment declines of 1.2 percent annually from 1992–2002.

State and local government employment is projected to

Table 5. Industries with the fastest growing and most rapidly declining output growth, 2002–12

2002 NAICS	Industry description	Billions of chained (1996) dollars		Change	Average annual rate of change
		2002	2012	2002–12	2002–12
	Fastest growing				
3341	Computer and peripheral equipment manufacturing	262.8	2,292.7	2,029.9	24.2
3342	Communications equipment manufacturing	100.0	268.1	168.1	10.4
516, 518, 519	Internet services, data processing, and other information services	86.9	232.6	145.7	10.3
5415	Computer systems design and related services	127.1	302.2	175.1	9.0
5112	Software publishers	102.2	228.8	126.6	8.4
512	Motion picture and sound recording Industries	92.8	177.8	85.0	6.7
3362	Motor vehicle body and trailer manufacturing	22.1	38.5	16.4	5.7
5417, 5419	Scientific research and development and other professional, scientific, and technical services	166.4	283.7	117.3	5.5
3391	Medical equipment and supplies manufacturing	54.8	91.2	36.4	5.2
3339	Other general purpose machinery manufacturing	50.8	84.3	33.4	5.2
5418	Advertising and related services	66.8	110.6	43.8	5.2
5613	Employment services	104.4	171.7	67.3	5.1
3335	Metalworking machinery manufacturing	23.3	37.6	14.4	4.9
8131–3	Religious, grantmaking and giving services, and social advocacy organizations	66.2	107.0	40.8	4.9
481	Air transportation	142.2	229.5	87.3	4.9
517, except 5175	Telecommunications, except cable and other programming distribution	400.6	644.7	244.0	4.9
3353	Electrical equipment manufacturing	28.6	45.5	16.9	4.7
42	Wholesale trade	1,025.3	1,622.5	597.2	4.7
6214-6,6219	Ambulatory health care services except offices of health practitioners	120.2	188.3	68.1	4.6
3321	Forging and stamping	22.8	35.5	12.8	4.5
	Most rapidly declining				
3151	Apparel knitting mills	6.4	2.3	–4.1	–9.7
3152	Cut and sew apparel manufacturing	39.8	17.1	–22.7	–8.1
3169	Other leather and allied product manufacturing	2.1	1.0	–1.2	–7.7
3161	Leather and hide tanning and finishing	2.6	1.2	–1.4	–7.7
3133	Textile and fabric finishing and fabric coating mills	12.2	6.5	–5.6	–6.0
3251	Basic chemical manufacturing	97.5	75.6	–21.9	–2.5
3131	Fiber, yarn, and thread mills	10.5	8.2	–2.4	–2.5
3159	Apparel accessories and other apparel manufacturing	3.8	3.3	–.6	–1.5
2121	Coal mining	26.2	23.4	–2.8	–1.1
211	Oil and gas extraction	87.4	79.6	–7.8	–.9
2123	Nonmetallic mineral mining and quarrying	17.5	16.7	–.8	–.5
3221	Pulp, paper, and paperboard mills	67.7	64.7	–3.0	–.5
3252	Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	56.4	54.0	–2.4	–.4
3132	Fabric mills	22.1	21.1	–.9	–.4
3122	Tobacco manufacturing	34.2	33.1	–1.0	–.3
3314	Nonferrous metal (except aluminum) production and processing	21.8	21.1	–.6	–.3

increase from the 1992 level of 18.7 million to 21.2 million jobs by 2012. The annual rate of growth is expected to slow from 1.8 percent posted between 1992 and 2002 to 1.3 percent through 2012. Driving this growth is the expected 1.7 million jobs from State and local government education, which accounts for more than half of all State and local government employment. Even though flat enrollments for preschool, elementary, and secondary classes are projected, proposed government reforms such as universal preschool, all-day kindergarten, and reduced class size should buoy the employment demand for this segment of State and local government education. Rising enrollments in post-secondary education, spurred by children of the baby boomers reaching college age and a general demand for continued career and skills training, therefore, will be the main catalyst for this industry's overall employment growth.[10]

Output for State and local hospitals is expected to moderately grow at 1.5 percent annually as these hospitals continue

Table 6. Industries with the largest wage and salary employment growth and declines, 2002–12					
2002 NAICS	Industry description	Thousands of jobs		Change	Average annual rate of change
		2002	2012	2002–12	2002–12
	Largest growth				
44–45	Retail trade	15,047.2	17,129.2	2,082.0	1.3
5613	Employment services	3,248.8	5,012.3	1,763.5	4.4
NA	State and local government education	9,876.0	11,606.0	1,730.0	1.6
722	Food services and drinking places	8,411.7	9,749.0	1,337.3	1.5
6211–3	Offices of health practitioners	3,189.9	4,418.8	1,228.9	3.3
23	Construction	6,731.7	7,745.4	1,013.7	1.4
61	Educational services	2,650.6	3,409.8	759.2	2.6
6214–6,6219	Ambulatory health care services except offices of health practitioners	1,443.6	2,113.4	669.8	3.9
NA	State and local general government, n.e.c.	6,838.4	7,508.1	669.7	.9
42	Wholesale trade	5,641.1	6,279.3	638.2	1.1
5415	Computer systems design and related services	1,162.7	1,797.7	635.0	4.5
622	Hospitals	4,153.1	4,785.0	631.9	1.4
6241–3	Individual, family, community, and vocational rehabilitation services	1,269.3	1,866.6	597.3	3.9
6231–2	Nursing care and residential mental health facilities	2,047.8	2,607.1	559.3	2.4
484, 492	Truck transportation and couriers and messengers	1,897.1	2,404.3	507.2	2.4
5614, 5616, 5619	Business support and investigation and security services and support services, n.e.c.	1,772.3	2,260.8	488.5	2.5
8131–3	Religious, grantmaking and giving services, and social advocacy organizations	1,944.2	2,372.0	427.8	2.0
713	Amusement, gambling, and recreation industries	1,307.6	1,717.3	409.7	2.8
5416	Management, scientific, and technical consulting services	731.8	1,137.4	405.6	4.5
5617	Services to buildings and dwellings	1,597.3	1,980.2	382.9	2.2
	Largest declines				
111,112	Agricultural products	1,955.4	1,631.8	–323.6	–1.8
3152	Cut and sew apparel manufacturing	281.8	77.1	–204.7	–12.2
3364	Aerospace product and parts manufacturing	468.3	385.7	–82.6	–1.9
3344	Semiconductor and other electronic component manufacturing	531.4	452.0	–79.4	–1.6
3341	Computer and peripheral equipment manufacturing	249.8	182.1	–67.7	–3.1
3132	Fabric mills	146.6	79.6	–67.0	–5.9
3345	Navigational, measuring, electromedical, and control instruments manufacturing	450.6	395.6	–55.0	–1.3
814	Private households	757.0	702.7	–54.3	–.7
3133	Textile and fabric finishing and fabric coating mills	82.4	40.1	–42.3	–6.9
3221	Pulp, paper, and paperboard mills	168.2	126.4	–41.8	–2.8
491	Postal Service	844.8	807.0	–37.8	–.5
211	Oil and gas extraction	122.5	88.4	–34.1	–3.2
3259	Other chemical product and preparation manufacturing	112.4	79.4	–33.0	–3.4
5615	Travel arrangement and reservation services	258.0	225.9	–32.1	–1.3
3311	Iron and steel mills and ferroalloy manufacturing	107.1	76.0	–31.1	–3.4
2211	Electric power generation, transmission, and distribution	435.7	404.7	–31.0	–.7
3251	Basic chemical manufacturing	170.5	139.8	–30.7	–2.0
3222	Converted paper product manufacturing	381.6	351.1	–30.5	–.8
3151	Apparel knitting mills	49.6	20.0	–29.6	–8.7
3131	Fiber, yarn, and thread mills	64.2	37.2	–27.0	–5.3

NOTE: n.e.c. = not elsewhere classified.

to provide services to trauma victims, the poor, and uninsured persons. Employment growth, however, will be limited—increasing by a meager 0.3 percent annually to 1.0 million jobs in 2012 from 995,000 in 2002. This will be due to productivity increases, the trend of some communities eliminating certain services, and more State government hospitals closing or being converted into community general hospitals, which are usually private, not-for-profit institutions.[11]

The rest of State and local government employment will grow as a consequence of the events surrounding September 11, 2001; the assumption of some Federal Government responsibilities; and an increasing population demanding more services. Budgetary constraints, reductions in Federal aid, and resistance to tax increases from citizens will work to impede this growth.

Table 7. Industries with the largest output growth and declines, 2002–2012

2002 NAICS	Industry description	Billions of chained (1996) dollars		Change	Average annual rate of change
		2002	2012	2002–12	2002–12
	Largest growth				
3341	Computer and peripheral equipment manufacturing	262.8	2,292.7	2,029.9	24.2
42	Wholesale trade	1,025.3	1,622.5	597.2	4.7
44–45	Retail trade	1,013.1	1,420.0	406.9	3.4
521, 522, 525, 533	Credit intermediation and related activities, monetary authorities, and funds, trusts, and other financial vehicles	794.3	1,114.4	320.1	3.4
517, except 5175	Telecommunications, except cable and other programming distribution	400.6	644.7	244.0	4.9
531	Real estate	659.6	873.1	213.5	2.8
551	Management of companies and enterprises	468.3	668.9	200.6	3.6
NA	Owner-occupied dwellings	710.3	906.9	196.6	2.5
521, 5221	Monetary authorities and depository credit intermediation	408.2	584.5	176.3	3.7
523	Securities, commodity contracts, and other financial investments and related activities	350.1	525.9	175.8	4.2
5415	Computer systems design and related services	127.1	302.2	175.1	9.0
3342	Communications equipment manufacturing	100.0	268.1	168.1	10.4
516, 518, 519	Internet services, data processing, and other information services	86.9	232.6	145.7	10.3
5222, 5223,525, 533	Nondepository credit intermediation and related support activities, funds, trusts, and lessors of nonfinancial intangible assets (except copywrighted works)	386.4	530.4	144.1	3.2
6211–3	Offices of health practitioners	332.3	468.9	136.6	3.5
23	Construction	718.7	851.8	133.1	1.7
5112	Software publishers	102.2	228.8	126.6	8.4
5417, 5419	Scientific research and development and other professional, scientific, and technical services	166.4	283.7	117.3	5.5
484, 492	Truck transportation and couriers and messengers	239.5	349.1	109.6	3.8
622	Hospitals	334.3	424.4	90.1	2.4
	Largest declines				
3152	Cut and sew apparel manufacturing	39.8	17.1	–22.7	–8.1
3251	Basic chemical manufacturing	97.5	75.6	–21.9	–2.5
211	Oil and gas extraction	87.4	79.6	–7.8	–.9
3133	Textile and fabric finishing and fabric coating mills	12.2	6.5	–5.6	–6.0
3151	Apparel knitting mills	6.4	2.3	–4.1	–9.7
3221	Pulp, paper, and paperboard mills	67.7	64.7	–3.0	–.5
2121	Coal mining	26.2	23.4	–2.8	–1.1
3252	Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	56.4	54.0	–2.4	–.4
3131	Fiber, yarn, and thread mills	10.5	8.2	–2.4	–.5
3161	Leather and hide tanning and finishing	2.6	1.2	–1.4	–7.7
3169	Other leather and allied product manufacturing	2.1	1.0	–1.2	–7.7
3122	Tobacco manufacturing	34.2	33.1	–1.0	–.3
3132	Fabric mills	22.1	21.1	–.9	–.4
2123	Nonmetallic mineral mining and quarrying	17.5	16.7	–.8	–.5
3314	Nonferrous metal (except aluminum) production and processing	21.8	21.1	–.6	–.3
3159	Apparel accessories and other apparel manufacturing	3.8	3.3	–.6	–1.5

Goods-producing sector

Agriculture. Being the industry with the largest projected declines in employment, farms are expected to repeat their historical trend by shedding an additional 324,000 jobs and settling at 1.6 million workers by 2012. The agriculture sector as a whole is projected to experience the largest declines in employment for any major sector, 340,000 at a 1.6-percent annual rate. Real output, however, is projected to expand annually by 1.6 percent to $351.6 billion in 2012, up from $299.6 billion in 2002. The persistent dichotomy between farm employment and production is due predominately to continued productivity growth, which is facilitated by industry consolidations and more efficient farm machinery. The negative trends in employment is expected to be moderated somewhat by the rising demand for organic farm produce, increases in the number of farmer-owned and -operated cooperatives, and targeted government assistance, which all bode relatively well for small- to medium-sized farms. Support activities for agriculture and forestry, which include such services as farm management, cultivation, and harvesting, is expected to be the only agriculture component posting employment gains. Employment, rising by a modest 0.7-percent rate between 2002 and 2012, is expected to reach 133,000 by 2012.

Mining. Jobs in the mining sector are projected to decline at a 1.3-percent annual rate and reach 451,000 in 2012. This represents a loss of 61,000 jobs and a continuation of its 1992–2002 historical declines. The persistent long-term employment reductions are due to technology driven productivity increases, industry consolidation, stringent environmental regulations, and international competition.[12] Real output is also expected to be reduced at an annual rate of 0.6 percent, contracting to its 1992 level of $155 billion. Setting the pace for this sector's employment declines, jobs in metal ore mining, which are subject to industry consolidations and labor saving technologies, are projected to decline at an average annual rate of 4.8 percent. However, because metals are used primarily as raw materials by other industries, the metal ore mining industry is influenced by the strength of the general economy and is expected to be the only production-based mining sector to experience increases in output.

This scenario is juxtaposed against the coal mining industry, which is expected to be one of the fastest declining indus tries, both in terms of employment and output. Employment is expected to contract by an average annual 3.5 percent, while output is projected to decline by 1.1 percent. Although coal mining is the cheapest, most abundant fossil fuel and accounts for half of this country's electricity production, employment and production in this industry will be most influenced by how electric utility companies respond to stricter environmental regulations. As the costs of compliance increases, through, for example, the installation of costly cleaning and monitoring equipment, the demand for coal is expected to shrink. Therefore, output is expected to contract slightly ahead of its 1992 level of $22 billion from its 2002 level of $26 billion.

Accounting for the majority of this sector's employment in 1992, the oil and gas extraction industry will reverse its relative prominence by declining from 182,000 jobs in 1992 to 88,000 by 2012. The 34,000 jobs lost at a 3.2-percent annual rate between 2002 and 2012 ranks this industry among the economy's fastest and largest source of employment declines. Fluctuations in global oil and gas prices, strict environment regulations, limited access to Federal lands, and foreign competition will have a negative impact on this industry's real output[13]—declining by an annual rate of 0.9 percent to $80 billion by 2012.

Construction. The construction industry, which is projected to add more than a million jobs by 2012 at a 1.4-percent average rate of growth, is the goods-producing sector's only source of employment growth. Reaching an employment level of 7.8 million in 2012, the construction industry is also among the economy's top-10 largest source of employment growth. Real output, however, is projected to increase at a tamer annual rate of 1.7-percent—slower than the 2.8-percent annual rate achieved during the previous decade and almost half the projected rate for the economy as a whole.

Delayed replacement or remodeling of industrial plants and greater demand for aging-population related nursing, extended care, and high-technology medical treatment facilities will propel nonresidential construction to lead this aggregate segment. However, technology enhancements will dampen demand for new commercial construction, as nontraditional work and retail environments such as teleconferencing, telecommuting, and electronic shopping continue to proliferate. Total nonresidential investment in structures is therefore expected to grow by 1.8 percent over the 2002–12 period.

Residential construction, closely tied to demographic factors will grow at a 2.1-percent pace throughout the 2002–12 period. As baby-boomers reach their peak earning years, the demand for upgraded homes, second homes, and assisted living housing will increase. In addition, as their children, the echo boomers, augment the younger age groups, and the number of immigrants increases, the demand for single-family housing and rental apartments also is projected to increase.

Manufacturing. This sector's share of total employment is expected to continue to decline, while its share of total output is projected to be maintained—reversing its trend in the prior decade. Reflecting an average annual employment decline of 0.9 percent and an absolute job loss of 1.5 million from 1992 to 2002, manufacturing employment represented only 10.6 percent of total employment in 2002, down from almost 14 percent in 1992. During this decade, manufacturing employment peaked in 1998 at 17.5 million, up from 16.8 million in 1992. The projected, productivity-led declines in this sector's employment, even though relatively moderate at 158,000, will slightly lower its share of total employment to 9.2 percent in 2012. This translates into 15.2 million wage and salary manufacturing jobs maintained in 2012. Even though the 15.3 million jobs counted in 2002 represents the trough of the 2001 recession, the 2.3 million jobs lost since 1998 are not expected to be recovered.

Up against the dramatic historical output gains in the service-providing sector, the 2.3-percent average annual increases and the $773.4 billion worth of additional real output that was generated by the manufacturing sector between 1992 and 2002 was not enough for this sector to maintain its 25.9 percent nominal output share in 1992—dropping to 21.1 percent by 2002. However, due to somewhat moderate output growth expectations in the service-sector and an accelerated manufacturing output growth prospect over the projected period, manufacturing's 2002 share of total nominal output is projected to be maintained. Consistent with overall economic growth, real output for manufacturing is expected to increase at an average annual rate of 3.4 percent between 2002 and 2012—faster than the 1992–2002 historical 2.3 percent rate, and rivals the service-producing sector's projected 3.5 percent annual growth rate. Led by productivity gains and strong demand by consumers, businesses, and exports, manufacturing output is expected to increase by $1.5 trillion to reach $5.4 trillion by 2012.

The industry manufacturing groups that will lead the pace of output growth are: computer and electronic products manufacturing (11.8 percent); plastics and rubber products manufacturing (4.1 percent); machinery manufacturing (4.0 percent); and fabricated metal products manufacturing (3.4 percent). The industry groups that will contribute the strongest drags on employment are: apparel manufacturing (–11.0 percent); textile mills (6.1 percent); and leather and allied product manufacturing (4.0 percent). These industries are also projected to be the only manufacturing sources with declining output.

The computer and electronic products manufacturing group, which includes computer, communications, semiconductor, and navigational production, highlights the dichotomist relationship between the growth of manufacturing output and the productivity led declines in employment. For example, with a 24.2-percent projected growth rate, the computer and peripheral equipment manufacturing industry has the fastest growing real output of any detailed industry for which BLS prepares projections. Reaching $2.3 trillion by 2012, a $2.0 trillion increase over its 2002 output level, this industry is also the economy's largest source of projected output growth. (See table 7.) However, due to the introduction of new technology and automated manufacturing processes, this industry's employment is expected to exceed its 2.7 percent historical rate of decline, and lose 68,000 jobs over its 2002 level of 250,000.[14]

Communication equipment, with a projected output level of $268 billion, is this group's second largest industry. Growing demand for wireless phones as quality and services improve, along with enhanced wireless computer applications and evolving forms of Internet connectivity will expand the output for the communications equipment industry annually by 10.4 percent, the economy's second fastest rate.

Real output for the plastics and rubber manufacturing group is projected to increase by $8.2 billion to reach $244.6 billion in 2012. Employment is expected to reach 991,000 by 2012—a 138,000 increase from the 2002 level. The resulting 1.5-percent average annual rate of growth in employment makes plastics and rubber manufacturing the fastest and largest growing group within the manufacture sector. Plastics product manufacturing, the dominant industry within this group, primarily molds plastics for manufacturing industries. Many of the most rapidly growing industries in the economy, including construction and industries manufacturing electronics, computers, communication equipment, and motor vehicles, use plastic products as an intermediate input in production. Demand by these industries will sustain employment and output growth in the plastics products industry throughout the projected period.

The industries within the apparel and textile mill groups are all among the most rapidly declining industries in terms of employment over the 2002–12 period. Because of its labor-intensive nature, import competition and changing trade regulations are the most important factors behind the apparel industry's projected employment declines of 246,000, to 112,000 in 2012—greater than any other industry's reduction except agriculture. Transforming textile mill fabrics into clothing and accessories, this industry's output is also projected to decline by 7.6 percent annually, which is the economy's most aggressive pace. Real output is expected to contract from $50.0 billion in 2002 to $22.8 billion in 2012 as new automation, fierce retailer cost-cutting pressures, and consolidations all negatively influence this industry. Echoing the decline of the domestic apparel industry, the textile mills group will experience similar downward trends in employment and output. Employment, projected to contract almost by half, is expected to decline by 136,000 to 157,000 in 2012, while real output declines by 2.2 percent annually, to $35.8 billion in 2012.

In 1992 and 2002, the largest share of nominal manufacturing output, more than 15 percent, was produced by the transportation equipment manufacturing group. By 2012, even though the percent share comanded by the computer electronic production manufacturing industry will run a close second, transportation equipment manufacturing will maintain its relative dominance. Highlighting this fact, transportation equipment manufacturing, which includes motor vehicle, aerospace, railroad, and shipbuilding is the largest manufacturer employer, with about 1.8 million workers in 2002. Amid a relatively small drop in employment over the projected period, this industry group will continue to be manufacturing's dominant source of employment. Jobs in aerospace product and parts manufacturing, the principal employment sector within transportation equipment manufacturing, is projected to decline by 83,000 workers to 386,000 by 2012. Real output for the aerospace product and parts industry, which produces aircraft, guided missiles, and space vehicles, declined from $138 billion in 1992 to $116 billion in 2002. The continued attention given to the Nation's security will increase the demand for military aircraft and equipment. However, output is expected to maintain its 2002 level as import competition intensifies.

Motor vehicle manufacturing production, the principal sector within transportation equipment manufacturing, in terms of output, stood at $236 billion in 2002. Facilitated by healthy productivity gains, output is expected to increase by 3.1 percent annually to $319 billion by 2012. This, however, represents a marginal slowdown from the 3.6-percent growth experienced over the last decade. Output growth will be limited due to the anticipated slowdown in the growth of the driving age population, competition from foreign producers, improvements in vehicle quality that extend longevity, and safety and environmental regulations that increase production costs. Motor vehicle manufacturing employment in 2002 was 267,000—approximately the same level as that in 1992, and is expected to decline slightly by 0.6 percent annually from 2002 to 2012. The resulting decline to 251,000 jobs by 2012 will be a consequence of companies continuing to absorb productivity-enhancing technologies such as robotics, computers, and factory automation.

THE BLS PROJECTION for the goods-producing sector speaks for the economy as a whole: strong productivity led output gains, coupled with relatively marginal employment increases. Even though the service-providing industries will remain the economy's most dominant sector, the pace of output growth will be on par with its goods-providing counterpart. This represents a significant divergence from the service-providing sector's historical stronger rate of growth. Business fixed investment, the GDP component with the fastest growth rate, is expected to be the main catalyst behind this caveat. Even though demand from personal consumption will remain the dominant source of output and employment generated in 2012, purchases of new construction and equipment by businesses will be responsible for the accelerated pace of the goods-producing sector's projected output.

Furthermore, as the service-providing sector's pace of employment growth is expected to slightly decelerate, the goods-producing sector will witness a marginal expansion. This is a result of the manufacturing sector stabilizing its previously persistent employment declines and the positive job growth posted by the construction industry. Machinery, fabricated metal, and transportation equipment manufacturing are all large sectors that highlight this expected manufacturing phenomenon. Reflecting an ever-evolving economy, the desire by businesses to enhance productivity, and an aging population, the service-providing sector's most influential industries are professional and business services, and education and health services.

Mirroring trends in many industrialized countries, the latest round of BLS projections sets productivity gains as the medium through which output outpaces the projected growth in the labor force. In addition, its main themes are expected to be an economy that is dominated by the service-providing sector in terms of employment and output share, but witnesses significant gains in the goods-producing sector's rate of growth. □

Notes

[1] 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 1996 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.

[2] Providing a more accurate measure of the relative importance of aggregated sectors of the economy, current-dollar output 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*, US Department of Commerce, November 2003, pp. 8–16.

[3] For further discussion on these factors, see the articles by Mitra Tossi, pp. 37–57; and Betty Su, pp. 23–36, this issue.

[4] This is the first set of BLS projections developed from the 2002 North American Industrial Classification System (NAICS); past projections utilized the 1987 Standard Industrial Classification System (SIC).

[5] The Business Cycle Dating Committee, National Bureau of Economic Research, determined in July 2003 that the 2001 recession began in March 2001 and ended in November 2001.

[6] For more in-depth reading on the comparison of manufacturing productivities across countries, see Aaron E. Cobet and Gregory A. Wilson, "Comparing 50 years of labor productivity in U.S. and foreign manufacturing," *Monthly Labor Review*, June 2002, pp. 51–65.

[7] Also, see "Digital Economy 2002" (Department of Commerce, Economics and Statistics Administration, February 2002).

[8] For more information on nursing care and residential mental health facilities see, A. Jones, "The National Nursing Home Survey: 1999 Summary" vol. 13, no. 152 (Department of Health and Human Services, National Center for Health Statistics, Vital Health Statistics, 2002).

[9] For more information on trends affecting hospitals see, *Trend Watch Chartbook 2003* (The American Hospital Association, Washington, DC, July 2003).

[10] See Debra E. Gerald and William J. Hussar, "Projections of Education Statistics to 2012" (U.S. Department of Education, National Center for Education Statistics, Washington, DC, August 2002).

[11] *Trend Watch Chartbook 2003*, July 2003.

[12] Also see *International Energy Outlook* (Department of Energy, Energy Information Administration, January 2002) and R. F. Balazik, L. McCartan, D.E. Morse, and S. F. Sibley, "Annual Review 2001," *Mining Engineering*, May 2002.

[13] For further information on the oil and gas extraction industry, see "Annual Energy Outlook 2002" (Department of Energy, Energy Information Administration, January 2002.)

[14] Also see Christopher Kask and Edward Sieber, "Productivity growth in 'high-tech' manufacturing industries," *Monthly Labor Review*, March 2002, pp. 16–31.

Employment outlook: 2002–12

Occupational employment projections to 2012

Employment in professional and related and in service occupations are expected to increase the fastest and add the most jobs from 2002 to 2012, while office and administrative support occupations should grow about half as fast as the total; production occupations should grow very slowly

Daniel E. Hecker

Total employment is projected to increase by 21.3 million jobs over the 2002–12 period, rising to 165.3 million, according to the latest projections of the Bureau of Labor Statistics.[1] This increase represents about 600,000 more jobs than were added over the previous 10-year period (1992–2002). The projected 14.8-percent increase, however, is less than the 16.8-percent increase of the previous 10-year period. Self employment is projected to decline 2.3 percent, from 11.5 to 11.2 million.

This article discusses a number of aspects of the projections along with related information:

- changes in the structure of employment at the major occupational group level;
- the detailed occupations[2] that are projected to grow fastest as well as those with the largest numerical increases and decreases, along with their current educational and training requirements and earnings; and
- the total job openings projected to occur due to growth in the economy and the net replacement needs resulting from workers who leave the labor force or transfer to other occupations

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In this article, projected employment is analyzed from two perspectives—percent change and numerical change—because one can be large and the other small, depending on the size of employment in the base year. The following example using data for two occupations generally requiring the same level of education—a bachelor's degree—illustrates the importance of viewing job outlook from both perspectives:

> Employment of environmental engineers is projected to grow twice as fast as employment of accountants and auditors over the 2002–12 period, 38.2 percent, compared with 19.5 percent. However, the accountants and auditors occupation is projected to add more than 11 times the number of new jobs (205,000 compared with 18,000), because employment was so much larger than for environmental engineers in 2002 (1,055,000 compared with 47,000).

Major occupational groups

Among the major occupational groups, employment in the two largest in 2002—professional and related occupations and service occupations—will increase the fastest and add the most jobs from 2002 to 2012. (See table 1.) These major groups, which are on opposite ends of the educational attainment and earnings spectrum, are expected to provide more than half of the total job growth from 2002 to 2012. Employment is projected to grow about as fast as overall employment in management, business, and finan-

Table 1. Employment by major occupational group, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment				Change	
		Number		Percent distribution		Number	Percent
		2002	2012	2002	2012		
00-0000	Total, all occupations	144,014	165,319	100.0	100.0	21,305	14.8
11-1300	Management, business, and financial occupations	15,501	17,883	10.8	10.8	2,382	15.4
15-2900	Professional and related occupations	27,687	34,147	19.2	20.7	6,459	23.3
31-3900	Service occupations	26,569	31,905	18.4	19.3	5,336	20.1
41-0000	Sales and related occupations	15,260	17,231	10.6	10.4	1,971	12.9
43-0000	Office and administrative support occupations	23,851	25,464	16.6	15.4	1,613	6.8
45-0000	Farming, fishing, and forestry occupations	1,072	1,107	.7	.7	35	3.3
47-0000	Construction and extraction occupations	7,292	8,388	5.1	5.1	1,096	15.0
49-0000	Installation, maintenance, and repair occupations	5,696	6,472	4.0	3.9	776	13.6
51-0000	Production occupations	11,258	11,612	7.8	7.0	354	3.1
53-0000	Transportation and material moving occupations	9,828	11,111	6.8	6.7	1,282	13.0

NOTE: Detail may not equal total or 100 percent due to rounding.

cial occupations and in construction and extraction occupations. Employment in installation, maintenance, and repair; transportation and material moving; and sales and related occupations will grow somewhat more slowly. The three slowest growing groups—all with rates less than 7 percent—are office and administrative support occupations; farming, fishing, and forestry occupations; and production occupations.

As a result of the different growth rates among the major occupational groups, the occupational distribution of total employment will change somewhat by the year 2012, but the relative ranking of the groups by employment size is not expected to change. Professional and related occupations will continue to rank first, while farming, fishing, and forestry occupations will continue to rank last. Professional and related and service occupations will significantly increase their relative share of employment—by 1.5 and 0.9 percentage points, respectively. However, office and administrative support occupations and production occupations should decrease significantly—by 1.2 and 0.8 points, respectively. (See table 1.)

The growth of occupational groups (and occupations) is determined, in large part, by growth in industries in which they are concentrated. For example, professional occupations are projected to grow the fastest, in large part because they are concentrated in some fast-growing industries such as healthcare and social assistance; and professional, scientific, and technical services; while production occupations are projected to grow very slowly, largely because 7 out of 10 are in the declining manufacturing sector.[3]

The number of *management, business, and financial workers* is projected to grow by 2.4 million from 2002 to 2012. Within this occupational group, about one-fifth of the new jobs will be in professional, scientific, and technical services, which include management, scientific, and technical consulting, and accounting, tax preparation, bookkeeping, and payroll services. About 1 new job in 8 is projected for finance and insurance, and 1 in 9, for healthcare and social assistance. The self-employed in this group, accounting for one-fifth of the total, are projected to decline 5.6 percent. Overall projected growth among management, business, and financial workers is affected by the decline of farmers and ranchers, most self-employed, by 238,000. (See table 2.) Excluding farmers and ranchers, this major group is projected to increase 18.3 percent. The self-employed, excluding self-employed farmers and ranchers, are projected to increase 4.0 percent, with the largest increase for management analysts.

Employment in *professional and related occupations* is projected to grow the fastest and to add more workers (6.5 million) than any other major group. Three-tenths of the growth in these occupations is projected to take place in healthcare and social services, a quarter in government, and a seventh in professional, scientific, and technical services. There are eight occupational subgroups within professional and related occupations. Three occupational subgroups—education, training, and library; healthcare practitioners and technical; and computer and mathematical should account for three-quarters of the job growth.

A 6.1-percent increase is projected for self-employed professional and related occupations. Most growth among self-employed is projected for two subgroups—arts, design, entertainment, sports, and media occupations and computer and mathematical occupations.

Education, training, and library occupations are projected to grow faster than the average for all occupations, adding 2.1 million jobs as shown on p. 97 (also, see table 2):

Text continues on p. 97

Table 2. Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution				
		2002	2012	2002	2012	Number	Percent	
00-0000	Total, all occupations	144,014	165,319	100.0	100.0	21,305	14.8	56,305
11-1300	Management, business, and financial occupations	15,501	17,883	10.8	10.8	2,382	15.4	5,319
11-0000	Management occupations	10,056	11,277	7.0	6.8	1,221	12.1	3,192
11-1000	Top executives	2,669	3,138	1.9	1.9	469	17.6	969
11-1011	Chief executives	553	645	.4	.4	93	16.7	197
11-1021	General and operations managers	2,049	2,425	1.4	1.5	376	18.4	762
11-1031	Legislators	67	68	.0	.0	1	1.1	9
11-2000	Advertising, marketing, promotions, public relations, and sales managers	700	885	.5	.5	185	26.5	313
11-2011	Advertising and promotions managers	85	107	.1	.1	21	25.0	37
11-2020	Marketing and sales managers	546	693	.4	.4	148	27.1	249
11-2021	Marketing managers	203	246	.1	.1	43	21.3	81
11-2022	Sales managers	343	448	.2	.3	105	30.5	168
11-2031	Public relations managers	69	85	.0	.1	16	23.4	28
11-3000	Operations specialties managers	1,807	2,163	1.3	1.3	356	19.7	671
11-3011	Administrative services managers	321	384	.2	.2	63	19.8	126
11-3021	Computer and information systems managers	284	387	.2	.2	103	36.1	154
11-3031	Financial managers	599	709	.4	.4	109	18.3	195
11-3040	Human resources managers	202	242	.1	.1	39	19.4	73
11-3051	Industrial production managers	182	197	.1	.1	14	7.9	50
11-3061	Purchasing managers	108	113	.1	.1	5	4.8	29
11-3071	Transportation, storage, and distribution managers	111	133	.1	.1	22	19.7	44
11-9000	Other management occupations	4,880	5,090	3.4	3.1	210	4.3	1,240
11-9010	Agricultural managers	1,376	1,149	1.0	.7	-227	-16.5	117
11-9011	Farm, ranch, and other agricultural managers	218	229	.2	.1	11	5.1	49
11-9012	Farmers and ranchers	1,158	920	.8	.6	-238	-20.6	68
11-9021	Construction managers	389	435	.3	.3	47	12.0	117
11-9030	Education administrators	427	527	.3	.3	101	23.6	207
11-9031	Education administrators, preschool and child care center/program	58	77	.0	.0	19	32.0	33
11-9032	Education administrators, elementary and secondary school	217	262	.2	.2	45	20.7	99
11-9033	Education administrators, postsecondary	125	157	.1	.1	32	25.9	63
11-9039	Education administrators, all other	27	32	.0	.0	5	19.1	12
11-9041	Engineering managers	212	231	.1	.1	20	9.2	62
11-9051	Food service managers	386	430	.3	.3	44	11.5	107
11-9061	Funeral directors	24	26	.0	.0	2	6.6	9
11-9071	Gaming managers	6	7	.0	.0	1	12.4	2
11-9081	Lodging managers	69	73	.0	.0	5	6.6	16
11-9111	Medical and health services managers	244	315	.2	.2	71	29.3	119
11-9121	Natural sciences managers	45	51	.0	.0	5	11.3	14
11-9131	Postmasters and mail superintendents	25	25	.0	.0	0	-.5	5
11-9141	Property, real estate, and community association managers	293	330	.2	.2	37	12.8	92
11-9151	Social and community service managers	129	164	.1	.1	36	27.7	60
11-9199	All other managers	1,256	1,325	.9	.8	69	5.5	314
13-0000	Business and financial operations occupations	5,445	6,606	3.8	4.0	1,162	21.3	2,127
13-1000	Business operations specialists	3,177	3,910	2.2	2.4	733	23.1	1,295
13-1011	Agents and business managers of artists, performers, and athletes	15	19	.0	.0	4	27.8	7
13-1020	Buyers and purchasing agents	419	455	.3	.3	36	8.6	144
13-1021	Purchasing agents and buyers, farm products	19	21	.0	.0	2	10.2	8
13-1022	Wholesale and retail buyers, except farm products	155	162	.1	.1	7	4.3	47
13-1023	Purchasing agents, except wholesale, retail, and farm products	245	273	.2	.2	27	11.2	88
13-1030	Claims adjusters, appraisers, examiners, and investigators	241	275	.2	.2	34	14.0	64
13-1031	Claims adjusters, examiners, and investigators	227	260	.2	.2	32	14.2	60
13-1032	Insurance appraisers, auto damage	14	16	.0	.0	2	11.7	3
13-1041	Compliance officers, except agriculture, construction, health and safety, and transportation	158	173	.1	.1	15	9.8	52
13-1051	Cost estimators	188	223	.1	.1	35	18.6	77
13-1061	Emergency management specialists	11	14	.0	.0	3	28.2	6
13-1070	Human resources, training, and labor relations specialists[4]	474	606	.3	.4	131	27.7	204
13-1071	Employment, recruitment, and placement specialists	175	223	.1	.1	48	27.3	75
13-1072	Compensation, benefits, and job analysis specialists	91	116	.1	.1	25	28.0	39
13-1073	Training and development specialists	209	267	.1	.2	58	27.9	90
13-1111	Management analysts	577	753	.4	.5	176	30.4	255
13-1121	Meeting and convention planners	37	45	.0	.0	8	21.3	16
13-1198	All other business operations specialists[5]	1,056	1,346	.7	.8	290	27.5	470
13-2000	Financial specialists	2,268	2,696	1.6	1.6	429	18.9	832

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code	Title	Employment: Number 2002	Employment: Number 2012	Employment: Percent distribution 2002	Employment: Percent distribution 2012	Change: Number	Change: Percent	Total job openings due to growth and net replacements, 2002-12[1]
13-2011	Accountants and auditors	1,055	1,261	0.7	0.8	205	19.5	405
13-2021	Appraisers and assessors of real estate	88	104	.1	.1	16	17.6	34
13-2031	Budget analysts	62	71	.0	.0	9	14.0	19
13-2041	Credit analysts	66	78	.0	.0	12	18.7	23
13-2050	Financial analysts and advisors	400	486	.3	.3	86	21.5	146
13-2051	Financial analysts	172	204	.1	.1	32	18.7	58
13-2052	Personal financial advisors	126	170	.1	.1	44	34.6	60
13-2053	Insurance underwriters	102	112	.1	.1	10	10.0	28
13-2061	Financial examiners	25	27	.0	.0	2	8.9	8
13-2070	Loan counselors and officers	255	302	.2	.2	48	18.7	89
13-2071	Loan counselors	31	37	.0	.0	6	17.8	11
13-2072	Loan officers	223	266	.2	.2	42	18.8	78
13-2080	Tax examiners, collectors, preparers, and revenue agents	154	176	.1	.1	22	14.4	52
13-2081	Tax examiners, collectors, and revenue agents	75	79	.1	.0	4	5.0	21
13-2082	Tax preparers	79	98	.1	.1	18	23.2	32
13-2099	All other financial specialists	162	190	.1	.1	28	17.6	57
15-2900	Professional and related occupations	27,687	34,147	19.2	20.7	6,459	23.3	11,794
15-0000	Computer and mathematical science occupations	3,018	4,069	2.1	2.5	1,051	34.8	1,465
15-1000	Computer specialists	2,911	3,954	2.0	2.4	1,043	35.8	1,429
15-1011	Computer and information scientists, research	23	30	.0	.0	7	29.9	10
15-1021	Computer programmers	499	571	.3	.3	73	14.6	190
15-1030	Computer software engineers	675	982	.5	.6	307	45.5	374
15-1031	Computer software engineers, applications	394	573	.3	.3	179	45.5	218
15-1032	Computer software engineers, systems software	281	409	.2	.2	128	45.5	156
15-1041	Computer support specialists	507	660	.4	.4	153	30.3	216
15-1051	Computer systems analysts	468	653	.3	.4	184	39.4	237
15-1061	Database administrators	110	159	.1	.1	49	44.2	60
15-1071	Network and computer systems administrators	251	345	.2	.2	94	37.4	122
15-1081	Network systems and data communications analysts	186	292	.1	.2	106	57.0	128
15-1099	All other computer specialists	192	262	.1	.2	70	36.5	92
15-2000	Mathematical science occupations	107	115	.1	.1	8	7.4	36
15-2011	Actuaries	15	18	.0	.0	2	14.9	9
15-2021	Mathematicians	3	3	.0	.0	0	-1.0	1
15-2031	Operations research analysts	62	66	.0	.0	4	6.2	17
15-2041	Statisticians	20	21	.0	.0	1	4.8	6
15-2090	Miscellaneous mathematical science occupations	7	8	.0	.0	1	11.8	2
17-0000	Architecture and engineering occupations	2,587	2,809	1.8	1.7	222	8.6	802
17-1000	Architects, surveyors, and cartographers	204	233	.1	.1	29	14.1	67
17-1010	Architects, except naval	136	161	.1	.1	25	18.1	40
17-1011	Architects, except landscape and naval	113	133	.1	.1	20	17.3	32
17-1012	Landscape architects	23	28	.0	.0	5	22.2	8
17-1020	Surveyors, cartographers, and photogrammetrists	64	68	.0	.0	4	5.6	26
17-1021	Cartographers and photogrammetrists	9	10	.0	.0	1	15.1	4
17-1022	Surveyors	56	58	.0	.0	2	4.2	21
17-1099	All other architects, surveyors, and cartographers[2]	3	4	.0	.0	0	10.9	1
17-2000	Engineers	1,478	1,587	1.0	1.0	109	7.3	431
17-2011	Aerospace engineers	78	74	.1	.0	-4	-5.2	19
17-2021	Agricultural engineers	3	3	.0	.0	0	10.3	1
17-2031	Biomedical engineers	8	10	.0	.0	2	26.1	3
17-2041	Chemical engineers	33	33	.0	.0	0	.4	10
17-2051	Civil engineers	228	246	.2	.1	18	8.0	55
17-2061	Computer hardware engineers	74	78	.1	.0	5	6.1	17
17-2070	Electrical and electronics engineers	292	309	.2	.2	17	5.7	74
17-2071	Electrical engineers	156	160	.1	.1	4	2.5	34
17-2072	Electronics engineers, except computer	136	149	.1	.1	13	9.4	40
17-2081	Environmental engineers	47	65	.0	.0	18	38.2	26
17-2110	Industrial engineers, including health and safety	194	213	.1	.1	20	10.1	67
17-2111	Health and safety engineers, except mining safety engineers and inspectors	36	38	.0	.0	3	7.9	11
17-2112	Industrial engineers	158	175	.1	.1	17	10.6	55
17-2121	Marine engineers and naval architects	5	5	.0	.0	0	-5.0	2
17-2131	Materials engineers	24	25	.0	.0	1	4.1	7
17-2141	Mechanical engineers	215	225	.1	.1	10	4.8	69
17-2151	Mining and geological engineers, including mining safety engineers	5	5	.0	.0	0	-2.7	2

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution		Number	Percent	
		2002	2012	2002	2012			
17-2161	Nuclear engineers	16	16	0.0	0.0	0	-0.1	5
17-2171	Petroleum engineers	14	12	.0	.0	-1	-9.8	4
17-2199	All other engineers	243	267	.2	.2	24	9.7	70
17-3000	Drafters, engineering, and mapping technicians	905	990	.6	.6	85	9.4	304
17-3010	Drafters[4]	216	222	.2	.1	6	2.8	67
17-3011	Architectural and civil drafters	106	110	.1	.1	4	4.2	34
17-3012	Electrical and electronics drafters	38	38	.0	.0	0	.7	11
17-3013	Mechanical drafters	72	74	.1	.0	1	1.9	22
17-3020	Engineering technicians, except drafters[4]	478	526	.3	.3	48	10.1	148
17-3021	Aerospace engineering and operations technicians	15	15	.0	.0	0	1.5	3
17-3022	Civil engineering technicians	92	99	.1	.1	7	7.6	26
17-3023	Electrical and electronic engineering technicians	204	224	.1	.1	20	10.0	63
17-3024	Electro-mechanical technicians	31	35	.0	.0	4	11.5	10
17-3025	Environmental engineering technicians	19	24	.0	.0	5	28.4	9
17-3026	Industrial engineering technicians	62	67	.0	.0	5	8.7	18
17-3027	Mechanical engineering technicians	55	61	.0	.0	6	11.0	18
17-3031	Surveying and mapping technicians	60	74	.0	.0	14	23.1	36
17-3099	All other drafters, engineering, and mapping technicians[2]	150	167	.1	.1	17	11.3	53
19-0000	Life, physical, and social science occupations	1,237	1,450	.9	.9	212	17.2	511
19-1000	Life scientists	214	253	.1	.2	39	18.2	91
19-1010	Agricultural and food scientists	18	20	.0	.0	2	9.1	5
19-1020	Biological scientists	75	90	.1	.1	14	19.0	38
19-1021	Biochemists and biophysicists	17	21	.0	.0	4	22.9	9
19-1022	Microbiologists	16	20	.0	.0	3	20.0	8
19-1023	Zoologists and wildlife biologists	15	16	.0	.0	1	7.7	6
19-1029	Biological scientists, all other	27	33	.0	.0	6	22.3	15
19-1030	Conservation scientists and foresters	33	34	.0	.0	1	4.4	11
19-1031	Conservation scientists	19	20	.0	.0	1	4.1	6
19-1032	Foresters	14	14	.0	.0	1	4.7	5
19-1040	Medical scientists	62	79	.0	.0	17	27.3	28
19-1041	Epidemiologists	4	5	.0	.0	1	32.5	2
19-1042	Medical scientists, except epidemiologists	58	73	.0	.0	16	26.9	26
19-1099	All other life scientists	26	31	.0	.0	5	18.3	9
19-2000	Physical scientists	251	287	.2	.2	36	14.4	100
19-2010	Astronomers and physicists	14	15	.0	.0	1	6.8	6
19-2011	Astronomers	1	1	.0	.0	0	4.9	0
19-2012	Physicists	13	14	.0	.0	1	6.9	5
19-2021	Atmospheric and space scientists	8	9	.0	.0	1	16.2	4
19-2030	Chemists and materials scientists	91	103	.1	.1	11	12.4	41
19-2031	Chemists	84	95	.1	.1	11	12.7	38
19-2032	Materials scientists	7	8	.0	.0	1	8.5	3
19-2040	Environmental scientists and geoscientists	101	121	.1	.1	20	20.1	38
19-2041	Environmental scientists and specialists, including health	65	80	.0	.0	15	23.7	27
19-2042	Geoscientists, except hydrologists and geographers	28	31	.0	.0	3	11.5	8
19-2043	Hydrologists	8	10	.0	.0	2	21.0	3
19-2099	All other physical scientists	37	39	.0	.0	2	6.5	11
19-3000	Social scientists and related occupations	426	512	.3	.3	86	20.1	190
19-3011	Economists	16	18	.0	.0	2	13.4	7
19-3020	Market and survey researchers	155	193	.1	.1	38	24.7	78
19-3021	Market research analysts	134	166	.1	.1	31	23.4	66
19-3022	Survey researchers	20	27	.0	.0	7	33.6	12
19-3030	Psychologists[4]	139	173	.1	.1	34	24.3	64
19-3031	Clinical, counseling, and school psychologists	137	171	.1	.1	34	24.4	63
19-3032	Industrial-organizational psychologists	2	2	.0	.0	0	16.0	1
19-3041	Sociologists	3	3	.0	.0	0	13.4	1
19-3051	Urban and regional planners	32	36	.0	.0	3	10.7	14
19-3090	Miscellaneous social scientists and related workers[3]	14	15	.0	.0	1	9.2	4
19-3091	Anthropologists and archeologists	5	5	.0	.0	1	12.8	2
19-3092	Geographers	1	1	.0	.0	0	19.5	0
19-3093	Historians	2	2	.0	.0	0	6.6	1
19-3094	Political scientists	6	6	.0	.0	0	5.9	2
19-3098	All other social scientists and related workers[5]	68	74	.0	.0	7	9.7	21
19-4000	Life, physical, and social science technicians	346	397	.2	.2	51	14.8	130
19-4011	Agricultural and food science technicians	20	22	.0	.0	2	9.3	6
19-4021	Biological technicians	48	57	.0	.0	9	19.4	17
19-4031	Chemical technicians	69	72	.0	.0	3	4.7	20

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

Code	2000 standard occupation classification code and title	Employment: Number 2002	Employment: Number 2012	Employment: Percent distribution 2002	Employment: Percent distribution 2012	Change: Number	Change: Percent	Total job openings due to growth and net replacements, 2002-12[1]
19-4041	Geological and petroleum technicians	11	11	0.0	0.0	0	1.3	3
19-4051	Nuclear technicians	6	6	.0	.0	0	1.5	2
19-4090	Other life, physical, and social science technicians[3]	55	67	.0	.0	12	22.8	25
19-4091	Environmental science and protection technicians, including health	28	38	.0	.0	10	36.8	17
19-4092	Forensic science technicians	8	10	.0	.0	2	18.9	4
19-4093	Forest and conservation technicians	19	20	.0	.0	1	4.0	5
19-4098	All other life, physical, and social science technicians[5]	137	161	.1	.1	24	17.5	56
21-0000	Community and social services occupations	2,190	2,764	1.5	1.7	574	26.2	992
21-1000	Counselors, social workers, and other community and social service specialists[4]	1,436	1,853	1.0	1.1	417	29.0	695
21-1010	Counselors[4]	526	645	.4	.4	119	22.6	239
21-1011	Substance abuse and behavioral disorder counselors	67	83	.0	.1	16	23.3	31
21-1012	Educational, vocational, and school counselors	228	262	.2	.2	34	15.0	86
21-1013	Marriage and family therapists	23	29	.0	.0	5	22.4	11
21-1014	Mental health counselors	85	107	.1	.1	23	26.7	42
21-1015	Rehabilitation counselors	122	164	.1	.1	41	33.8	69
21-1020	Social workers[4]	477	604	.3	.4	127	26.7	209
21-1021	Child, family, and school social workers	274	338	.2	.2	64	23.2	111
21-1022	Medical and public health social workers	107	138	.1	.1	31	28.6	49
21-1023	Mental health and substance abuse social workers	95	128	.1	.1	33	34.5	49
21-1090	Miscellaneous community and social service specialists[4]	434	605	.3	.4	171	39.4	247
21-1091	Health educators	45	54	.0	.0	10	21.9	18
21-1092	Probation officers and correctional treatment specialists	84	97	.1	.1	12	14.7	27
21-1093	Social and human service assistants	305	454	.2	.3	149	48.7	202
21-2000	Religious workers[4]	506	593	.4	.4	87	17.3	181
21-2011	Clergy	400	463	.3	.3	62	15.5	144
21-2021	Directors, religious activities and education	105	131	.1	.1	25	24.1	37
21-9099	All other counselors, social, and religious workers[2]	248	318	.2	.2	70	28.3	116
23-0000	Legal occupations	1,168	1,357	.8	.8	190	16.2	327
23-1000	Lawyers, judges, and related workers	747	869	.5	.5	122	16.4	218
23-1011	Lawyers	695	813	.5	.5	118	17.0	207
23-1020	Judges, magistrates, and other judicial workers	51	56	.0	.0	4	8.3	11
23-1021	Administrative law judges, adjudicators, and hearing officers	19	20	.0	.0	1	5.8	3
23-1022	Arbitrators, mediators, and conciliators	6	7	.0	.0	1	13.7	2
23-1023	Judges, magistrate judges, and magistrates	27	29	.0	.0	2	8.7	6
23-2000	Legal support workers	320	380	.2	.2	60	18.7	91
23-2011	Paralegals and legal assistants	200	257	.1	.2	57	28.7	73
23-2090	Miscellaneous legal support workers[4]	121	123	.1	.1	3	2.1	17
23-2091	Court reporters	18	20	.0	.0	2	12.7	4
23-2092	Law clerks	48	50	.0	.0	2	3.7	7
23-2093	Title examiners, abstractors, and searchers	55	53	.0	.0	-1	-2.7	6
23-9099	All other legal and related workers[2]	101	109	.1	.1	8	7.6	19
25-0000	Education, training, and library occupations	8,530	10,639	5.9	6.4	2,109	24.7	3,890
25-1000	Postsecondary teachers	1,581	2,184	1.1	1.3	603	38.1	960
25-2000	Primary, secondary, and special education teachers	4,187	4,983	2.9	3.0	795	19.0	1,733
25-2010	Preschool and kindergarten teachers	592	791	.4	.5	199	33.6	270
25-2011	Preschool teachers, except special education	424	577	.3	.3	153	36.2	204
25-2012	Kindergarten teachers, except special education	168	214	.1	.1	46	27.2	66
25-2020	Elementary and middle school teachers	2,070	2,347	1.4	1.4	277	13.4	734
25-2021	Elementary school teachers, except special education	1,467	1,690	1.0	1.0	223	15.2	547
25-2022	Middle school teachers, except special and vocational education	585	637	.4	.4	52	9.0	182
25-2023	Vocational education teachers, middle school	18	19	.0	.0	2	9.0	5
25-2030	Secondary school teachers	1,093	1,282	.8	.8	189	17.3	497
25-2031	Secondary school teachers, except special and vocational education	988	1,167	.7	.7	180	18.2	458
25-2032	Vocational education teachers, secondary school	105	115	.1	.1	10	9.0	39
25-2040	Special education teachers	433	563	.3	.3	130	30.0	233
25-3000	Other teachers and instructors	960	1,285	.7	.8	325	33.9	444
25-3011	Adult literacy, remedial education, and GED teachers and instructors	80	96	.1	.1	16	20.4	26
25-3021	Self-enrichment education teachers	200	281	.1	.2	80	40.1	105
25-3999	All other teachers, primary, secondary, and adult[2]	679	908	.5	.5	229	33.7	312
25-4000	Librarians, curators, and archivists	309	349	.2	.2	41	13.2	129
25-4010	Archivists, curators, and museum technicians	22	26	.0	.0	4	17.0	9
25-4021	Librarians	167	184	.1	.1	17	10.1	57
25-4031	Library technicians	119	139	.1	.1	20	16.8	64

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

Code	2000 standard occupation classification code and title	Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution		Number	Percent	
		2002	2012	2002	2012			
25-9000	Other education, training, and library occupations	1,493	1,838	1.0	1.1	345	23.1	624
25-9011	Audio-visual collections specialists	10	11	.0	.0	2	16.3	3
25-9021	Farm and home management advisors	16	17	.0	.0	1	6.9	3
25-9031	Instructional coordinators	98	123	.1	.1	25	25.4	40
25-9041	Teacher assistants	1,277	1,571	.9	1.0	294	23.0	541
25-9199	All other library, museum, training, and other education workers[2]	93	116	.1	.1	23	24.6	37
27-0000	Arts, design, entertainment, sports, and media occupations	2,377	2,769	1.7	1.7	393	16.5	847
27-1000	Art and design occupations	775	900	.5	.5	125	16.1	245
27-1010	Artists and related workers	149	170	.1	.1	21	14.4	54
27-1011	Art directors	51	56	.0	.0	6	11.4	17
27-1013	Fine artists, including painters, sculptors, and illustrators	23	27	.0	.0	4	16.5	9
27-1014	Multi-media artists and animators	75	87	.1	.1	12	15.8	28
27-1020	Designers	532	625	.4	.4	93	17.4	164
27-1021	Commercial and industrial designers	52	59	.0	.0	8	14.7	15
27-1022	Fashion designers	15	16	.0	.0	2	10.6	4
27-1023	Floral designers	104	117	.1	.1	13	12.4	27
27-1024	Graphic designers	212	258	.1	.2	46	21.9	75
27-1025	Interior designers	60	73	.0	.0	13	21.7	21
27-1026	Merchandise displayers and window trimmers	77	86	.1	.1	9	11.3	19
27-1027	Set and exhibit designers	12	15	.0	.0	3	20.9	4
27-1099	All other art and design workers[5]	95	106	.1	.1	11	11.5	28
27-2000	Entertainers and performers, sports and related occupations	606	709	.4	.4	103	17.0	228
27-2010	Actors, producers, and directors	139	164	.1	.1	25	18.0	44
27-2011	Actors	63	74	.0	.0	11	17.7	19
27-2012	Producers and directors	76	90	.1	.1	14	18.3	25
27-2020	Athletes, coaches, umpires, and related workers	158	187	.1	.1	29	18.3	59
27-2021	Athletes and sports competitors	15	18	.0	.0	3	19.2	6
27-2022	Coaches and scouts	130	153	.1	.1	24	18.3	49
27-2023	Umpires, referees, and other sports officials	14	16	.0	.0	2	16.9	5
27-2030	Dancers and choreographers	37	42	.0	.0	5	13.3	28
27-2031	Dancers	20	22	.0	.0	2	11.1	15
27-2032	Choreographers	17	20	.0	.0	3	15.8	13
27-2040	Musicians, singers, and related workers	215	250	.1	.2	35	16.2	80
27-2041	Music directors and composers	54	62	.0	.0	7	13.5	19
27-2042	Musicians and singers	161	189	.1	.1	27	17.1	61
27-2099	All other entertainers and performers, sports and related workers	56	65	.0	.0	9	16.4	16
27-3000	Media and communication occupations	700	815	.5	.5	115	16.4	260
27-3010	Announcers	76	68	.1	.0	-8	-10.1	19
27-3020	News analysts, reporters and correspondents	66	70	.0	.0	4	6.2	20
27-3031	Public relations specialists	158	210	.1	.1	52	32.9	75
27-3040	Writers and editors	319	370	.2	.2	51	16.0	121
27-3041	Editors	130	145	.1	.1	15	11.8	47
27-3042	Technical writers	50	63	.0	.0	13	27.1	28
27-3043	Writers and authors	139	161	.1	.1	22	16.1	46
27-3090	Miscellaneous media and communications workers	82	97	.1	.1	15	18.6	25
27-3091	Interpreters and translators	24	29	.0	.0	5	22.1	8
27-3099	All other media and communication workers	58	68	.0	.0	10	17.2	17
27-4000	Media and communication equipment occupations	295	345	.2	.2	50	16.9	115
27-4010	Broadcast and sound engineering technicians and radio operators	93	111	.1	.1	18	19.6	41
27-4011	Audio and video equipment technicians	42	53	.0	.0	11	26.7	21
27-4012	Broadcast technicians	35	39	.0	.0	4	11.3	13
27-4013	Radio operators	3	3	.0	.0	0	-6.2	1
27-4014	Sound engineering technicians	13	16	.0	.0	3	25.5	6
27-4021	Photographers	130	148	.1	.1	18	13.6	44
27-4030	Television, video, and motion picture camera operators and editors	48	56	.0	.0	9	18.7	19
27-4031	Camera operators, television, video, and motion picture	28	32	.0	.0	4	13.4	10
27-4032	Film and video editors	19	25	.0	.0	5	26.4	9
27-4099	All other media and communication equipment workers	24	29	.0	.0	5	20.1	10
29-0000	Healthcare practitioners and technical occupations	6,580	8,288	4.6	5.0	1,708	26.0	2,959
29-1000	Health diagnosing and treating practitioners	4,071	5,125	2.8	3.1	1,054	25.9	1,849
29-1011	Chiropractors	49	60	.0	.0	11	23.3	21
29-1020	Dentists	153	159	.1	.1	6	4.1	32
29-1031	Dietitians and nutritionists	49	58	.0	.0	9	17.8	21
29-1041	Optometrists	32	38	.0	.0	5	17.1	14
29-1051	Pharmacists	230	299	.2	.2	69	30.1	114

Table 2. Continued—Employment and occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution				
		2002	2012	2002	2012	Number	Percent	
29-1060	Physicians and surgeons	583	697	0.4	0.4	114	19.5	191
29-1071	Physician assistants	63	94	.0	.1	31	48.9	40
29-1081	Podiatrists	13	15	.0	.0	2	15.0	5
29-1111	Registered nurses	2,284	2,908	1.6	1.8	623	27.3	1,101
29-1120	Therapists[4]	450	592	.3	.4	142	31.7	231
29-1121	Audiologists	11	14	.0	.0	3	29.0	6
29-1122	Occupational therapists	82	110	.1	.1	29	35.2	40
29-1123	Physical therapists	137	185	.1	.1	48	35.3	62
29-1124	Radiation therapists	14	18	.0	.0	4	31.6	7
29-1125	Recreational therapists	27	29	.0	.0	2	9.1	9
29-1126	Respiratory therapists	86	116	.1	.1	30	34.8	58
29-1127	Speech-language pathologists	94	120	.1	.1	26	27.2	49
29-1131	Veterinarians	58	72	.0	.0	14	25.1	28
29-1198	All other health diagnosing and treating practitioners[5]	107	134	.1	.1	26	24.5	50
29-2000	Health technologists and technicians[4]	2,263	2,857	1.6	1.7	593	26.2	1,002
29-2010	Clinical laboratory technologists and technicians	297	355	.2	.2	58	19.4	138
29-2011	Medical and clinical laboratory technologists	150	179	.1	.1	29	19.3	69
29-2012	Medical and clinical laboratory technicians	147	176	.1	.1	29	19.4	68
29-2021	Dental hygienists	148	212	.1	.1	64	43.1	76
29-2030	Diagnostic related technologists and technicians	271	338	.2	.2	67	24.8	118
29-2031	Cardiovascular technologists and technicians	43	58	.0	.0	15	33.5	23
29-2032	Diagnostic medical sonographers	37	45	.0	.0	9	24.0	16
29-2033	Nuclear medicine technologists	17	21	.0	.0	4	23.6	7
29-2034	Radiologic technologists and technicians	174	214	.1	.1	40	22.9	72
29-2041	Emergency medical technicians and paramedics	179	238	.1	.1	59	33.1	80
29-2050	Health diagnosing and treating practitioner support technicians	451	574	.3	.3	123	27.2	181
29-2051	Dietetic technicians	29	35	.0	.0	6	20.2	10
29-2052	Pharmacy technicians	211	271	.1	.2	61	28.8	88
29-2053	Psychiatric technicians	60	63	.0	.0	4	5.9	11
29-2054	Respiratory therapy technicians	26	35	.0	.0	9	34.2	12
29-2055	Surgical technologists	72	92	.1	.1	20	27.9	30
29-2056	Veterinary technologists and technicians	53	76	.0	.0	23	44.1	30
29-2061	Licensed practical and licensed vocational nurses	702	844	.5	.5	142	20.2	295
29-2071	Medical records and health information technicians	147	216	.1	.1	69	46.8	90
29-2081	Opticians, dispensing	63	75	.0	.0	11	18.2	23
29-2090	Miscelaneous health technologists and technicians[4]	5	6	.0	.0	1	18.9	2
29-2091	Orthotists and prosthetists	5	6	.0	.0	1	18.9	2
29-9000	Other healthcare practitioners and technical occupations[4]	56	65	.0	.0	10	17.4	22
29-9010	Occupational health and safety specialists and technicians	41	47	.0	.0	5	13.2	14
29-9090	Miscelaneous health practitioners and technical workers[4]	14	19	.0	.0	4	29.9	7
29-9091	Athletic trainers	14	19	.0	.0	4	29.9	7
29-9199	All other health practitioners and technical workers[5]	190	241	.1	.1	52	27.2	86
31-3900	Service occupations	26,569	31,905	18.4	19.3	5,336	20.1	12,962
31-0000	Healthcare support occupations	3,310	4,452	2.3	2.7	1,143	34.5	1,669
31-1000	Nursing, psychiatric, and home health aides	2,014	2,645	1.4	1.6	630	31.3	894
31-1011	Home health aides	580	859	.4	.5	279	48.1	355
31-1012	Nursing aides, orderlies, and attendants	1,375	1,718	1.0	1.0	343	24.9	523
31-1013	Psychiatric aides	59	68	.0	.0	9	14.5	16
31-2000	Occupational and physical therapist assistants and aides	114	164	.1	.1	50	44.2	68
31-2010	Occupational therapist assistants and aides	27	38	.0	.0	11	40.2	14
31-2011	Occupational therapist assistants	18	26	.0	.0	7	39.2	10
31-2012	Occupational therapist aides	8	12	.0	.0	4	42.6	5
31-2020	Physical therapist assistants and aides	87	127	.1	.1	40	45.4	54
31-2021	Physical therapist assistants	50	73	.0	.0	22	44.6	31
31-2022	Physical therapist aides	37	54	.0	.0	17	46.4	23
31-9000	Other healthcare support occupations	1,182	1,644	.8	1.0	462	39.1	706
31-9011	Massage therapists	92	117	.1	.1	25	27.1	43
31-9090	Miscellaneous healthcare support occupations	1,090	1,527	.8	.9	437	40.1	664
31-9091	Dental assistants	266	379	.2	.2	113	42.5	187
31-9092	Medical assistants	365	579	.3	.4	215	58.9	282
31-9093	Medical equipment preparers	36	43	.0	.0	7	18.1	13
31-9094	Medical transcriptionists	101	124	.1	.1	23	22.6	41
31-9095	Pharmacy aides	60	71	.0	.0	11	17.6	22
31-9096	Veterinary assistants and laboratory animal caretakers	63	79	.0	.0	16	26.2	28
31-9099	All other healthcare support workers	198	251	.1	.2	53	26.6	89

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution				
		2002	2012	2002	2012	Number	Percent	
33-0000	Protective service occupations	3,116	3,885	2.2	2.4	769	24.7	1,649
33-1000	First-line supervisors/managers, protective service workers	266	315	.2	.2	49	18.3	136
33-1010	First-line supervisors/managers, law enforcement workers	147	171	.1	.1	24	16.1	71
33-1011	First-line supervisors/managers of correctional officers	33	40	.0	.0	6	19.0	16
33-1012	First-line supervisors/managers of police and detectives	114	131	.1	.1	17	15.3	55
33-1021	First-line supervisors/managers of fire fighting and prevention workers	63	74	.0	.0	12	18.7	37
33-1099	All other first-line supervisors/managers, protective service workers	56	70	.0	.0	13	23.9	28
33-2000	Fire fighting and prevention workers	296	356	.2	.2	60	20.3	146
33-2011	Fire fighters	282	340	.2	.2	58	20.7	140
33-2020	Fire inspectors	14	16	.0	.0	2	11.6	6
33-3000	Law enforcement workers	1,179	1,460	.8	.9	281	23.9	563
33-3010	Bailiffs, correctional officers, and jailers	442	547	.3	.3	105	23.7	197
33-3011	Bailiffs	15	16	.0	.0	1	9.5	5
33-3012	Correctional officers and jailers	427	531	.3	.3	103	24.2	192
33-3021	Detectives and criminal investigators	94	115	.1	.1	21	22.4	46
33-3031	Fish and game wardens	8	8	.0	.0	1	7.1	2
33-3041	Parking enforcement workers	11	12	.0	.0	1	11.5	3
33-3050	Police officers	625	779	.4	.5	154	24.6	315
33-3051	Police and sheriff's patrol officers	619	772	.4	.5	153	24.7	313
33-3052	Transit and railroad police	6	7	.0	.0	1	15.9	2
33-9000	Other protective service workers	1,374	1,753	1.0	1.1	379	27.6	804
33-9011	Animal control workers	11	12	.0	.0	1	12.6	9
33-9021	Private detectives and investigators	48	60	.0	.0	12	25.3	22
33-9030	Security guards and gaming surveillance officers	1,004	1,324	.7	.8	319	31.8	538
33-9031	Gaming surveillance officers and gaming investigators	9	11	.0	.0	2	24.6	4
33-9032	Security guards	995	1,313	.7	.8	317	31.9	534
33-9091	Crossing guards	74	86	.1	.1	12	16.5	36
33-9095	All other protective service workers[5]	237	271	.2	.2	34	14.3	199
35-0000	Food preparation and serving related occupations	10,200	11,807	7.1	7.1	1,607	15.8	5,659
35-1000	Supervisors, food preparation and serving workers	824	952	.6	.6	128	15.6	332
35-1011	Chefs and head cooks	132	153	.1	.1	21	15.8	60
35-1012	First-line supervisors/managers of food preparation and serving workers	692	800	.5	.5	107	15.5	272
35-2000	Cooks and food preparation workers[4]	2,836	3,182	2.0	1.9	346	12.2	1,262
35-2010	Cooks[4]	1,986	2,160	1.4	1.3	174	8.8	789
35-2011	Cooks, fast food	588	617	.4	.4	29	4.9	211
35-2012	Cooks, institution and cafeteria	436	445	.3	.3	9	2.1	144
35-2013	Cooks, private household	8	8	.0	.0	0	-5.4	3
35-2014	Cooks, restaurant	727	843	.5	.5	116	15.9	341
35-2015	Cooks, short order	227	247	.2	.1	20	9.0	91
35-2021	Food preparation workers	850	1,022	.6	.6	172	20.2	473
35-3000	Food and beverage serving workers	5,211	6,171	3.6	3.7	960	18.4	3,454
35-3011	Bartenders	463	503	.3	.3	40	8.6	223
35-3020	Fast food and counter workers	2,457	2,989	1.7	1.8	532	21.7	1,699
35-3021	Combined food preparation and serving workers, including fast food	1,990	2,444	1.4	1.5	454	22.8	1,317
35-3022	Counter attendants, cafeteria, food concession, and coffee shop	467	545	.3	.3	78	16.7	383
35-3031	Waiters and waitresses	2,097	2,464	1.5	1.5	367	17.5	1,446
35-3041	Food servers, nonrestaurant	195	215	.1	.1	20	10.4	85
35-9000	Other food preparation and serving related workers[4]	1,328	1,502	.9	.9	173	13.0	611
35-9011	Dining room and cafeteria attendants and bartender helpers	409	470	.3	.3	61	14.9	198
35-9021	Dishwashers	505	551	.4	.3	46	9.0	216
35-9031	Hosts and hostesses, restaurant, lounge, and coffee shop	298	347	.2	.2	49	16.4	143
35-9098	All other food preparation and serving related workers[5]	117	134	.1	.1	18	15.2	54
37-0000	Building and grounds cleaning and maintenance occupations	5,485	6,386	3.8	3.9	901	16.4	2,000
37-1000	Supervisors, building and grounds cleaning and maintenance workers	380	449	.3	.3	70	18.4	138
37-1011	First-line supervisors/managers of housekeeping and janitorial workers	230	267	.2	.2	37	16.2	92
37-1012	First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers	150	182	.1	.1	32	21.6	46
37-2000	Building cleaning and pest control workers	3,820	4,381	2.7	2.7	561	14.7	1,314
37-2010	Building cleaning workers[4]	3,759	4,309	2.6	2.6	550	14.6	1,294
37-2011	Janitors and cleaners, except maids and housekeeping cleaners	2,267	2,681	1.6	1.6	414	18.3	844
37-2012	Maids and housekeeping cleaners	1,492	1,629	1.0	1.0	137	9.2	450
37-2021	Pest control workers	62	72	.0	.0	10	17.0	20
37-3000	Grounds maintenance workers	1,285	1,555	.9	.9	270	21.0	548
37-3010	Grounds maintenance workers[4]	1,160	1,410	.8	.9	250	21.5	503

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution				
		2002	2012	2002	2012	Number	Percent	
37-3011	Landscaping and groundskeeping workers	1,074	1,311	0.7	0.8	237	22.0	470
37-3012	Pesticide handlers, sprayers, and applicators, vegetation	27	30	.0	.0	3	9.7	9
37-3013	Tree trimmers and pruners	59	69	.0	.0	11	18.6	24
37-9099	All other building and grounds cleaning and maintenance workers[5]	125	145	.1	.1	20	16.1	46
39-0000	Personal care and service occupations	4,458	5,375	3.1	3.3	917	20.6	1,985
39-1000	Supervisors, personal care and service workers	276	305	.2	.2	29	10.7	96
39-1010	First-line supervisors/managers of gaming workers	60	69	.0	.0	9	15.4	22
39-1011	Gaming supervisors	39	45	.0	.0	6	15.7	14
39-1012	Slot key persons	21	24	.0	.0	3	14.8	8
39-1021	First-line supervisors/managers of personal service workers	216	236	.1	.1	20	9.4	74
39-2000	Animal care and service workers	151	183	.1	.1	32	20.8	68
39-2011	Animal trainers	26	30	.0	.0	4	14.3	9
39-2021	Nonfarm animal caretakers	125	153	.1	.1	28	22.2	59
39-3000	Entertainment attendants and related workers	507	626	.4	.4	119	23.6	300
39-3010	Gaming services workers[4]	92	115	.1	.1	23	24.7	52
39-3011	Gaming dealers	78	97	.1	.1	19	24.7	44
39-3012	Gaming and sports book writers and runners	14	18	.0	.0	3	24.4	8
39-3021	Motion picture projectionists	9	9	.0	.0	0	.4	5
39-3031	Ushers, lobby attendants, and ticket takers	105	121	.1	.1	16	15.5	76
39-3090	Miscellaneous entertainment attendants and related workers[4]	261	333	.2	.2	72	27.6	147
39-3091	Amusement and recreation attendants	234	299	.2	.2	65	27.8	132
39-3092	Costume attendants	4	5	.0	.0	1	25.1	2
39-3093	Locker room, coatroom, and dressing room attendants	23	29	.0	.0	6	26.5	13
39-3199	All other gaming service workers[2]	40	49	.0	.0	9	21.3	21
39-4000	Funeral service workers	33	38	.0	.0	5	16.7	12
39-4011	Embalmers	7	7	.0	.0	1	8.3	2
39-4021	Funeral attendants	26	31	.0	.0	5	18.9	10
39-5000	Personal appearance workers	754	865	.5	.5	111	14.7	262
39-5010	Barbers and cosmetologists	651	741	.5	.4	90	13.8	221
39-5011	Barbers	66	70	.0	.0	4	6.5	23
39-5012	Hairdressers, hairstylists, and cosmetologists	585	671	.4	.4	86	14.7	199
39-5090	Miscellaneous personal appearance workers	103	124	.1	.1	21	20.3	41
39-5091	Makeup artists, theatrical and performance	2	2	.0	.0	0	18.2	1
39-5092	Manicurists and pedicurists	51	63	.0	.0	12	22.7	21
39-5093	Shampooers	25	29	.0	.0	4	16.6	9
39-5094	Skin care specialists	25	30	.0	.0	5	19.4	10
39-6000	Transportation, tourism, and lodging attendants	248	284	.2	.2	36	14.7	84
39-6010	Baggage porters, bellhops, and concierges	75	86	.1	.1	11	14.6	31
39-6011	Baggage porters and bellhops	58	67	.0	.0	8	14.4	24
39-6012	Concierges	17	20	.0	.0	3	15.3	7
39-6020	Tour and travel guides	43	47	.0	.0	4	9.3	15
39-6021	Tour guides and escorts	36	40	.0	.0	4	11.0	14
39-6022	Travel guides	6	6	.0	.0	0	-.3	2
39-6030	Transportation attendants	130	152	.1	.1	22	16.5	38
39-6031	Flight attendants	104	121	.1	.1	17	15.9	30
39-6032	Transportation attendants, except flight attendants and baggage porters	26	31	.0	.0	5	18.9	8
39-9000	Other personal care and service workers	2,490	3,073	1.7	1.9	583	23.4	1,161
39-9011	Child care workers	1,211	1,353	.8	.8	142	11.7	471
39-9021	Personal and home care aides	608	854	.4	.5	246	40.5	343
39-9030	Recreation and fitness workers	485	628	.3	.4	143	29.5	254
39-9031	Fitness trainers and aerobics instructors	183	264	.1	.2	81	44.5	123
39-9032	Recreation workers	302	364	.2	.2	62	20.5	131
39-9041	Residential advisors	53	71	.0	.0	18	33.6	29
39-9099	Personal care and service workers, all other	134	168	.1	.1	35	25.9	63
41-0000	Sales and related occupations	15,260	17,231	10.6	10.4	1,971	12.9	6,904
41-1000	Supervisors, sales workers	2,395	2,599	1.7	1.6	204	8.5	640
41-1011	First-line supervisors/managers of retail sales workers	1,798	1,962	1.2	1.2	163	9.1	486
41-1012	First-line supervisors/managers of non-retail sales workers	597	637	.4	.4	41	6.8	153
41-2000	Retail sales workers	8,224	9,392	5.7	5.7	1,167	14.2	4,578
41-2010	Cashiers	3,465	3,927	2.4	2.4	462	13.3	2,148
41-2011	Cashiers, except gaming	3,432	3,886	2.4	2.4	454	13.2	2,124
41-2012	Gaming change persons and booth cashiers	33	41	.0	.0	8	24.1	24
41-2020	Counter and rental clerks and parts salespersons	683	793	.5	.5	109	16.0	352
41-2021	Counter and rental clerks	436	550	.3	.3	114	26.3	281

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code	2000 standard occupation classification title	Employment: Number, 2002	Employment: Number, 2012	Employment: Percent distribution, 2002	Employment: Percent distribution, 2012	Change: Number	Change: Percent	Total job openings due to growth and net replacements, 2002-12[1]
41-2022	Parts salespersons	248	243	0.2	0.1	-5	-2.0	71
41-2031	Retail salespersons	4,076	4,672	2.8	2.8	596	14.6	2,077
41-3000	Sales representatives, services[4]	957	1,033	.7	.6	76	7.9	274
41-3011	Advertising sales agents	157	178	.1	.1	21	13.4	52
41-3021	Insurance sales agents	381	413	.3	.3	32	8.4	123
41-3031	Securities, commodities, and financial services sales agents	300	339	.2	.2	39	13.0	73
41-3041	Travel agents	118	102	.1	.1	-16	-13.8	27
41-4000	Sales representatives, wholesale and manufacturing	1,857	2,213	1.3	1.3	356	19.2	844
41-4011	Sales representatives, wholesale and manufacturing, technical and scientific products	398	475	.3	.3	77	19.3	182
41-4012	Sales representatives, wholesale and manufacturing, except technical and scientific products	1,459	1,738	1.0	1.1	279	19.1	662
41-9000	Other sales and related workers	1,827	1,994	1.3	1.2	167	9.2	568
41-9010	Models, demonstrators, and product promoters	179	210	.1	.1	30	16.9	70
41-9011	Demonstrators and product promoters	175	204	.1	.1	30	17.0	68
41-9012	Models	5	5	.0	.0	1	14.5	2
41-9020	Real estate brokers and sales agents	407	427	.3	.3	20	4.9	101
41-9021	Real estate brokers	99	101	.1	.1	2	2.4	22
41-9022	Real estate sales agents	308	325	.2	.2	18	5.7	79
41-9031	Sales engineers	82	98	.1	.1	16	19.9	41
41-9041	Telemarketers	428	406	.3	.2	-21	-4.9	70
41-9091	Door-to-door sales workers, news and street vendors, and related workers	155	137	.1	.1	-18	-11.8	37
41-9098	All other sales and related workers[5]	577	717	.4	.4	140	24.3	250
43-0000	Office and administrative support occupations	23,851	25,464	16.6	15.4	1,613	6.8	7,499
43-1000	Supervisors, office and administrative support workers	1,459	1,555	1.0	.9	96	6.6	409
43-1011	First-line supervisors/managers of office and administrative support workers	1,459	1,555	1.0	.9	96	6.6	409
43-2000	Communications equipment operators	304	272	.2	.2	-32	-10.5	78
43-2011	Switchboard operators, including answering service	236	236	.2	.1	1	.3	61
43-2021	Telephone operators	50	22	.0	.0	-28	-56.3	13
43-2099	All other communications equipment operators	19	14	.0	.0	-5	-24.6	4
43-3000	Financial clerks	3,726	3,987	2.6	2.4	261	7.0	1,143
43-3011	Bill and account collectors	413	514	.3	.3	101	24.5	179
43-3021	Billing and posting clerks and machine operators	507	547	.4	.3	40	7.9	126
43-3031	Bookkeeping, accounting, and auditing clerks	1,983	2,042	1.4	1.2	59	3.0	431
43-3041	Gaming cage workers	18	21	.0	.0	3	14.5	12
43-3051	Payroll and timekeeping clerks	198	211	.1	.1	13	6.5	65
43-3061	Procurement clerks	77	72	.1	.0	-5	-6.7	20
43-3071	Tellers	530	580	.4	.4	50	9.4	311
43-4000	Information and record clerks[4]	5,394	6,310	3.7	3.8	916	17.0	2,134
43-4011	Brokerage clerks	78	67	.1	.0	-11	-14.7	10
43-4021	Correspondence clerks	33	33	.0	.0	0	-1.4	10
43-4031	Court, municipal, and license clerks	106	119	.1	.1	13	12.3	36
43-4041	Credit authorizers, checkers, and clerks	80	74	.1	.0	-5	-6.7	15
43-4051	Customer service representatives	1,894	2,354	1.3	1.4	460	24.3	741
43-4061	Eligibility interviewers, government programs	94	83	.1	.1	-11	-11.6	25
43-4071	File clerks	265	264	.2	.2	-1	-.3	78
43-4081	Hotel, motel, and resort desk clerks	178	220	.1	.1	42	23.9	122
43-4111	Interviewers, except eligibility and loan	193	247	.1	.1	54	28.0	104
43-4121	Library assistants, clerical	120	146	.1	.1	26	21.5	75
43-4131	Loan interviewers and clerks	170	146	.1	.1	-24	-14.3	23
43-4141	New accounts clerks	99	110	.1	.1	11	11.2	36
43-4151	Order clerks	330	311	.2	.2	-19	-5.7	74
43-4161	Human resources assistants, except payroll and timekeeping	174	207	.1	.1	33	19.3	71
43-4171	Receptionists and information clerks	1,100	1,425	.8	.9	325	29.5	595
43-4181	Reservation and transportation ticket agents and travel clerks	177	199	.1	.1	22	12.2	68
43-4999	All other financial, information, and record clerks[2]	304	306	.2	.2	2	.5	49
43-5000	Material recording, scheduling, dispatching, and distributing occupations	4,005	4,025	2.8	2.4	20	.5	1,306
43-5011	Cargo and freight agents	59	68	.0	.0	9	15.5	22
43-5021	Couriers and Messengers	132	138	.1	.1	5	4.0	36
43-5030	Dispatchers	262	298	.2	.2	36	13.8	92
43-5031	Police, fire, and ambulance dispatchers	92	104	.1	.1	12	12.7	32
43-5032	Dispatchers, except police, fire, and ambulance	170	194	.1	.1	24	14.4	61
43-5041	Meter readers, utilities	54	46	.0	.0	-8	-14.1	17
43-5050	Postal service workers	664	636	.5	.4	-28	-4.3	192
43-5051	Postal service clerks	77	77	.1	.0	0	-.5	20

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code	and title	Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution				
		2002	2012	2002	2012	Number	Percent	
43-5052	Postal service mail carriers	334	333	0.2	0.2	-2	-0.5	105
43-5053	Postal service mail sorters, processors, and processing machine operators	253	226	.2	.1	-26	-10.5	67
43-5061	Production, planning, and expediting clerks	288	328	.2	.2	40	14.1	110
43-5071	Shipping, receiving, and traffic clerks	803	827	.6	.5	24	3.0	189
43-5081	Stock clerks and order fillers	1,628	1,560	1.1	.9	-68	-4.2	602
43-5111	Weighers, measurers, checkers, and samplers, recordkeeping	81	93	.1	.1	12	14.6	32
43-5199	All other material recording, scheduling, dispatching, and distributing workers[2]	34	32	.0	.0	-2	-6.9	13
43-6000	Secretaries and administrative assistants	4,104	4,288	2.8	2.6	184	4.5	1,026
43-6011	Executive secretaries and administrative assistants	1,526	1,658	1.1	1.0	132	8.7	424
43-6012	Legal secretaries	264	313	.2	.2	50	18.8	100
43-6013	Medical secretaries	339	398	.2	.2	58	17.2	123
43-6014	Secretaries, except legal, medical, and executive	1,975	1,918	1.4	1.2	-57	-2.9	378
43-9000	Other office and administrative support workers	4,858	5,027	3.4	3.0	169	3.5	1,404
43-9011	Computer operators	182	151	.1	.1	-30	-16.7	39
43-9020	Data entry and information processing workers[4]	633	519	.4	.3	-114	-18.1	146
43-9021	Data entry keyers	392	371	.3	.2	-21	-5.4	93
43-9022	Word processors and typists	241	148	.2	.1	-93	-38.6	53
43-9031	Desktop publishers	35	45	.0	.0	10	29.2	18
43-9041	Insurance claims and policy processing clerks	266	276	.2	.2	10	3.6	53
43-9051	Mail clerks and mail machine operators, except postal service	170	165	.1	.1	-5	-2.9	51
43-9061	Office clerks, general	2,991	3,301	2.1	2.0	310	10.4	972
43-9071	Office machine operators, except computer	96	91	.1	.1	-4	-4.6	24
43-9081	Proofreaders and copy markers	27	26	.0	.0	-1	-4.8	6
43-9111	Statistical assistants	23	22	.0	.0	-2	-7.2	4
43-9999	All other secretaries, administrative assistants, and other office support workers[2]	435	431	.3	.3	-4	-.9	92
45-0000	Farming, fishing, and forestry occupations	1,072	1,107	.7	.7	35	3.3	335
45-1000	Supervisors, farming, fishing, and forestry workers	52	58	.0	.0	6	11.4	18
45-2000	Agricultural workers	804	840	.6	.5	36	4.5	261
45-2011	Agricultural inspectors	16	17	.0	.0	1	6.7	5
45-2021	Animal breeders	9	10	.0	.0	1	6.1	2
45-2041	Graders and sorters, agricultural products	49	52	.0	.0	3	6.7	16
45-2090	Miscellaneous agricultural workers[4]	731	762	.5	.5	31	4.3	238
45-2091	Agricultural equipment operators	61	65	.0	.0	4	7.3	22
45-2092	Farmworkers and laborers, crop, nursery, and greenhouse	617	641	.4	.4	24	4.0	199
45-2093	Farmworkers, farm and ranch animals	53	56	.0	.0	2	4.4	17
45-3000	Fishing and hunting workers	38	28	.0	.0	-10	-25.5	11
45-3011	Fishers and related fishing workers	36	27	.0	.0	-10	-26.8	10
45-3021	Hunters and trappers	1	2	.0	.0	0	6.5	1
45-4000	Forest, conservation, and logging workers	81	80	.1	.0	-2	-1.9	16
45-4011	Forest and conservation workers	14	15	.0	.0	1	4.5	4
45-4020	Logging workers[4]	67	65	.0	.0	-2	-3.2	12
45-4021	Fallers	14	14	.0	.0	0	-3.4	3
45-4022	Logging equipment operators	43	41	.0	.0	-2	-3.7	8
45-4023	Log graders and scalers	10	10	.0	.0	0	-1.2	2
45-9099	All other farming, fishing, and forestry workers[5]	96	101	.1	.1	4	4.5	28
47-0000	Construction and extraction occupations	7,292	8,388	5.1	5.1	1,096	15.0	2,548
47-1000	Supervisors, construction and extraction workers	633	722	.4	.4	89	14.1	197
47-1011	First-line supervisors/managers of construction trades and extraction workers	633	722	.4	.4	89	14.1	197
47-2000	Construction trades and related workers	5,596	6,452	3.9	3.9	857	15.3	1,887
47-2011	Boilermakers	25	25	.0	.0	0	1.7	9
47-2020	Brickmasons, blockmasons, and stonemasons	165	188	.1	.1	23	14.2	48
47-2021	Brickmasons and blockmasons	148	169	.1	.1	21	14.2	43
47-2022	Stonemasons	17	19	.0	.0	2	14.1	5
47-2031	Carpenters	1,209	1,331	.8	.8	122	10.1	319
47-2040	Carpet, floor, and tile installers and finishers	164	191	.1	.1	27	16.8	53
47-2041	Carpet installers	82	96	.1	.1	14	16.8	27
47-2042	Floor layers, except carpet, wood, and hard tiles	31	35	.0	.0	4	13.4	9
47-2043	Floor sanders and finishers	17	18	.0	.0	1	4.2	3
47-2044	Tile and marble setters	33	42	.0	.0	9	26.5	14

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution		Number	Percent	
		2002	2012	2002	2012			
47-2050	Cement masons, concrete finishers, and terrazzo workers	188	236	0.1	0.1	48	25.7	86
47-2051	Cement masons and concrete finishers	182	229	.1	.1	47	26.1	84
47-2053	Terrazzo workers and finishers	6	7	.0	.0	1	15.2	2
47-2061	Construction laborers	938	1,070	.7	.6	133	14.2	258
47-2070	Construction equipment operators	416	460	.3	.3	45	10.7	144
47-2071	Paving, surfacing, and tamping equipment operators	58	65	.0	.0	7	12.6	16
47-2072	Pile-driver operators	5	6	.0	.0	0	8.2	1
47-2073	Operating engineers and other construction equipment operators	353	389	.2	.2	37	10.4	127
47-2080	Drywall installers, ceiling tile installers, and tapers	176	214	.1	.1	37	21.3	76
47-2081	Drywall and ceiling tile installers	135	164	.1	.1	29	21.4	58
47-2082	Tapers	41	49	.0	.0	8	20.8	17
47-2111	Electricians	659	814	.5	.5	154	23.4	285
47-2121	Glaziers	49	57	.0	.0	8	17.2	19
47-2130	Insulation workers	53	62	.0	.0	8	15.8	25
47-2140	Painters and paperhangers	468	521	.3	.3	53	11.4	124
47-2141	Painters, construction and maintenance	448	500	.3	.3	52	11.6	120
47-2142	Paperhangers	20	21	.0	.0	1	5.9	4
47-2150	Pipelayers, plumbers, pipefitters, and steamfitters	550	649	.4	.4	99	18.0	225
47-2151	Pipelayers	58	65	.0	.0	7	11.8	20
47-2152	Plumbers, pipefitters, and steamfitters	492	584	.3	.4	92	18.7	205
47-2161	Plasterers and stucco masons	59	67	.0	.0	8	13.5	19
47-2171	Reinforcing iron and rebar workers	29	33	.0	.0	5	16.7	10
47-2181	Roofers	166	197	.1	.1	31	18.6	70
47-2211	Sheet metal workers	205	246	.1	.1	41	19.8	90
47-2221	Structural iron and steel workers	78	90	.1	.1	12	15.9	28
47-3000	Helpers, construction trades	431	490	.3	.3	59	13.7	238
47-3010	Helpers, construction trades	431	490	.3	.3	59	13.7	238
47-3011	Helpers—Brickmasons, blockmasons, stonemasons, and tile and marble setters	59	61	.0	.0	1	2.2	26
47-3012	Helpers—Carpenters	97	111	.1	.1	14	14.0	54
47-3013	Helpers—Electricians	99	117	.1	.1	18	17.9	59
47-3014	Helpers—Painters, paperhangers, plasterers, and stucco masons	31	36	.0	.0	5	15.9	18
47-3015	Helpers—Pipelayers, plumbers, pipefitters, and steamfitters	79	88	.1	.1	9	10.9	42
47-3016	Helpers—Roofers	21	25	.0	.0	4	19.3	13
47-3019	All other helpers, construction trades	44	53	.0	.0	9	19.4	27
47-4000	Other construction and related workers[4]	354	408	.2	.2	54	15.2	123
47-4011	Construction and building inspectors	84	95	.1	.1	12	13.8	30
47-4021	Elevator installers and repairers	21	25	.0	.0	4	17.1	9
47-4031	Fence erectors	27	31	.0	.0	4	13.4	8
47-4041	Hazardous materials removal workers	38	54	.0	.0	16	43.1	26
47-4051	Highway maintenance workers	154	170	.1	.1	16	10.4	38
47-4061	Rail-track laying and maintenance equipment operators	11	9	.0	.0	-1	-11.5	2
47-4071	Septic tank servicers and sewer pipe cleaners	18	22	.0	.0	4	21.2	9
47-4090	Miscellaneous construction and related workers[4]	2	3	.0	.0	0	16.5	1
47-4091	Segmental pavers	2	3	.0	.0	0	16.5	1
47-4999	All other construction trades and related workers[2]	110	146	.1	.1	35	32.0	53
47-5000	Extraction workers	167	169	.1	.1	2	1.2	51
47-5010	Derrick, rotary drill, and service unit operators, oil, gas, and mining	41	41	.0	.0	0	.5	12
47-5011	Derrick operators, oil and gas	15	15	.0	.0	0	.8	4
47-5012	Rotary drill operators, oil and gas	14	14	.0	.0	0	1.5	4
47-5013	Service unit operators, oil, gas, and mining	13	13	.0	.0	0	-.8	4
47-5021	Earth drillers, except oil and gas	23	25	.0	.0	2	7.7	7
47-5031	Explosives workers, ordnance handling experts, and blasters	5	5	.0	.0	0	2.0	2
47-5040	Mining machine operators	18	16	.0	.0	-2	-13.3	5
47-5041	Continuous mining machine operators	8	7	.0	.0	-2	-18.5	2
47-5042	Mine cutting and channeling machine operators	5	5	.0	.0	0	-7.1	1
47-5049	All other mining machine operators	4	4	.0	.0	0	-10.8	1
47-5051	Rock splitters, quarry	3	3	.0	.0	0	14.3	1
47-5061	Roof bolters, mining	4	3	.0	.0	-1	-27.7	1
47-5071	Roustabouts, oil and gas	32	34	.0	.0	2	6.4	11
47-5081	Helpers—Extraction workers	29	30	.0	.0	1	3.9	9
47-5099	Extraction workers, all other	12	12	.0	.0	0	-.8	3
49-0000	Installation, maintenance, and repair occupations	5,696	6,472	4.0	3.9	776	13.6	2,087
49-1000	Supervisors of installation, maintenance, and repair workers	444	512	.3	.3	68	15.4	180
49-1011	First-line supervisors/managers of mechanics, installers, and repairers	444	512	.3	.3	68	15.4	180

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution				
		2002	2012	2002	2012	Number	Percent	
49-2000	Electrical and electronic equipment mechanics, installers, and repairers	689	746	0.5	0.5	57	8.3	193
49-2011	Computer, automated teller, and office machine repairers	156	180	.1	.1	24	15.1	43
49-2020	Radio and telecommunications equipment installers and repairers	226	222	.2	.1	-4	-1.6	47
49-2021	Radio mechanics	7	5	.0	.0	-2	-29.3	2
49-2022	Telecommunications equipment installers and repairers, except line installers	219	217	.2	.1	-1	-.6	45
49-2090	Miscellaneous electrical and electronic equipment mechanics, installers, and repairers	284	317	.2	.2	33	11.5	95
49-2091	Avionics technicians	23	24	.0	.0	1	3.4	6
49-2092	Electric motor, power tool, and related repairers	31	33	.0	.0	2	5.3	9
49-2093	Electrical and electronics installers and repairers, transportation equipment	18	19	.0	.0	1	7.1	6
49-2094	Electrical and electronics repairers, commercial and industrial equipment	85	94	.1	.1	9	10.3	27
49-2095	Electrical and electronics repairers, powerhouse, substation, and relay	21	21	.0	.0	0	-.6	5
49-2096	Electronic equipment installers and repairers, motor vehicles	18	21	.0	.0	3	14.8	7
49-2097	Electronic home entertainment equipment installers and repairers	43	46	.0	.0	4	8.6	12
49-2098	Security and fire alarm systems installers	46	60	.0	.0	14	30.2	23
49-2099	All other electrical and electronic equipment mechanics, installers, and repairers[2]	22	26	.0	.0	4	19.6	9
49-3000	Vehicle and mobile equipment mechanics, installers, and repairers	1,817	2,043	1.3	1.2	226	12.4	695
49-3011	Aircraft mechanics and service technicians	131	145	.1	.1	14	11.0	45
49-3020	Automotive technicians and repairers	1,038	1,168	.7	.7	130	12.5	392
49-3021	Automotive body and related repairers	198	225	.1	.1	26	13.2	67
49-3022	Automotive glass installers and repairers	22	24	.0	.0	2	10.7	6
49-3023	Automotive service technicians and mechanics	818	919	.6	.6	101	12.4	319
49-3031	Bus and truck mechanics and diesel engine specialists	267	305	.2	.2	38	14.2	107
49-3040	Heavy vehicle and mobile equipment service technicians and mechanics	176	191	.1	.1	15	8.8	54
49-3041	Farm equipment mechanics	35	38	.0	.0	3	7.7	10
49-3042	Mobile heavy equipment mechanics, except engines	126	138	.1	.1	12	9.6	39
49-3043	Rail car repairers	15	15	.0	.0	1	4.5	4
49-3050	Small engine mechanics	67	79	.0	.0	12	18.7	29
49-3051	Motorboat mechanics	22	26	.0	.0	4	18.3	9
49-3052	Motorcycle mechanics	15	18	.0	.0	3	18.7	7
49-3053	Outdoor power equipment and other small engine mechanics	30	36	.0	.0	6	18.9	13
49-3090	Miscellaneous vehicle and mobile equipment mechanics, installers, and repairers	102	113	.1	.1	11	10.4	54
49-3091	Bicycle repairers	7	8	.0	.0	1	18.8	4
49-3092	Recreational vehicle service technicians	13	15	.0	.0	3	21.8	8
49-3093	Tire repairers and changers	83	89	.1	.1	7	8.0	42
49-3099	All other vehicle and mobile equipment mechanics, installers, and repairers[2]	36	41	.0	.0	6	15.4	15
49-9000	Other installation, maintenance, and repair occupations	2,746	3,171	1.9	1.9	424	15.5	1,019
49-9010	Control and valve installers and repairers	49	55	.0	.0	7	14.1	19
49-9011	Mechanical door repairers	11	13	.0	.0	2	21.8	5
49-9012	Control and valve installers and repairers, except mechanical door	38	42	.0	.0	5	12.0	14
49-9021	Heating, air conditioning, and refrigeration mechanics and installers	249	328	.2	.2	79	31.8	112
49-9031	Home appliance repairers	42	44	.0	.0	2	5.5	12
49-9040	Industrial machinery installation, repair, and maintenance workers	1,628	1,855	1.1	1.1	227	13.9	548
49-9041	Industrial machinery mechanics	197	208	.1	.1	11	5.5	51
49-9042	Maintenance and repair workers, general	1,266	1,472	.9	.9	207	16.3	450
49-9043	Maintenance workers, machinery	92	97	.1	.1	5	5.9	26
49-9044	Millwrights	69	73	.0	.0	4	5.3	21
49-9045	Refractory materials repairers, except brickmasons	4	4	.0	.0	0	5.6	1
49-9050	Line installers and repairers	268	301	.2	.2	33	12.3	111
49-9051	Electrical power-line installers and repairers	101	103	.1	.1	2	1.6	34
49-9052	Telecommunications line installers and repairers	167	199	.1	.1	31	18.8	77
49-9060	Precision instrument and equipment repairers	64	69	.0	.0	6	8.6	24
49-9061	Camera and photographic equipment repairers	7	6	.0	.0	0	-7.1	2
49-9062	Medical equipment repairers	29	33	.0	.0	4	14.8	12
49-9063	Musical instrument repairers and tuners	6	7	.0	.0	0	6.3	2
49-9064	Watch repairers	5	5	.0	.0	0	3.5	2
49-9069	All other precision instrument and equipment repairers	17	18	.0	.0	1	7.0	6
49-9090	Miscellaneous installation, maintenance, and repair workers	447	518	.3	.3	71	15.8	193
49-9091	Coin, vending, and amusement machine servicers and repairers	43	49	.0	.0	6	15.2	17
49-9092	Commercial divers	4	5	.0	.0	0	10.6	1
49-9093	Fabric menders, except garment	2	2	.0	.0	0	-2.2	1
49-9094	Locksmiths and safe repairers	23	28	.0	.0	5	21.0	12
49-9095	Manufactured building and mobile home installers	18	22	.0	.0	4	23.3	9

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution				
		2002	2012	2002	2012	Number	Percent	
49-9096	Riggers	14	16	0.0	0.0	2	14.3	5
49-9097	Signal and track switch repairers	8	8	.0	.0	0	-3.1	3
49-9098	Helpers—Installation, maintenance, and repair workers	150	181	.1	.1	30	20.3	81
49-9099	Installation, maintenance, and repair workers, all other	185	207	.1	.1	23	12.2	65
51-0000	Production occupations	11,258	11,612	7.8	7.0	354	3.1	3,361
51-1000	Supervisors, production workers	733	803	.5	.5	70	9.5	224
51-1011	First-line supervisors/managers of production and operating workers	733	803	.5	.5	70	9.5	224
51-2000	Assemblers and fabricators	2,122	2,044	1.5	1.2	-77	-3.6	547
51-2011	Aircraft structure, surfaces, rigging, and systems assemblers	27	24	.0	.0	-2	-9.4	7
51-2020	Electrical, electronics, and electromechanical assemblers	377	316	.3	.2	-61	-16.3	89
51-2021	Coil winders, tapers, and finishers	36	31	.0	.0	-5	-13.9	9
51-2022	Electrical and electronic equipment assemblers	281	230	.2	.1	-51	-18.3	66
51-2023	Electromechanical equipment assemblers	60	55	.0	.0	-5	-8.3	14
51-2031	Engine and other machine assemblers	50	49	.0	.0	-1	-1.9	14
51-2041	Structural metal fabricators and fitters	89	94	.1	.1	6	6.2	26
51-2090	Miscellaneous assemblers and fabricators	1,579	1,561	1.1	.9	-18	-1.1	410
51-2091	Fiberglass laminators and fabricators	37	39	.0	.0	2	5.6	12
51-2092	Team assemblers	1,174	1,155	.8	.7	-19	-1.6	304
51-2093	Timing device assemblers, adjusters, and calibrators	7	6	.0	.0	0	-3.0	2
51-2099	All other assemblers and fabricators	361	360	.3	.2	-1	-.2	93
51-3000	Food processing occupations	757	836	.5	.5	79	10.5	254
51-3011	Bakers	173	192	.1	.1	19	11.2	59
51-3020	Butchers and other meat, poultry, and fish processing workers	414	459	.3	.3	45	10.9	139
51-3021	Butchers and meat cutters	132	129	.1	.1	-3	-2.5	29
51-3022	Meat, poultry, and fish cutters and trimmers	154	179	.1	.1	25	16.4	59
51-3023	Slaughterers and meat packers	128	151	.1	.1	23	18.1	51
51-3090	Miscellaneous food processing workers	127	137	.1	.1	9	7.2	41
51-3091	Food and tobacco roasting, baking, and drying machine operators and tenders	19	20	.0	.0	1	4.2	6
51-3092	Food batchmakers	74	79	.1	.0	5	7.2	23
51-3093	Food cooking machine operators and tenders	34	37	.0	.0	3	8.8	11
51-3099	All other food processing workers[2]	42	48	.0	.0	6	13.4	15
51-4000	Metal workers and plastic workers[4]	2,367	2,544	1.6	1.5	177	7.5	754
51-4010	Computer control programmers and operators	151	166	.1	.1	15	9.8	40
51-4011	Computer-controlled machine tool operators, metal and plastic	132	144	.1	.1	12	9.3	34
51-4012	Numerical tool and process control programmers	19	22	.0	.0	3	13.0	6
51-4020	Forming machine setters, operators, and tenders, metal and plastic	188	198	.1	.1	11	5.6	60
51-4021	Extruding and drawing machine setters, operators, and tenders, metal and plastic	98	105	.1	.1	7	7.1	40
51-4022	Forging machine setters, operators, and tenders, metal and plastic	45	48	.0	.0	3	5.9	9
51-4023	Rolling machine setters, operators, and tenders, metal and plastic	44	45	.0	.0	1	2.0	11
51-4030	Machine tool cutting setters, operators, and tenders, metal and plastic	546	569	.4	.3	24	4.3	144
51-4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	283	302	.2	.2	19	6.8	85
51-4032	Drilling and boring machine tool setters, operators, and tenders, metal and plastic	53	54	.0	.0	1	2.1	17
51-4033	Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic	104	106	.1	.1	3	2.4	22
51-4034	Lathe and turning machine tool setters, operators, and tenders, metal and plastic	75	75	.1	.0	1	.8	15
51-4035	Milling and planing machine setters, operators, and tenders, metal and plastic	31	31	.0	.0	0	.8	6
51-4041	Machinists	387	419	.3	.3	32	8.2	122
51-4050	Metal furnace and kiln operators and tenders	31	30	.0	.0	0	-1.3	7
51-4051	Metal-refining furnace operators and tenders	18	17	.0	.0	0	-.8	4
51-4052	Pourers and casters, metal	13	13	.0	.0	0	-2.0	3
51-4060	Model makers and patternmakers, metal and plastic	15	16	.0	.0	1	9.8	6
51-4061	Model makers, metal and plastic	9	10	.0	.0	1	14.6	4
51-4062	Patternmakers, metal and plastic	6	7	.0	.0	0	3.6	2
51-4070	Molders and molding machine setters, operators, and tenders, metal and plastic	174	189	.1	.1	14	8.2	58
51-4071	Foundry mold and coremakers	23	24	.0	.0	1	3.6	7
51-4072	Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic	151	165	.1	.1	14	8.9	51
51-4081	Multiple machine tool setters, operators, and tenders, metal and plastic	99	107	.1	.1	8	8.3	35

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution		Number	Percent	
		2002	2012	2002	2012			
51-4111	Tool and die makers	109	110	0.1	0.1	0	0.4	25
51-4120	Welding, soldering, and brazing workers	452	518	.3	.3	67	14.8	194
51-4121	Welders, cutters, solderers, and brazers	391	457	.3	.3	66	17.0	177
51-4122	Welding, soldering, and brazing machine setters, operators, and tenders	61	62	.0	.0	1	.9	18
51-4190	Miscellaneous metalworkers and plastic workers	215	221	.1	.1	6	2.6	62
51-4191	Heat treating equipment setters, operators, and tenders, metal and plastic	29	29	.0	.0	0	-.6	9
51-4192	Lay-out workers, metal and plastic	13	15	.0	.0	2	15.6	4
51-4193	Plating and coating machine setters, operators, and tenders, metal and plastic	44	42	.0	.0	-1	-2.6	10
51-4194	Tool grinders, filers, and sharpeners	26	24	.0	.0	-2	-7.7	8
51-4199	All other metal workers and plastic workers	104	111	.1	.1	7	6.6	31
51-5000	Printing occupations	465	466	.3	.3	1	.3	128
51-5010	Bookbinders and bindery workers	98	93	.1	.1	-5	-4.7	26
51-5011	Bindery workers	91	86	.1	.1	-5	-5.2	24
51-5012	Bookbinders	7	7	.0	.0	0	1.3	2
51-5020	Printers	346	350	.2	.2	4	1.2	95
51-5021	Job printers	56	61	.0	.0	5	9.2	18
51-5022	Prepress technicians and workers	91	81	.1	.0	-10	-11.2	21
51-5023	Printing machine operators	199	208	.1	.1	9	4.6	55
51-5099	All other printing workers[2]	21	23	.0	.0	2	9.3	7
51-6000	Textile, apparel, and furnishings occupations	1,085	932	.8	.6	-152	-14.1	240
51-6011	Laundry and dry-cleaning workers	231	260	.2	.2	29	12.3	91
51-6021	Pressers, textile, garment, and related materials	91	91	.1	.1	0	-.2	14
51-6031	Sewing machine operators	315	216	.2	.1	-99	-31.5	39
51-6040	Shoe and leather workers	23	18	.0	.0	-4	-19.0	6
51-6041	Shoe and leather workers and repairers	16	14	.0	.0	-3	-16.1	5
51-6042	Shoe machine operators and tenders	7	5	.0	.0	-2	-26.1	1
51-6050	Tailors, dressmakers, and sewers	90	77	.1	.0	-13	-14.0	16
51-6051	Sewers, hand	36	29	.0	.0	-8	-21.2	6
51-6052	Tailors, dressmakers, and custom sewers	53	48	.0	.0	-5	-9.1	9
51-6060	Textile machine setters, operators, and tenders	179	124	.1	.1	-56	-31.0	33
51-6061	Textile bleaching and dyeing machine operators and tenders	27	19	.0	.0	-8	-28.7	7
51-6062	Textile cutting machine setters, operators, and tenders	34	26	.0	.0	-8	-22.6	8
51-6063	Textile knitting and weaving machine setters, operators, and tenders	53	33	.0	.0	-20	-38.6	6
51-6064	Textile winding, twisting, and drawing out machine setters, operators, and tenders	66	46	.0	.0	-20	-30.3	12
51-6090	Miscellaneous textile, apparel, and furnishings workers	156	147	.1	.1	-9	-5.9	41
51-6091	Extruding and forming machine setters, operators, and tenders, synthetic and glass fibers	27	24	.0	.0	-4	-13.1	5
51-6092	Fabric and apparel patternmakers	11	8	.0	.0	-3	-24.6	5
51-6093	Upholsterers	56	51	.0	.0	-5	-8.7	14
51-6099	All other textile, apparel, and furnishings workers	61	63	.0	.0	2	3.3	16
51-7000	Woodworkers	374	393	.3	.2	19	5.1	115
51-7011	Cabinetmakers and bench carpenters	147	160	.1	.1	14	9.4	50
51-7021	Furniture finishers	39	41	.0	.0	1	3.3	9
51-7030	Model makers and patternmakers, wood	9	10	.0	.0	1	11.1	3
51-7031	Model makers, wood	4	5	.0	.0	0	10.3	2
51-7032	Patternmakers, wood	4	5	.0	.0	0	11.8	2
51-7040	Woodworking machine setters, operators, and tenders	151	153	.1	.1	3	1.8	44
51-7041	Sawing machine setters, operators, and tenders, wood	56	56	.0	.0	0	-.2	16
51-7042	Woodworking machine setters, operators, and tenders, except sawing	95	98	.1	.1	3	3.0	28
51-7099	All other woodworkers	29	29	.0	.0	0	1.7	9
51-8000	Plant and system operators	346	353	.2	.2	7	2.0	120
51-8010	Power plant operators, distributors, and dispatchers	51	51	.0	.0	0	-.7	14
51-8011	Nuclear power reactor operators	3	3	.0	.0	0	-3.2	1
51-8012	Power distributors and dispatchers	12	12	.0	.0	0	-3.0	3
51-8013	Power plant operators	35	36	.0	.0	0	.3	10
51-8021	Stationary engineers and boiler operators	55	56	.0	.0	0	.3	10
51-8031	Water and liquid waste treatment plant and system operators	99	115	.1	.1	16	16.0	50
51-8090	Miscellaneous plant and system operators	141	132	.1	.1	-9	-6.2	46
51-8091	Chemical plant and system operators	58	51	.0	.0	-7	-12.3	18
51-8092	Gas plant operators	12	13	.0	.0	1	6.7	5
51-8093	Petroleum pump system operators, refinery operators, and gaugers	39	35	.0	.0	-4	-11.0	12
51-8099	All other plant and system operators	32	33	.0	.0	2	5.6	12
51-9000	Other production occupations	3,010	3,240	2.1	2.0	230	7.7	977
51-9010	Chemical processing machine setters, operators, and tenders	94	92	.1	.1	-2	-2.0	30
51-9011	Chemical equipment operators and tenders	58	56	.0	.0	-2	-3.8	19

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment: Number 2002	Employment: Number 2012	Employment: Percent distribution 2002	Employment: Percent distribution 2012	Change: Number	Change: Percent	Total job openings due to growth and net replacements, 2002-12[1]
51-9012	Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders	36	36	0.0	0.0	0	0.8	12
51-9020	Crushing, grinding, polishing, mixing, and blending workers	196	192	.1	.1	-4	-2.1	55
51-9021	Crushing, grinding, and polishing machine setters, operators, and tenders	45	44	.0	.0	-1	-2.8	12
51-9022	Grinding and polishing workers, hand	45	49	.0	.0	4	9.0	16
51-9023	Mixing and blending machine setters, operators, and tenders	106	99	.1	.1	-7	-6.5	28
51-9030	Cutting workers	109	116	.1	.1	7	6.9	30
51-9031	Cutters and trimmers, hand	31	33	.0	.0	2	7.6	9
51-9032	Cutting and slicing machine setters, operators, and tenders	77	83	.1	.0	5	6.6	21
51-9041	Extruding, forming, pressing, and compacting machine setters, operators, and tenders	73	73	.1	.0	0	-.1	19
51-9051	Furnace, kiln, oven, drier, and kettle operators and tenders	31	29	.0	.0	-2	-4.9	7
51-9061	Inspectors, testers, sorters, samplers, and weighers	515	539	.4	.3	24	4.7	141
51-9071	Jewelers and precious stone and metal workers	40	42	.0	.0	2	4.5	10
51-9080	Medical, dental, and ophthalmic laboratory technicians	94	101	.1	.1	7	7.4	27
51-9081	Dental laboratory technicians	47	49	.0	.0	2	3.6	12
51-9082	Medical appliance technicians	14	16	.0	.0	2	16.1	5
51-9083	Ophthalmic laboratory technicians	33	36	.0	.0	3	9.2	10
51-9111	Packaging and filling machine operators and tenders	387	468	.3	.3	82	21.1	159
51-9120	Painting workers	187	211	.1	.1	24	13.0	73
51-9121	Coating, painting, and spraying machine setters, operators, and tenders	103	112	.1	.1	10	9.4	36
51-9122	Painters, transportation equipment	50	59	.0	.0	9	17.5	22
51-9123	Painting, coating, and decorating workers	34	40	.0	.0	6	17.6	15
51-9130	Photographic process workers and processing machine operators	82	89	.1	.1	6	7.9	27
51-9131	Photographic process workers	28	30	.0	.0	2	5.4	9
51-9132	Photographic processing machine operators	54	59	.0	.0	5	9.2	18
51-9141	Semiconductor processors	46	42	.0	.0	-5	-10.6	10
51-9190	Miscellaneous production workers	1,155	1,245	.8	.8	90	7.8	388
51-9191	Cementing and gluing machine operators and tenders	27	28	.0	.0	0	1.1	8
51-9192	Cleaning, washing, and metal pickling equipment operators and tenders	18	19	.0	.0	1	6.9	7
51-9193	Cooling and freezing equipment operators and tenders	7	8	.0	.0	1	7.1	3
51-9194	Etchers and engravers	10	10	.0	.0	1	6.1	3
51-9195	Molders, shapers, and casters, except metal and plastic	46	49	.0	.0	3	6.4	14
51-9196	Paper goods machine setters, operators, and tenders	117	114	.1	.1	-3	-2.8	25
51-9197	Tire builders	14	15	.0	.0	1	6.6	4
51-9198	Helpers—Production workers	467	503	.3	.3	36	7.7	167
51-9199	All other production workers	449	500	.3	.3	51	11.3	158
53-0000	Transportation and material moving occupations	9,828	11,111	6.8	6.7	1,282	13.0	3,496
53-1000	Supervisors, transportation and material moving workers	364	411	.3	.2	47	12.9	132
53-1011	Aircraft cargo handling supervisors	9	10	.0	.0	1	15.6	3
53-1021	First-line supervisors/managers of helpers, laborers, and material movers, hand	147	168	.1	.1	21	14.0	55
53-1031	First-line supervisors/managers of transportation and material-moving machine and vehicle operators	207	232	.1	.1	25	12.1	74
53-2000	Air transportation occupations	144	168	.1	.1	24	17.0	62
53-2010	Aircraft pilots and flight engineers	100	118	.1	.1	18	17.8	45
53-2011	Airline pilots, copilots, and flight engineers	79	94	.1	.1	15	18.5	36
53-2012	Commercial pilots	21	24	.0	.0	3	14.9	9
53-2020	Air traffic controllers and airfield operations specialists	32	36	.0	.0	4	13.5	12
53-2021	Air traffic controllers	26	29	.0	.0	3	12.6	10
53-2022	Airfield operations specialists	6	7	.0	.0	1	17.2	3
53-2099	All other air transportation workers[2]	12	14	.0	.0	2	19.4	5
53-3000	Motor vehicle operators	4,136	4,896	2.9	3.0	760	18.4	1,385
53-3011	Ambulance drivers and attendants, except emergency medical technicians	17	22	.0	.0	5	26.7	6
53-3020	Bus drivers	654	761	.5	.5	106	16.2	249
53-3021	Bus drivers, transit and intercity	202	233	.1	.1	31	15.2	75
53-3022	Bus drivers, school	453	528	.3	.3	76	16.7	174
53-3030	Driver/sales workers and truck drivers	3,221	3,813	2.2	2.3	592	18.4	1,045
53-3031	Driver/sales workers	431	450	.3	.3	19	4.3	89
53-3032	Truck drivers, heavy and tractor-trailer	1,767	2,104	1.2	1.3	337	19.0	625
53-3033	Truck drivers, light or delivery services	1,022	1,259	.7	.8	237	23.2	331
53-3041	Taxi drivers and chauffeurs	132	161	.1	.1	29	21.7	41
53-3099	All other motor vehicle operators	111	139	.1	.1	28	25.2	44
53-4000	Rail transportation occupations	101	96	.1	.1	-5	-5.3	28
53-4010	Locomotive engineers and operators	33	31	.0	.0	-2	-7.2	10

Table 2. Continued—Employment by occupation, 2002 and projected 2012

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment				Change		Total job openings due to growth and net replacements, 2002-12[1]
		Number		Percent distribution		Number	Percent	
		2002	2012	2002	2012			
53-4021	Railroad brake, signal, and switch operators	15	12	0.0	0.0	-3	-22.8	2
53-4031	Railroad conductors and yardmasters	38	36	.0	.0	-2	-4.2	10
53-4039	Subway, streetcar operators and all other rail transportation workers[5]	15	17	.0	.0	2	13.2	7
53-5000	Water transportation occupations	68	70	.0	.0	2	3.4	25
53-5011	Sailors and marine oilers	27	28	.0	.0	1	4.0	11
53-5020	Ship and boat captains and operators	29	30	.0	.0	1	2.4	9
53-5021	Captains, mates, and pilots of water vessels	25	26	.0	.0	1	2.4	8
53-5022	Motorboat operators	4	4	.0	.0	0	2.7	1
53-5031	Ship engineers	8	9	.0	.0	0	4.5	4
53-5099	All other water transportation workers[2]	4	4	.0	.0	0	5.6	1
53-6000	Other transportation workers	294	326	.2	.2	32	11.0	135
53-6011	Bridge and lock tenders	4	3	.0	.0	-1	-17.4	1
53-6021	Parking lot attendants	107	128	.1	.1	21	19.2	52
53-6031	Service station attendants	107	111	.1	.1	4	3.3	52
53-6041	Traffic technicians	6	6	.0	.0	1	9.3	2
53-6051	Transportation inspectors	29	32	.0	.0	2	7.7	9
53-6099	All other related transportation workers	40	47	.0	.0	6	15.1	18
53-7000	Material moving occupations	4,722	5,144	3.3	3.1	422	8.9	1,729
53-7011	Conveyor operators and tenders	58	65	.0	.0	7	12.4	24
53-7021	Crane and tower operators	50	55	.0	.0	5	10.8	16
53-7030	Dredge, excavating, and loading machine operators	87	94	.1	.1	7	7.5	31
53-7031	Dredge operators	3	3	.0	.0	0	.3	1
53-7032	Excavating and loading machine and dragline operators	80	87	.1	.1	7	8.9	29
53-7033	Loading machine operators, underground mining	4	3	.0	.0	-1	-14.1	1
53-7041	Hoist and winch operators	9	10	.0	.0	1	13.0	4
53-7051	Industrial truck and tractor operators	594	659	.4	.4	66	11.1	178
53-7060	Laborers and material movers, hand	3,659	3,967	2.5	2.4	308	8.4	1,376
53-7061	Cleaners of vehicles and equipment	344	374	.2	.2	30	8.7	150
53-7062	Laborers and freight, stock, and material movers, hand	2,231	2,378	1.5	1.4	147	6.6	876
53-7063	Machine feeders and offbearers	164	162	.1	.1	-2	-1.4	45
53-7064	Packers and packagers, hand	920	1,052	.6	.6	132	14.4	305
53-7070	Pumping station operators	32	30	.0	.0	-2	-6.0	7
53-7071	Gas compressor and gas pumping station operators	7	7	.0	.0	0	1.0	2
53-7072	Pump operators, except wellhead pumpers	13	13	.0	.0	-1	-5.0	3
53-7073	Wellhead pumpers	11	10	.0	.0	-1	-11.7	3
53-7081	Refuse and recyclable material collectors	134	158	.1	.1	24	17.6	58
53-7111	Shuttle car operators	3	2	.0	.0	-1	-31.3	1
53-7121	Tank car, truck, and ship loaders	17	17	.0	.0	0	-2.1	5
53-7199	Material moving workers, all other	78	86	.1	.1	8	10.0	29

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

[2] This occupation was created by the OES survey. There is no SOC equivalent.

[3] This minor occupation group contains a detailed occupation from another minor occupation group.

[4] Information about the detailed residual occupation for this broad occupation is not included.

[5] This occupation contains two or more detailed SOC occupations.

NOTE: Detail may not equal total or 100 percent due to rounding.

Professional and related occupations subgroup	*Percent change*	*Numeric change (in thousands)*
Computer and mathematical	34.8	1,051
Community and social service	26.2	574
Healthcare practitioners and technical	26.0	1,708
Education, training, and library	24.7	2,109
Life, physical, and social science	17.2	212
Arts, design, entertainment, sports, and media	16.5	393
Legal	16.2	190
Architecture and engineering	8.6	222

This group is projected to grow as the school-age population increases; a greater proportion of preschool-age children attend school; a greater proportion of students are provided with special education; and classes become smaller. In addition, rapid growth is expected in the number of adults attending both career and job training schools and self-enrichment classes. More than 3 out of 5 new jobs are projected for government and 1 in 5 for rapidly-growing private educational services.[4]

Healthcare practitioners and technical occupations are projected to add 1.7 million jobs, as the demand for healthcare services continues to grow rapidly. (See p. 101 for a discussion of reasons for growth.) More than 3 out of 4 new jobs in these occupations are expected to be in the healthcare industry. Relatively few new jobs, and slow growth, are projected in government.[5] Registered nurses, by far the largest occupation in this group, should account for more than 1 out of 3 new jobs. The number of self-employed workers in this group is projected to decline slightly. Self-employed physicians are expected to decline significantly, as employment shifts into incorporated group practices, while self-employed registered nurses, chiropractors, veterinarians, and speech-language pathologists are projected to increase.

Computer and mathematical occupations are projected to add 1.1 million jobs, and grow the fastest among the eight subgroups. The demand for computer-related occupations should increase, despite the recent downturn, as a result of rapid advances in computer technology and the demand for new computer applications, including those for the Internet and Intranets. Growth will not be as rapid as during the previous decade, however, as the software industry begins to mature and as routine work is increasingly outsourced overseas. More than a third of new jobs will be in computer systems design and related services, and one-fifth will be in the information industry—primarily in software publishers, data processing and related, and Internet-related industries. In both groups, projected growth for these occupations exceeds 50 percent. In addition, in many industries, employment of these workers is projected to grow faster than the average for all occupations. Self-employed computer and mathematical workers are expected to increase 39.8 percent.

Community and social services occupations are projected to add 574,000 jobs. Continued rapid growth should result as the elderly population increases rapidly and as greater efforts are made to provide services for the disabled, the sick, substance abusers, and individuals and families in crisis. Within this occupational group, about 3 out of 5 new jobs are expected to be in the healthcare and social assistance industry and 1 out of 5 in religious organizations. Slow growth and 1 new job in 8 are projected for the large government sector.

Arts, design, entertainment, sports, and media occupations are projected to add 393,000 jobs. About one-fifth of these new jobs is projected for professional, scientific, and technical services, which includes both advertising and computer systems design and related services. One job in seven is projected for the information sector, which includes both motion pictures and publishing industries. About one-sixth of the growth is expected for self-employed workers (a 9.3-percent increase), with largest increases for writers and authors, graphic designers, musicians and singers, and photographers.

Architecture and engineering jobs are projected to grow slowly, adding 222,000 jobs. About 2 out of 5 new jobs in these occupations are projected for the professional, scientific, and technical services industry. One new job in 6 is projected for the rapidly growing employment services industry, which provides employees to other industries on a contract or fee basis. One new job in 8 is projected for government. In manufacturing industries—which employed a third of these workers in 2002—little change is projected. Engineers, the largest occupational subgroup, is expected to grow 7.3 percent.

Life, physical, and social scientists are projected to add 212,000 jobs. More than a quarter of these jobs are projected for the professional, scientific, and technical services industry which includes scientific consulting services and scientific research and development services. Nearly a quarter of new jobs is projected in government and 1 new job in 7 is projected for rapidly-growing healthcare and social assistance. Self-employed are projected to grow slowly, with most growth among psychologists.

Legal occupations are projected to add 190,000 jobs, with about 7 of 10 projected for the legal services industry, where these occupations should increase rapidly. A quarter of all growth is projected for government. Paralegals and legal assistants are projected to grow the fastest, while lawyers should add the most jobs, 118,000. The number of self-employed workers in this group is projected to decline 7.0 percent, all among lawyers, reflecting the difficulty in establishing new legal practices.

Employment in *service occupations* is projected to increase by 5.3 million, the second largest numerical gain and second highest rate of growth among the major occupational groups. For these occupations, about 3 out of 10 new jobs, and fastest growth, are projected for the healthcare and social assistance industry. A quarter of new jobs are projected for the accommodation and food services industry. The number of self-employed service workers is projected to increase slightly.

Of the five subgroups making up service occupations, food preparation and serving-related occupations was the largest in 2002—with 10.2 million jobs—and is projected to add the most jobs, about 1.6 million. Nevertheless, it has the slowest projected growth. (See table 2.) Nearly 4 of 5 new jobs are projected for the accommodation and food services industry. The following tabulation shows the percent and numeric change for the services occupation subgroups:

	Percent change	*Numeric change (in thousands)*
Healthcare support	34.5	1,143
Protective service	24.7	769
Personal care and service	20.6	917
Building and grounds cleaning and maintenance	16.4	901
Food preparation and serving related	15.8	1,607

Healthcare support occupations are projected to add 1.1 million jobs, growing the fastest of the services subgroups. (See p. 101 for a discussion of reasons for growth.) Seven out of eight new jobs are projected for the healthcare and social assistance industry. Self-employed healthcare support occupations are projected to grow 16.6 percent, with most growth among massage therapists.

Personal care and service occupations are projected to add 917,000 jobs. Nearly half of new jobs, and the fastest growth (51.6 percent) for these occupations, are projected in the healthcare and social assistance industry. One new job in 6 is projected for arts, entertainment, and recreation, which includes amusement parks and fitness and recreational sports centers. Overall growth is retarded by a 1.6-percent decline among the self-employed, who made up a quarter of all workers in this group in 2002. Declines among self-employed are primarily among first-line supervisors/managers of personal care and service workers (mostly proprietors of small businesses) and childcare workers.

Building and grounds cleaning and maintenance occupations are projected to add 901,000 jobs. Forty-five percent of new jobs, and fast growth, are projected for administrative and support and waste management and remediation services, which includes both services to buildings and dwellings and employment services. About 1 job in 8 is projected for healthcare and social assistance and 1 in 10 each in accommodation and food service and government. A 39,000 decline is projected in the private household sector, where 10 percent of these workers were employed. Only 2.9-percent growth is projected for the self-employed. Among the self-employed, landscaping and groundskeeping workers, as well as first-line supervisors/managers of these workers, are projected to increase, while maids and housekeeping cleaners are expected to decline.

Protective service occupations are projected to add 769,000 jobs. Half of the growth is projected for government, and nearly two-fifths is projected for rapidly growing investigation and security services.

Employment in *sales and related occupations* is projected to increase by 2 million. More than 3 out of 5 new jobs are projected for retail trade, and 1 in 8 for wholesale trade. The self-employed made up 12 percent of this group in 2002. Their employment is projected to decline by 9 percent, with the largest decreases among self-employed first-line supervisors/managers of sales workers (owners of stores or other marketing businesses); retail sales workers; and door-to-door sales workers, news and street vendors, and related workers.

Employment in *office and administrative support occupations* is projected to increase by 1.6 million but grow slowly. More than a quarter of these new jobs are projected for rapidly-growing employment services, which provides employees to other industries on a contract or fee basis. A quarter of new jobs are projected for the healthcare and social assistance industries, and 1 in 6 for professional, scientific, and technical services. In almost all industries, employment of these workers are expected to grow more slowly than overall employment, due to continued office automation, including that related to electronic business,[6] and as organizations make greater use of temporary workers employed by the employment services industry. Thirteen out of 30 occupations with the largest projected job declines, including word processors and typists; stock clerks and order fillers; and secretaries, except legal, medical, and executive, are in this group. (See table 5.) However, a number of personal-contact occupations, such as receptionists and information clerks, and bill and account collectors, are less affected by changing technology, and have relatively large projected growth.

Farming, fishing, and forestry occupations are projected to grow by 35,000 jobs. Self-employed are projected to decline 7.6 percent, with most declines among fishers and related fishing workers. (Agricultural managers, including farmers and ranchers, are classified with management, business, and financial occupations.)

The *construction and extraction occupations* major group is projected to add 1.1 million jobs, with 7 out of 10 in the construction industry. One new job in 9, and fastest growth, is projected for the employment services industry. A decline of 10,000 is projected for the mining industry—mostly for extraction workers. Self-employed construction and extraction workers are projected to increase slightly. Self-employed first-line supervisors/managers of construction trades and extraction workers (mostly contractors) are projected to increase, while self-employed carpenters are projected to decline.

Installation, maintenance, and repair occupations are projected to add 776,000 jobs. About 1 new job in 6 is projected for retail trade, which includes motor vehicle and parts dealers; 1 new job in 8 is projected for the construction industry, and 1 in 10, for automotive repair and maintenance. Self-employed workers in this group are projected to remain unchanged. Self-employed heating, air conditioning, and refrigeration mechanics and installers are projected to increase, but others are projected to decline.

Production occupations are expected to add 354,000 jobs. Most growth is projected for rapidly-growing employment services, which provides employees to other industries on a contract or fee basis, while some growth is projected for wholesale and retail trade. Manufacturing, which employed 7 out of 10 production workers in 2002, is projected to lose nearly 200,000 of these workers. Self-employed production workers are projected to decline 8.8 percent, with largest declines among apparel occupations and woodworkers.

Transportation and material moving occupations are projected to add 1.3 million jobs. More than 2 out of 5 new jobs should be in transportation and warehousing, and 1 in 4, in employment services. Little change is projected for these workers in manufacturing, where 1 out of 6 was employed in 2002. Water transportation occupations are projected to grow slowly, while railroad occupations continue their long-term decline. Nearly half of new jobs should be for truck drivers and driver/sales workers. Little change is projected for self-employed transportation workers.

Detailed occupations

This section focuses in occupations that are the fastest growing, have the largest numeric increases, and have the largest numeric declines. Data on numeric and percent growth for nearly 700 detailed occupations are presented in table 2.

The growth rates for detailed occupations range from an increase of 59 percent for medical assistants to a decline of 56 percent for telephone operators. Numeric growth ranges from 623,000 additional jobs for registered nurses to a decline of 238,000 farmers and ranchers. The 30 occupations with the largest numeric increase (table 4) account for 44 percent of the 21.3-million total increase over the 2002–12 period. The 30 occupations that are projected as the fastest growing (table 3) have growth rates of 35 percent or greater, more than twice the average for all occupations or faster. Six occupations—three health related, two computer, and one education, are included in both groups—personal and home care aides; medical assistants; home health aides; computer software engineers, application; computer systems analysts; and postsecondary teachers.

Table 3. Fastest growing occupations, 2002–12

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment		Change		Quartile rank by 2002 median annual earnings[1]	Most significant source of postsecondary education or training[2]
		2002	2012	Number	Percent		
31-9092	Medical assistants	365	579	215	59	3	Moderate-term on-the-job training
15-1081	Network systems and data communications analysts	186	292	106	57	1	Bachelor's degree
29-1071	Physician assistants	63	94	31	49	1	Bachelor's degree
21-1093	Social and human service assistants	305	454	149	49	3	Moderate-term on-the-job training
31-1011	Home health aides	580	859	279	48	4	Short-term on-the-job training
29-2071	Medical records and health information technicians	147	216	69	47	3	Associate degree
31-2022	Physical therapist aides	37	54	17	46	3	Short-term on-the-job training
15-1031	Computer software engineers, applications	394	573	179	46	1	Bachelor's degree
15-1032	Computer software engineers, systems software	281	409	128	45	1	Bachelor's degree
31-2021	Physical therapist assistants	50	73	22	45	2	Associate degree
39-9031	Fitness trainers and aerobics instructors	183	264	81	44	3	Postsecondary vocational award
15-1061	Database administrators	110	159	49	44	1	Bachelor's degree
29-2056	Veterinary technologists and technicians	53	76	23	44	3	Associate degree
47-4041	Hazardous materials removal workers	38	54	16	43	2	Moderate-term on-the-job training
29-2021	Dental hygienists	148	212	64	43	1	Associate degree
31-2012	Occupational therapist aides	8	12	4	43	3	Short-term on-the-job training
31-9091	Dental assistants	266	379	113	42	3	Moderate-term on-the-job training
39-9021	Personal and home care aides	608	854	246	40	4	Short-term on-the-job training
25-3021	Self-enrichment education teachers	200	281	80	40	2	Work experience in a related occupation
15-1051	Computer systems analysts	468	653	184	39	1	Bachelor's degree
31-2011	Occupational therapist assistants	18	26	7	39	2	Associate degree
17-2081	Environmental engineers	47	65	18	38	1	Bachelor's degree
25-1000	Postsecondary teachers	1,581	2,184	603	38	1	Doctoral degree
15-1071	Network and computer systems administrators	251	345	94	37	1	Bachelor's degree
19-4091	Environmental science and protection technicians, including health	28	38	10	37	2	Associate degree
25-2011	Preschool teachers, except special education	424	577	153	36	4	Postsecondary vocational award
11-3021	Computer and information systems managers	284	387	103	36	1	Bachelor's or higher degree, plus work experience
29-1123	Physical therapists	137	185	48	35	1	Master's degree
29-1122	Occupational therapists	82	110	29	35	1	Bachelor's degree
29-1126	Respiratory therapists	86	116	30	35	2	Associate degree

[1] The quartile rankings of Occupational Employment Statistics annual earnings data are presented in the following categories: 1=very high ($41,820 and over), 2=high ($27,500 to $41,780), 3=low ($19,710 to $27,380), and 4=very low (up to $19,600). The rankings were based on quartiles using one-fourth of total employment to define each quartile. Earnings are for wage and salary workers.

[2] An occupation is placed into one of 11 categories that best describes the education or training needed by most workers to become fully qualified. For more information about the categories, see *Occupational Projections and Training Data*, Bulletin 2572 (Bureau of Labor Statistics, forthcoming).

Table 4. Occupations with the largest job growth, 2002–12

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment		Change		Quartile rank by 2002 median annual earnings[1]	Most significant source of postsecondary education or training[2]
		2002	2012	Number	Percent		
29-1111	Registered nurses	2,284	2,908	623	27	1	Associate degree
25-1000	Postsecondary teachers	1,581	2,184	603	38	1	Doctoral degree
41-2031	Retail salespersons	4,076	4,672	596	15	4	Short-term on-the-job training
43-4051	Customer service representatives	1,894	2,354	460	24	3	Moderate-term on-the-job training
35-3021	Combined food preparation and serving workers, including fast food	1,990	2,444	454	23	4	Short-term on-the-job training
41-2011	Cashiers, except gaming	3,432	3,886	454	13	4	Short-term on-the-job training
37-2011	Janitors and cleaners, except maids and housekeeping cleaners	2,267	2,681	414	18	4	Short-term on-the-job training
11-1021	General and operations managers	2,049	2,425	376	18	1	Bachelor's or higher degree, plus work experience
35-3031	Waiters and waitresses	2,097	2,464	367	18	4	Short-term on-the-job training
31-1012	Nursing aides, orderlies, and attendants	1,375	1,718	343	25	3	Short-term on-the-job training
53-3032	Truck drivers, heavy and tractor-trailer	1,767	2,104	337	19	2	Moderate-term on-the-job training
43-4171	Receptionists and information clerks	1,100	1,425	325	29	3	Short-term on-the-job training
33-9032	Security guards	995	1,313	317	32	4	Short-term on-the-job training
43-9061	Office clerks, general	2,991	3,301	310	10	3	Short-term on-the-job training
25-9041	Teacher assistants	1,277	1,571	294	23	4	Short-term on-the-job training
41-4012	Sales representatives, wholesale and manufacturing, except technical and scientific products	1,459	1,738	279	19	1	Moderate-term on-the-job training
31-1011	Home health aides	580	859	279	48	4	Short-term on-the-job training
39-9021	Personal and home care aides	608	854	246	40	4	Short-term on-the-job training
53-3033	Truck drivers, light or delivery services	1,022	1,259	237	23	3	Short-term on-the-job training
37-3011	Landscaping and groundskeeping workers	1,074	1,311	237	22	3	Short-term on-the-job training
25-2021	Elementary school teachers, except special education	1,467	1,690	223	15	2	Bachelor's degree
31-9092	Medical assistants	365	579	215	59	3	Moderate-term on-the-job training
49-9042	Maintenance and repair workers, general	1,266	1,472	207	16	2	Moderate-term on-the-job training
13-2011	Accountants and auditors	1,055	1,261	205	19	1	Bachelor's degree
15-1051	Computer systems analysts	468	653	184	39	1	Bachelor's degree
25-2031	Secondary school teachers, except special and vocational education	988	1,167	180	18	1	Bachelor's degree
15-1031	Computer software engineers, applications	394	573	179	46	1	Bachelor's degree
13-1111	Management analysts	577	753	176	30	1	Bachelor's or higher degree, plus work experience
35-2021	Food preparation workers	850	1,022	172	20	4	Short-term on-the-job training
41-1011	First-line supervisors/managers of retail sales workers	1,798	1,962	163	9	2	Work experience in a related occupation

[1] The quartile rankings of Occupational Employment Statistics annual earnings data are presented in the following categories: 1=very high ($41,820 and over), 2=high ($27,500 to $41,780), 3=low ($19,710 to $27,380), and 4=very low (up to $19,600). The rankings were based on quartiles using one-fourth of total employment to define each quartile. Earnings are for wage and salary workers.

[2] An occupation is placed into one of 11 categories that best describes the education or training needed by most workers to become fully qualified. For more information about the categories, see *Occupational Projections and Training Data*, Bulletin 2572 (Bureau of Labor Statistics, forthcoming).

Fastest growing occupations. Fifteen of the 30 fastest growing occupations are health related, 7 are computer-related occupations, 3 are teachers, and 3 are environment related. (See table 3.) The others are social and human services assistants, and fitness trainers and aerobics instructors.

The two healthcare groups discussed in the previous section—healthcare practitioners and technical occupations, and healthcare support occupations—have a combined growth rate of 28.8 percent. Rapid growth among health-related occupations reflects an aging population that requires more healthcare, a wealthier population that can afford better healthcare, and advances in medical technology that permit more health problems to be treated more aggressively. However, job growth among health-related occupations will be limited by efforts to control the rapid growth of spending on healthcare, both by private medical insurers and by government—to restrict the growth of Medicare and Medicaid reimbursements. Even so, continued efforts to control healthcare costs should stimulate some health-related occupations (mostly aides, assistants, and technicians) to grow even more rapidly than overall health employment. They will assume some duties formerly done by more highly paid healthcare workers, such as dentists, physicians, and therapists. These include dental assistants, dental hygienists, physician assistants, physical therapist assistants and aides, and occupational therapist assistants and aides. Some healthcare occupations also will grow more rapidly than overall healthcare employment because they are more likely to provide services to the rapidly growing older population. These include some listed above, such as physical and occupational therapist assistants and aides, as well as physical therapists, occupational therapists, and respiratory therapists. Employment of medical assistants should grow the fastest of any occupation, as they perform an increasing share of administrative and clinical duties in rapidly-growing offices of physicians.

The number of medical records and health information technicians employed also is expected to grow rapidly due to the need to maintain records for an increasing number of medical tests, treatments, and procedures that will undergo greater scrutiny by third-party payers, regulators, courts, and consumers. Employment of home health aides and of personal and home care aides (included in this discussion of health-related occupations but classified as a personal service occupation in table 2) also should be stimulated, as the older population grows and as efforts to contain healthcare costs continue. The older population is more likely to need in-home healthcare, as well as personal care and housekeeping that these workers provide. In addition, patients of all ages are being discharged from hospitals and nursing facilities as early as possible. These aides also provide care to this rapidly growing group of patients. Employment of veterinary technologists and technicians, also classified as a healthcare occupation, is projected to grow rapidly as pet owners spend more on advanced animal care services, such as preventive dental care and surgical procedures.

The increasing demand for computer-related occupations reflects the rapid advances in computer technology and the continuing development of new computer applications, including the Internet and Intranets. Overall, computer specialists, a component of computer and mathematical occupations, is projected to grow 35.8 percent; and computer and information systems managers—classified within management, business, and financial occupations—is projected to grow 36.1 percent. (See table 2.) Two computer-related occupations also are among the occupations with the largest projected numerical job growth. (See table 4).

Employment of environmental engineers; environmental science and protection technicians, including health; and hazardous material removal workers will be stimulated by a need to met environmental regulations, develop methods of cleaning up existing hazards, and, more generally, respond to increasing public concern for a safe and clean environment.

Employment of postsecondary school teachers is projected to grow as the population of 18- to 24-year-olds increases and as more adults return to college, but the number of tenure-track positions is expected to decline as institutions seek flexibility in dealing with financial matters and changing student interests. Employment of preschool teachers, except special education, should grow as the proportion of preschool-age children attending school increases, while employment of self-enrichment education teachers is expected to grow as more people embrace lifelong learning, particularly retired baby boomers.

Fitness trainers and aerobics instructors are projected to grow rapidly, due to rising interest in personal training, aerobics classes, and other fitness activities. Social and human service assistants are projected to grow rapidly as employers attempt to control costs in the face of rapid growth in demand for services. Social service agencies are restructuring services and hiring more lower-paid social and human service assistants instead of social workers.

Twenty-one of the 30 fastest growing occupations generally require a postsecondary vocational award or a degree.[7] This is consistent with growth rates by major group presented in the previous section. The fastest growing group, professional and related, is made up mostly of occupations that generally require this level of education. Thirteen of the fastest growing occupations are concentrated in the first earnings quartile and eight in the third earnings quartile.

Occupations with the largest job growth. Very large occupations with average or even below-average growth rates provide many job openings, as do very fast growing ones with smaller base-year employment. These 30 occupations shown on table 4 are from a much broader range of occupational groups than are the 30 fastest growing. Five are health related, and six are service occupations other than those related to health, including three in food service and two in building and grounds cleaning and maintenance occupations. Four each are in education, training, and library, and in sales and related occupations. Three each are in management, business, and financial, and in office and administrative support occupations; and two each are in computer and mathematical, and in transportation and material moving major occupation groups; one is installation, maintenance, and repair.

Twenty-one of the 30 had 2002 employment of 1 million or more. Of the others, seven have projected growth at least twice the 14.8-percent average for all occupations. The three largest occupations in 2002, each with employment of 3 million or more, are projected to grow more slowly than the total for all occupations.

Registered nurses and nursing aides, orderlies, and attendants—by far the two largest health-related occupations in 2002—are projected to have more numerical growth than any other health-related occupations. Home health aides, medical assistants, and personal and home care aides, all among the 30 fastest growing, are also on this list. The four largest education, training, and library occupations in 2002—postsecondary teachers; elementary school teachers, except special education; teachers assistants; and secondary school teachers, except special and vocational education—are also among the top 30 occupations. Of the four sales and related occupations: retail salespersons and cashiers, except gaming are projected to grow about as fast as the average for all occupations; while sales representatives, wholesale and manufacturing, except technical and scientific products are projected to grow somewhat faster. First-line supervisors/managers of retail sales workers are projected to grow relatively slowly, with a 9.7-percent decline among the self-employed (owners of stores and other retail businesses).

Management analysts and security guards are projected to grow about twice as fast as the average for all occupations, while accountants and auditors and general and operations managers should grow somewhat faster than the average. The list has three food-service occupations—combined food preparation and serving workers, including fast food and waiters and waitresses, have base-year employment of about 2 million, while food preparation workers has 850,000. Of the two transportation and material moving occupations: truck drivers, heavy and tractor trailer; and truck drivers, light and delivery services, are projected to grow 19 and 23 percent, respectively. Among building and grounds cleaning and maintenance occupations, janitors and cleaners is projected to have more openings than landscaping and groundskeeping workers, even though the latter is projected to grow faster. Of the three office and administrative support occupations, customer service representatives and receptionists and information clerks are projected to grow rapidly, while office clerks, general, with employment of 3 million, is projected to grow relatively slowly.

Half of the 30 occupations with the largest numerical job growth are in the short-term on-the-job training category, and 9 are in the associate or higher degree category. Of those with the largest numeric increases, 9 are in the first, and 10 are in the fourth earnings quartile.

Table 5. Occupations with the largest job decline, 2002–12

[Numbers in thousands of jobs]

2000 standard occupation classification code and title		Employment		Change		Quartile rank by 2002 median annual earnings[1]	Most significant source of postsecondary education or training[2]
		2002	2012	Number	Percent		
11-9012	Farmers and ranchers	1,158	920	-238	-21	3	Long-term on-the-job training
51-6031	Sewing machine operators	315	216	-99	-31	4	Moderate-term on-the-job training
43-9022	Word processors and typists	241	148	-93	-39	3	Moderate-term on-the-job training
43-5081	Stock clerks and order fillers	1,628	1,560	-68	-4	4	Short-term on-the-job training
43-6014	Secretaries, except legal, medical, and executive	1,975	1,918	-57	-3	3	Moderate-term on-the-job training
51-2022	Electrical and electronic equipment assemblers	281	230	-51	-18	3	Short-term on-the-job training
43-9011	Computer operators	182	151	-30	-17	2	Moderate-term on-the-job training
43-2021	Telephone operators	50	22	-28	-56	2	Short-term on-the-job training
43-5053	Postal service mail sorters, processors, and processing machine operators	253	226	-26	-10	2	Short-term on-the-job training
43-4131	Loan interviewers and clerks	170	146	-24	-14	2	Short-term on-the-job training
43-9021	Data entry keyers	392	371	-21	-5	3	Moderate-term on-the-job training
41-9041	Telemarketers	428	406	-21	-5	4	Short-term on-the-job training
51-6063	Textile knitting and weaving machine setters, operators, and tenders	53	33	-20	-39	3	Long-term on-the-job training
51-6064	Textile winding, twisting, and drawing out machine setters, operators, and tenders	66	46	-20	-30	3	Moderate-term on-the-job training
51-2092	Team assemblers	1,174	1,155	-19	-2	3	Moderate-term on-the-job training
43-4151	Order clerks	330	311	-19	-6	3	Short-term on-the-job training
41-9091	Door-to-door sales workers, news and street vendors, and related workers	155	137	-18	-12	3	Short-term on-the-job training
41-3041	Travel agents	118	102	-16	-14	3	Postsecondary vocational award
43-4011	Brokerage clerks	78	67	-11	-15	2	Moderate-term on-the-job training
43-4061	Eligibility interviewers, government programs	94	83	-11	-12	2	Moderate-term on-the-job training
51-5022	Prepress technicians and workers	91	81	-10	-11	2	Long-term on-the-job training
45-3011	Fishers and related fishing workers	36	27	-10	-27	3	Moderate-term on-the-job training
51-6051	Sewers, hand	36	29	-8	-21	4	Short-term on-the-job training
51-6062	Textile cutting machine setters, operators, and tenders	34	26	-8	-23	3	Moderate-term on-the-job training
51-6061	Textile bleaching and dyeing machine operators and tenders	27	19	-8	-29	3	Moderate-term on-the-job training
27-3010	Announcers	76	68	-8	-10	3	Long-term on-the-job training
43-5041	Meter readers, utilities	54	46	-8	-14	2	Short-term on-the-job training
51-8091	Chemical plant and system operators	58	51	-7	-12	1	Long-term on-the-job training
51-9023	Mixing and blending machine setters, operators, and tenders	106	99	-7	-7	2	Moderate-term on-the-job training
43-4041	Credit authorizers, checkers, and clerks	80	74	-5	-7	3	Short-term on-the-job training

[1] The quartile rankings of Occupational Employment Statistics annual earnings data are presented in the following categories: 1=very high ($41,820 and over), 2=high ($27,500 to $41,780), 3=low ($19,710 to $27,380), and 4=very low (up to $19,600). The rankings were based on quartiles using one-fourth of total employment to define each quartile. Earnings are for wage and salary workers.

[2] An occupation is placed into one of 11 categories that best describes the education or training needed by most workers to become fully qualified. For more information about the categories, see *Occupational Projections and Training Data*, Bulletin 2572 (Bureau of Labor Statistics, forthcoming).

Declining occupations. This section of the article focuses just on those occupations with the largest *numerical* job declines because many detailed occupations with the fastest *rates* of decline are small, with very small employment declines. (See table 5.) Thirteen of the occupations with the largest declines are office and administrative support, 11 are production, and 3 are sales and related. Others are farmers and ranchers, fishers and related fishing workers, and announcers. Changes in technology or business practices will reduce the demand for most of the 30 occupations.

Advances in computer, optical scanning, and voice recognition technologies and growth in electronic business will reduce demand for word processors and typists; stock clerks and order fillers; secretaries, except legal, medical, and executive; telephone operators; postal service mail sorters, processors, and processing machine operators; loan interviewers and clerks; data entry keyers; order clerks; and other office and administrative support occupations.[8] Advances in technology, such as faster machines and more automated processes, and a shift of assembly and other production activities to other countries will lower employment for electrical and electronic equipment assemblers, team assemblers, chemical plant and systems operators, and mixing and blending machine workers. Prepress technicians and workers also will be affected as electronic publishing and printing-on-demand limit the production of printed material.

Employment in the textile and apparel industries will decline, due to greater imports—as import quotas are lifted—and to improved production technology. This will cause employment declines for sewing machine operators; sewers, hand; and the four textile machine operator occupations listed on table 5. Farmers and ranchers will decline as market pressures cause farm consolidation and as farm technology improves.

Employment of travel agents should decline as more travelers rely on the Internet to book travel. Telemarketers will decrease as more people opt out of receiving calls and as blocking technology improves. Door-to-door sales workers, news and street vendors, and related workers will decline due to competition from stores and on-line outlets. Radio and television station consolidation and improved editing and other off-air technologies are expected to lower employment of announcers. Fishers and related workers are projected to decline as the stock of fish decreases and the technology for finding fish improves.

Thirteen of the 30 occupations with the largest numerical declines were in the moderate-term on-the-job training category, 11 were in the short-term category, and none were in a degree category. Of the largest declines, 9 are in the second earnings quartile, and 16 are in the third earnings quartile.

Total job openings

In addition to occupational employment growth, another aspect of the demand for workers is the need to replace those who leave their jobs to enter other occupations, retire, or leave the labor force for other reasons. Job openings resulting from replacement needs are very important because, in most occupations, they exceed those resulting from employment growth. Even occupations that are projected to decline provide some job openings—for example, farmers and ranchers and aerospace engineers. (See table 2.)

The measure of replacement needs is complex because of the continuous movement of workers into and out of occupations. The replacement needs cited in this article are based on the net change in employment (entrants minus separations) in each age cohort over the projection period. Although this measure understates the total number of job openings in an occupation, it best represents the job openings for new labor force entrants over the projection period.[9]

Over the 2002–12 period, more job openings are expected to result from replacement needs (35 million) than from employment growth in the economy (21.3 million). Service occupations are projected to have the most total job openings, 13 million. The number of job openings due to net replacement needs should exceed the number due to growth in major groups with average or below-average projected growth, as well as those among service occupations, which includes many occupations with high turnover. Food preparation and serving occupations have particularly high replacement needs. However, healthcare support occupations should have only half as many replacement openings as growth openings.

The only major group with fewer openings from replacement needs than from employment growth is professional and related occupations, the fastest growing. Even within this group, however, replacement openings exceed growth openings in three subgroups—architecture and engineering; life, physical, and social scientists; and arts, design, entertainment, sports, and media occupations. □

Notes

[1] Occupational projections presented in this article provide information to those interested in labor market issues. They also provide the background for analyses of future employment opportunities described in the forthcoming 2004–05 *Occupational Outlook Handbook*. The Internet version of this edition of the *Handbook*, which will be accessible at **http://www.bls.gov/oco/**, is expected to be available in late February 2004; the print version of the 2004–05 *Handbook*, BLS Bulletin 2570, should be available in Spring 2004. Job outlook information in the 2004–05 *Handbook* will use the projections presented in each of the articles in this issue of the *Monthly Labor Review*. For a description of the methodology used to develop employment projections, see BLS *Handbook of Methods*, Bulletin 2490 (Bureau of Labor Statistics, April 1997), pp. 122–29.

[2] Occupational data reflect the 2000 Standard Occupational Classification system. Base year employment data were developed using the 2002 Occupational Employment Statistics Survey, supplemented with data from the Current Population Survey for self-employed and unpaid family workers.

[3] The Bureau has recently shifted to the 2002 North American Industry Classification System (NAICS). Industry data in this article reflect this shift. The NAICS classification will also be used in an article on high technology in a forthcoming issue of the *Review*. The article will update *High-technology employment: a broader view*, which appeared in the June 1999 *Review*.

[4] Previous occupational projections articles in the *Review* included State and local government education employment and hospital employment in the education services and health services industries, respectively. This article includes them with government—as do industry output and employment projections articles in this and earlier issues of the *Review*.

[5] Ibid.

[6] Daniel E. Hecker, "Employment impact of electronic business," *Monthly Labor Review*, May 2001, p. 5.

[7] Education and training categories listed in tables 3, 4, and 5 show the category that best describes the education or training needed by most workers to become fully qualified. However, for many occupations there are other sources of education and training, as well. Data from the Bureau's Current Population Survey show that for most occupations, workers have a variety of education levels. More detail on education and training is available in the *Occupational Outlook Handbook*; more on education and training categories is available in *Occupational Projections and Training Data*, Bulletin 2572 (Bureau of Labor Statistics, forthcoming). Also, see footnote 1.

[8] Hecker, "Employment impact..."

[9] Net separations do not count all movements of workers out of an occupation, which is a measure termed total separations. For example, an opening caused by a worker who stops working for a period and then gets another job in his or her previous occupation would be counted in the measure of total separations but not net separations. See the discussion on the uses of replacement needs information developed in *Occupational Projections and Training Data*, Bulletin 2572 (Bureau of Labor Statistics, forthcoming).

Trade and the city

International trade is most often accounted for in national terms. There are some data available on exports from specific metropolitan areas and there have been occasional efforts to allocate imports regionally, generally at a very broad level of geographic detail. In the fourth quarter 2003 issue of the Federal Reserve Bank of Chicago's *Economic Perspective*, William Testa, Thomas Klier, and Alexei Zelnev seek to measure the degree of international import and export competition faced by manufacturers in the largest American cities.

Their crudest measure of import competition is total imports attributed to the metropolitan area as a percent of their estimate of gross metropolitan product. Using this metric, the Detroit-Ann Arbor-Flint area has the highest level of import competition at 19 percent, Washington-Baltimore the lowest at 2.1 percent, while Cleveland-Akron and San Diego straddle the average of about 9.5 percent.

Another measure—import penetration—is a more specific way to reflect the competition faced by an area's manufacturing industries. As the authors describe the concept, "Import penetration measures the ratio of imports for a particular industry to the sum of imports plus that portion of domestic production that is *not* exported abroad. ... [T]his measure of import penetration shows the share of domestic sales of a good that is imported rather than domestically produced."

When the measure of import penetration is aggregated across all local manufacturing industries, the metropolitan areas facing the highest import penetration are San Diego, San Francisco-Oakland-San Jose, Boston-Worcester-Lawrence, and Portland-Salem. Facing the lowest penetration are Kansas City, Washington-Baltimore, Atlanta, and Sacramento-Yolo.

Testa and his colleagues also provide a measure of export intensity—exports as a percent of gross metropolitan product. The most export intensive metropolitan areas are Seattle-Tacoma-Bremerton, Detroit-Ann Arbor-Flint, and Miami-Ft. Lauderdale. The least export intensive areas were Denver-Boulder, Kansas City, and Washington-Baltimore.

Europe's shorter work years

Workers in France and Germany work fewer hours in a year than do Americans—the equivalent of 6 to 9 regular workweeks fewer, according to International Labor Organization figures cited by Douglas Clement, editor of the Federal Reserve Bank of Minneapolis quarterly, *The Region*. Writing in the December 2003 issue, Clement outlines the somewhat controversial explanation of this phenomenon offered by Professor Edward C. Prescott of Arizona State University (and a senior monetary advisor to the Minneapolis Fed).

While many analysts look to cultural and legal difference between the United States and Europe (see the August 2003 issue's Précis for an example of the latter), Prescott believes that European workers are simply responding to a different set of economic incentives than are Americans. Clement cites Prescott: "French, Japanese, and U.S. workers all have similar preferences. The French are not better at enjoying leisure. The Japanese are not compulsive savers." The reason the average French worker spends about 6 weeks fewer at work than does the average American instead comes down to the fact that the tax system in France, and many other European countries, drives a much larger wedge between what a worker earns and what that worker gets to keep after taxes.

Prescott's work has highlighted the importance of understanding the relative prices of consumption and leisure, continues Clement. That set of relative prices is determined by the tax rate on consumption—sales taxes, excises, property taxes, and so forth,—and the taxes on labor—income taxes, social insurance taxes, and the like. While none of this seems particularly controversial, Prescott's introduction of the concepts into a standard growth accounting model has attracted some skeptics. Although the results of the model seem to produce a fairly good representation of reality—predicted hours worked per week were very close for Germany and the United Kingdom, a little low for the North American economies, and a bit high for others—Clement cites Peter Lindert of the University of California at Davis as seeing the work as "a theoretical model, heavily laden with assumptions. ... educated, intelligent, plausible fiction."

On the other hand, Clement summarizes the results of an econometric study by labor economists Steven Davis (University of Chicago) and Magnus Henrekson (Stockholm School of Economics) that found that a 12.8-percentage point difference in tax rates results in 122 fewer hours supplied per worker and about a 5-percentage point decrease in the employment to population ratio.

Human capital on the hoof

As we pointed out in our October 2003 Précis of work by Paul D. Gottlieb and Michael Fogarty, retaining or attracting college graduates to an area can have a positive impact on average per capita income for that area. Thus, the recent examination in the Federal Reserve Bank of Cleveland's *Economic Trends* of the migration patterns of college graduates may be of interest. As it turns out, the highest State retention rates in 2001 of graduates in the Class of 2000 were in Idaho, Maine, Texas, California, and New Jersey. The lowest retention rates were in Delaware, Vermont, Rhode Island, North Dakota, and Iowa. □

Publications Received

Economic and social statistics

Access to Money Income in the United States: 2002 Annual Demographic Supplement to the Current Population Survey on the Characteristics and Incomes of Americans. Ithaca, NY, New Strategist Publications, 2003, 400 pp., $89.95/softcover.

Access to Poverty in the United States: 2002 Annual Demographic Supplement to the Current Population Survey on the Poverty Status, Health Insurance Coverage, and Pension Plan Participation of Americans. Ithaca, NY, New Strategist Publications, 2003, 400 pp., $89.95/softcover.

Angrist, Joshua D., *Treatment Effect Heterogeneity in Theory and Practice*. Cambridge, MA, National Bureau of Economic Research, Inc., 2003, 39 pp. (Working Paper 9708) $10 per copy, plus $10 for postage and handling outside the United States.

Hunt, Jennifer, *Teen Births Keep American Crime High*. Cambridge, MA, National Bureau of Economic Research, Inc., 2003, 42 pp. (Working Paper 9632) $10 per copy, plus $10 for postage and handling outside the United States.

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Economic growth and development

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Notes on Current Labor Statistics

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force; employment; unemployment; labor compensation; consumer, producer, and international prices; productivity; international comparisons; and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described; key definitions are given; notes on the data are set forth; and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of current and past experiences. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted data appear in tables 1–14, 16–17, 43, and 47. Seasonally adjusted labor force data in tables 1 and 4–9 were revised in the February 2004 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14 and 16–17 were revised in the July 2003 *Review*. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 49 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:

http://www.bls.gov/cps/

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

http://www.bls.gov/ces/

Additional information on labor force data for areas below the national level are provided in the BLS annual report, *Geographic Profile of Employment and Unemployment*.

For a comprehensive discussion of the Employment Cost Index, see *Employment Cost Indexes and Levels, 1975–95*, BLS Bulletin 2466. The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and Large Firms; Employee Benefits in Small Private Establishments;* and *Employee Benefits in State and Local Governments*.

More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report* and *Producer Price Indexes*. For an overview of the 1998 revision of the CPI, see the December 1996 issue of the *Monthly Labor Review*. Additional data on international prices appear in monthly news releases.

Listings of industries for which productivity indexes are available may be found on the Internet:

http://www.bls.gov/lpc/

For additional information on international comparisons data, see *International Comparisons of Unemployment*, BLS 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; 4–24)

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: **http://www.bls.gov/cps/rvcps03.pdf**).

Effective in January 2003, BLS began using the X-12 ARIMA seasonal adjustment program to seasonally adjust national labor force data. This program replaced the X-11 ARIMA program which had been used since January 1980. See "Revision of Seasonally Adjusted Labor Force Series in 2003," in the February 2003 issue of *Employment and Earnings* (available on the BLS Web site at **http:www.bls.gov/cps/cpsrs.pdf**) for a discussion of the introduction of the use of X-12 ARIMA for seasonal adjustment of the labor force data and the effects that it had on the data.

At the beginning of each calendar year, historical seasonally adjusted data usually are revised, and projected seasonal adjustment factors are calculated for use during the January–June period. The historical seasonally adjusted data usually are revised for only the most recent 5 years. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period, but no revisions are made in the historical data.

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 691–6378.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by about 160,000 businesses and government agencies, which represent approximately 400,000 individual worksites and represent all industries except agriculture. The active CES sample covers approximately one-third of all nonfarm payroll workers. Industries are classified in accordance with the 2002 North American Industry Classification System. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th day of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in the goods-producing industries cover employees, up through the level of working supervisors, who engage directly in the manufacture or construction of the establishment's product. In private service-providing industries, data are collected for nonsupervisory workers, which include most employees except those in executive, managerial, and supervisory positions. Those workers mentioned in tables 11–16 include production workers in manufacturing and natural resources and mining; construction workers in construction; and nonsupervisory workers in all private service-providing industries. Production and nonsupervisory workers account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received, and are different from standard or scheduled hours. **Overtime hours** represent the portion of average weekly hours which was in excess of regular hours and for which overtime premiums were paid.

The **Diffusion Index** represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Table 17 provides an index on private nonfarm employment based on 278 industries, and a manufacturing index based on 84 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The March 2002 benchmark was introduced in June 2003 with the release of data for May 2003, published in the July 2003 issue of the *Review.* With the release in June, 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 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. Thus, 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).

Covered employment and wage data (ES–202)

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 Covered Employment and Wages 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, ES-202 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 four-digit SIC codes.

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 wages 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 pay 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 (CEW) program have switched to the 2002 version of the North American Industry Classificatiion 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 CEW 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 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.

The2000 county data used to calculate the 2000–2001 changes were adjusted for changes in industry and county classification to make them comparable to data for 2001. As a result, the adjusted 2000 data differ to some extent from the data available on the Internet at:

http://www.bls.gov/cew/home.htm.

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).

For additional information on the covered employment and wage data, contact the Division of Administrative Statistics and Labor Turnover at (202) 691–6567.

Compensation and Wage Data

(Tables 1–3; 25–31)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

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 uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor.

Statistical series on total compensation costs, on wages and salaries, and on benefit costs are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. The total compensation costs and wages and salaries series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 4,400 private nonfarm establishments providing about 23,000 occupational observations and 1,000 State and local government establishments providing 6,000 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, 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 bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation 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 Employment Cost Index 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 (June 1981=100) are available on the Internet:

http://www.bls.gov/ect/

FOR ADDITIONAL INFORMATION on the Employment Cost Index, contact the Office of Compensation Levels and Trends: (202) 691–6199.

Employee Benefits Survey

Description of the series

Employee benefits data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 9,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 25 for medium and large private establishments and in table 26 for small private establishments and State and local government.

The survey covers paid leave benefits such as holidays and vacations, and personal, funeral, jury duty, military, family, and sick leave; short-term disability, long-term disability, and life insurance; medical, dental, and vision care plans; defined benefit and defined contribution plans; flexible benefits plans; reimbursement accounts; and unpaid family leave.

Also, data are tabulated on the incidence of several other benefits, such as severance pay, child-care assistance, wellness programs, and employee assistance programs.

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 and postretirement life insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

Participants are workers who are covered by a benefit, whether or not they use that benefit. If the benefit plan is financed wholly by employers and requires employees to complete a minimum length of service for eligibility, the workers are considered participants whether or not they have met the requirement. If workers are required to contribute towards the cost of a plan, they are considered participants only if they elect the plan and agree to make the required contributions.

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

Surveys of employees in medium and large establishments conducted over the 1979–86 period included establishments that employed at least 50, 100, or 250 workers, depending on the industry (most service industries were excluded). The survey conducted in 1987 covered only State and local governments with 50 or more employees. The surveys conducted in 1988 and 1989 included medium and large establishments with 100 workers or more in private industries. All surveys conducted over the 1979–89 period excluded establishments in Alaska and Hawaii, as well as part-time employees.

Beginning in 1990, surveys of State and local governments and small private establishments were conducted in even-numbered years, and surveys of medium and large establishments were conducted in odd-numbered years. The small establishment survey includes all private nonfarm establishments with fewer than 100 workers, while the State and local government survey includes all governments, regardless of the number of workers. All three surveys include full- and part-time workers, and workers in all 50 States and the District of Columbia.

FOR ADDITIONAL INFORMATION on the Employee Benefits Survey, contact the Office of Compensation Levels and Trends on the Internet:

http://www.bls.gov/ebs/

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 31.

Data are largely from a variety of published sources and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

FOR ADDITIONAL INFORMATION on work stoppages data, contact the Office of Compensation and Working Conditions: (202) 691–6282, or the Internet:

http:/www.bls.gov/cba/

Price Data

(Tables 2; 32–42)

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—1982 = 100 for many Producer Price Indexes, 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 33. 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 home-ownership 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 Standard Industrial Classification (SIC) and the product code extension of the SIC developed by the U.S. Bureau of the Census.

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, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined according to the five-digit level of detail for the Bureau of Economic Analysis End-use Classification, the three-digit level for the Standard Industrial 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; 43–46)

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 43–46 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 consist of the hours of all employees (production workers and nonproduction workers), the hours of all persons (paid employees, partners, proprietors, and unpaid family workers), or the number of employees, depending upon the industry.

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 the combined inputs consumed in producing that output. **Combined inputs** include capital, labor, and intermediate purchases. The measure of **capital input** used 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 Bureau of the Census, with additional data supplied by other government agencies, trade associations, and other sources.

For most industries, the productivity indexes refer to the output per hour of all employees. For some trade and services industries, indexes of output per hour of all persons (including self-employed) are constructed. For some transportation industries, only indexes of output per employee are prepared.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Industry Productivity Studies: (202) 691–5618.

International Comparisons

(Tables 47–49)

Labor force and unemployment

Description of the series

Tables 47 and 48 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and several European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. 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.

Definitions

For the principal U.S. definitions of the **labor force, employment**, and **unemployment**, see the Notes section on Employment and Unemployment Data: Household survey data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and older. Therefore, the adjusted statistics relate to the population aged 16 and older in France, Sweden, and the United Kingdom; 15 and older in Australia, Japan, Germany, Italy from 1993 onward, and the Netherlands; and 14 and older in Italy prior to 1993. An exception to this rule is that the Canadian statistics for 1976 onward are adjusted to cover ages 16 and older, whereas the age at which compulsory schooling ends remains at 15. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their jobs are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Italy, the Netherlands, and the United Kingdom are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries, therefore, are subject to revision whenever data from more current labor force surveys become available.

There are breaks in the data series for the United States (1990, 1994, 1997, 1998, 1999, 2000), Canada (1976) France (1992), Germany (1991), Italy (1991, 1993), the Netherlands (1988), and Sweden (1987).

For the United States, the break in series reflects a major redesign of the labor force survey questionnaire and collection methodology introduced in January 1994. Revised population estimates based on the 1990 census, adjusted for the estimated undercount, also were incorporated. In 1996, previously published data for the 1990–93 period were revised to reflect the 1990 census-based population controls, adjusted for the undercount. In 1997, revised population controls were introduced into the household survey. Therefore, the data are not strictly conparable with prior years. In 1998, new composite estimation procedures and minor revisions in population controls were introduced into the household survey. Therefore, the data are not strictly comparable with data for 1997 and earlier years. See the Notes section on Employment and Unemployment Data of this *Review*.

BLS recently introduced a new adjusted series for Canada. Beginning with the data for 1976, Canadian data are adjusted to more closely approximate U.S. concepts. Adjustments are made to the unemployed and labor force to exclude: (1) 15-year-olds; (2) passive jobseekers (persons only reading newspaper ads as their method of job search); (3) persons waiting to start a new job who did not seek work in the past 4 weeks; and (4) persons unavailable for work due to personal or family responsibilities. An adjustment is made to include full-tine students looking for full-time work. The impact of the adjustments was to lower the annual average unemployment rate by 0.1–0.4 percentage point in the 1980s and 0.4–1.0 percentage point in the 1990s.

For France, the 1992 break reflects the substitution of standardized European Union Statistical Office (EUROSTAT) unemployment statistics for the unemployment data estimated according to the International Labor Office (ILO) definition and published in the Organization for Economic Cooperation and Development (OECD) annual yearbook and quarterly update. This change was made because the EUROSTAT data are more up-to-date than the OECD figures. Also, since 1992, the EUROSTAT definitions are closer to the U.S. definitions than they were in prior years. The impact of this revision was to lower the unemployment rate by 0.1 percentage point in 1992 and 1993, by 0.4 percentage point in 1994, and 0.5 percentage point in 1995.

For Germany, the data for 1991 onward refer to unified Germany. Data prior to 1991 relate to the former West Germany. The impact of including the former East Germany was to increase the unemployment rate from 4.3 to 5.6 percent in 1991.

For Italy, the 1991 break reflects a revision in the method of weighting sample data. The impact was to increase the unemployment rate by approximately 0.3 percentage point, from 6.6 to 6.9 percent in 1991.

In October 1992, the survey methodology was revised and the definition of unemployment was changed to include only those who were actively looking for a job within the 30 days preceding the survey and who were available for work. In addition, the lower age limit for the labor force was raised from 14 to 15 years. (Prior to these changes, BLS adjusted Italy's published unemployment rate downward by excluding from the unemployed those persons who had not actively sought work in the past 30 days.) The break in the series also reflects the incorporation of the 1991 population census results. The impact of these changes was to raise Italy's adjusted unemployment rate by approximately 1.2 percentage points, from 8.3 to 9.5 percent in fourth-quarter 1992. These changes did not affect employment significantly, except in 1993. Estimates by the Italian Statistical Office indicate that employment declined by about 3 percent in 1993, rather than the nearly 4 percent indicated by the data shown in table 44. This difference is attributable mainly to the incorporation of the 1991 population benchmarks in the 1993 data. Data for earlier years have not been adjusted to incorporate the 1991 census results.

For the Netherlands, a new survey questionnaire was introduced in 1992 that allowed for a closer application of ILO guidelines. EUROSTAT has revised the Dutch series back to 1988 based on the 1992 changes. The 1988 revised unemployment rate is 7.6 percent; the previous estimate for the same year was 9.3 percent.

There have been two breaks in series in the Swedish labor force survey, in 1987 and 1993. Adjustments have been made for the 1993 break back to 1987. In 1987, a new questionnaire was introduced. Questions regarding current availability were added and the period of active workseeking was reduced from 60 days to 4 weeks. These changes lowered Sweden's 1987 unemployment rate by 0.4 percentage point, from 2.3 to 1.9 percent. In 1993, the measurement period for the labor force survey was changed to represent all 52 weeks of the year rather than one week each month and a new adjustment for population totals was introduced. The impact was to raise the unemployment rate by approximately 0.5 percentage point, from 7.6 to 8.1 percent. Statistics Sweden revised its labor force survey data for 1987–92 to take into account the break in 1993. The adjustment raised the Swedish unemployment rate by 0.2 percentage point in 1987 and gradually rose to 0.5 percentage point in 1992.

Beginning with 1987, BLS has adjusted the Swedish data to classify students who also sought work as unemployed. The impact of this change was to increase the adjusted unemployment rate by 0.1 percentage point in 1987 and by 1.8 percentage points in 1994, when unemployment was higher. In 1998, the adjusted unemployment rate had risen from 6.5 to 8.4 percent due to the adjustment to include students.

The net effect of the 1987 and 1993 changes and the BLS adjustment for students seeking work lowered Sweden's 1987 unemployment rate from 2.3 to 2.2 percent.

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

Manufacturing productivity and labor costs

Description of the series

Table 49 presents comparative indexes of manufacturing labor productivity (output per hour), output, total hours, compensation per hour, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are trend comparisons—that is, series that measure changes over time—rather than level comparisons. There are greater technical problems in comparing the levels of manufacturing output among countries.

BLS constructs the comparative indexes from three basic aggregate measures—output, total labor hours, and total compensation. The hours and compensation measures refer to all employed persons (wage and salary earners plus self-employed persons and unpaid family workers) in the United States, Canada, Japan, France, Germany, Norway, and Sweden, and to all employees (wage and salary earners) in the other countries.

Definitions

Output, in general, refers to value added in manufacturing from the national accounts of each country. However, the output series for Japan prior to 1970 is an index of industrial production, and the national accounts measures for the United Kingdom are essentially identical to their indexes of industrial production.

The 1977–97 output data for the United States are the gross product originating (value added) measures prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce. Comparable manufacturing output data currently are not available prior to 1977.

U.S. gross product originating is a chain-type annual-weighted series. (For more information on the U.S. measure, see Robert E. Yuskavage, "Improved Estimates of Gross Product by Industry, 1959–94," *Survey of Current Business*, August 1996, pp. 133–55.) The Japanese value added series is based upon one set of fixed price weights for the years 1970 through 1997. Output series for the other foreign economies also employ fixed price weights, but the weights are updated periodically (for example, every 5 or 10 years).

To preserve the comparability of the U.S. measures with those for other economies, BLS uses gross product originating in manufacturing for the United States for these comparative measures. The gross product originating series differs from the manufacturing output series that BLS publishes in its news releases on quarterly measures of U.S. productivity and costs (and that underlies the measures that appear in tables 43 and 45 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 labor hours refers to hours worked in all countries. The measures are developed from statistics of manufacturing employment and average hours. The series used for France (from 1970 forward), Norway, and Sweden are official series published with the national accounts. Where official total hours series are not available, the measures are developed by BLS using employment figures published with the national accounts, or other comprehensive employment series, and estimates of annual hours worked. For Germany, BLS uses estimates of average hours worked developed by a research institute connected to the Ministry of Labor for use with the national accounts employment figures. For the other countries, BLS constructs its own estimates of average hours.

Denmark has not published estimates of average hours for 1994–97; therefore, the BLS measure of labor input for Denmark ends in 1993.

Total compensation (labor cost) 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. The measures are from the national accounts of each country, except those for Belgium, which are developed by BLS using statistics on employment, average hours, and hourly compensation. For Canada, France, and Sweden, compensation is increased to account for other significant taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for employment-related subsidies. Self-employed workers are included in the all-employed-persons measures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (for all years) and Italy (beginning 1970) refer to mining and manufacturing less energy-related products, and the measures for Denmark include mining and exclude manufacturing handicrafts from 1960 to 1966.

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, contact the Division of Foreign Labor Statistics: (202) 691–5654.

Occupational Injury and Illness Data

(Tables 50–51)

Survey of Occupational Injuries and Illnesses

Description of the series

The Survey of Occupational Injuries and Illnesses collects data from employers about their workers' job-related nonfatal injuries and illnesses. The information that employers provide is based on records that they maintain under the Occupational Safety and Health Act of 1970. Self-employed individuals, farms with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies are excluded from the survey.

The survey is a Federal-State cooperative program with an independent sample selected for each participating State. A stratified random sample with a Neyman allocation is selected to represent all private industries in the State. The survey is stratified by Standard Industrial Classification and size of employment.

Definitions

Under the Occupational Safety and Health Act, employers maintain records of nonfatal work-related injuries and illnesses that involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment other than first aid.

Occupational injury is any injury such as a cut, fracture, sprain, or amputation that results from a work-related event or a single, instantaneous exposure in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday injuries and illnesses are cases that involve days away from work, or days of restricted work activity, or both.

Lost workdays include the number of workdays (consecutive or not) on which the employee was either away from work or at work in some restricted capacity, or both, because of an occupational injury or illness. BLS measures of the number and incidence rate of lost workdays were discontinued beginning with the 1993 survey. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked, such as a Federal holiday, even though able to work.

Incidence rates are computed as the number of injuries and/or illnesses or lost work days per 100 full-time workers.

Notes on the data

The definitions of occupational injuries and illnesses are from *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (U.S. Department of Labor, Bureau of Labor Statistics, September 1986).

Estimates are made for industries and employment size classes for total recordable cases, lost workday cases, days away from work cases, and nonfatal cases without lost workdays. These data also are shown separately for injuries. Illness data are available for seven categories: occupational skin diseases or disorders, dust diseases of the lungs, respiratory conditions due to toxic agents, poisoning (systemic effects of toxic agents), disorders due to physical agents (other than toxic materials), disorders associated with repeated trauma, and all other occupational illnesses.

The survey continues to measure the number of new work-related illness cases which are recognized, diagnosed, and reported during the year. Some conditions, for example, long-term latent illnesses caused by exposure to carcinogens, often are difficult to relate to the workplace and are not adequately recognized and reported. These long-term latent illnesses are believed to be understated in the survey's illness measure. In contrast, the overwhelming majority of the reported new illnesses are those which are easier to directly relate to workplace activity (for example, contact dermatitis and carpal tunnel syndrome).

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses per 100 equivalent full-time workers. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail on the available measures is presented in the annual bulletin, *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics.*

Comparable data for more than 40 States and territories are available from the BLS Office of Safety, Health and Working Conditions. Many of these States publish data on State and local government employees in addition to private industry data.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration. Data from these organizations are included in both the national and State data published annually.

With the 1992 survey, BLS began publishing details on serious, nonfatal incidents resulting in days away from work. Included are some major characteristics of the injured and ill workers, such as occupation, age, gender, race, and length of service, as well as the circumstances of their injuries and illnesses (nature of the disabling condition, part of body affected, event and exposure, and the source directly producing the condition). In general, these data are available nationwide for detailed industries and for individual States at more aggregated industry levels.

FOR ADDITIONAL INFORMATION on occupational injuries and illnesses, contact the Office of Occupational Safety, Health and Working Conditions at (202) 691–6180, or access the Internet at:

http://www.bls.gov/iif/

Census of Fatal Occupational Injuries

The Census of Fatal Occupational Injuries compiles a complete roster of fatal job-related injuries, including detailed data about the fatally injured workers and the fatal events. The program collects and cross checks fatality information from multiple sources, including death certificates, State and Federal workers' compensation reports, Occupational Safety and Health Administration and Mine Safety and Health Administration records, medical examiner and autopsy reports, media accounts, State motor vehicle fatality records, and follow-up questionnaires to employers.

In addition to private wage and salary workers, the self-employed, family members, and Federal, State, and local government workers are covered by the program. To be included in the fatality census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job.

Definition

A fatal work injury is any intentional or unintentional wound or damage to the body resulting in death from acute exposure to energy, such as heat or electricity, or kinetic energy from a crash, or from the absence of such essentials as heat or oxygen caused by a specific event or incident or series of events within a single workday or shift. Fatalities that occur during a person's commute to or from work are excluded from the census, as well as work-related illnesses, which can be difficult to identify due to long latency periods.

Notes on the data

Twenty-eight data elements are collected, coded, and tabulated in the fatality program, including information about the fatally injured worker, the fatal incident, and the machinery or equipment involved. Summary worker demographic data and event characteristics are included in a national news release that is available about 8 months after the end of the reference year. The Census of Fatal Occupational Injuries was initiated in 1992 as a joint Federal-State effort. Most States issue summary information at the time of the national news release.

FOR ADDITIONAL INFORMATION on the Census of Fatal Occupational Injuries contact the BLS Office of Safety, Health, and Working Conditions at (202) 691–6175, or the Internet at:

http://www.bls.gov/iif/

Where to find additional data

Current and historical statistics from Bureau of Labor Statistics surveys are available at the addresses listed on the inside back cover of this *Review*, or on the Internet at

http://www.bls.gov

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1. Labor market indicators

Selected indicators	2002	2003	2001	2002				2003			
			IV	I	II	III	IV	I	II	III	IV
Employment data											
Employment status of the civilian noninstitutional population (household survey):[1]											
Labor force participation rate	66.6	66.2	66.8	66.6	66.7	66.6	66.5	66.3	66.4	66.2	66.1
Employment-population ratio	62.7	62.3	63.0	62.8	62.8	62.8	62.5	62.4	62.3	62.1	62.3
Unemployment rate	5.8	6.0	5.6	5.6	5.9	5.8	5.9	5.8	6.1	6.1	5.9
Men	5.9	6.3	5.7	5.7	6.0	5.9	6.1	6.1	6.5	6.4	6.1
16 to 24 years	12.8	13.4	12.7	12.9	12.8	13.1	12.5	12.6	14.0	13.8	13.1
25 years and older	4.7	5.0	4.4	4.5	4.8	4.7	4.9	5.0	5.2	5.1	4.9
Women	5.6	5.7	5.5	5.5	5.7	5.6	5.7	5.5	5.7	5.8	5.6
16 to 24 years	11.1	11.4	10.7	11.0	11.2	10.9	11.4	11.2	11.8	11.5	10.9
25 years and older	4.6	4.6	4.4	4.4	4.8	4.6	4.6	4.5	4.6	4.7	4.6
Employment, nonfarm (payroll data), in thousands:[1]											
Total nonfarm	130,376	130,045	130,920	130,523	130,403	130,239	130,338	130,225	129,984	1,299	130,109
Total private	108,886	108,594	109,593	109,105	108,918	108,755	108,792	108,655	108,488	108,441	108,638
Goods-producing	22,619	22,064	23,226	22,880	22,673	22,537	22,389	22,213	22,093	21,987	21,954
Manufacturing	15,306	14,701	15,833	15,517	15,369	15,246	15,085	14,926	14,744	14,599	14,530
Service-providing	107,757	107,981	107,694	107,643	107,730	107,702	107,949	108,012	107,891	107,915	108,155
Average hours:											
Total private	33.9	33.8	33.8	33.9	33.9	33.9	33.8	33.8	33.7	33.7	33.8
Manufacturing	40.5	40.4	40.1	40.4	40.6	40.5	40.4	40.4	40.2	40.3	40.7
Overtime	4.2	4.2	3.8	4.0	4.2	4.2	4.3	4.3	4.0	4.1	4.5
Employment Cost Index[2]											
Percent change in the ECI, compensation:											
All workers (excluding farm, household and Federal workers)	3.4	3.8	.8	1.0	.9	.9	.6	1.4	.8	1.1	.5
Private industry workers	3.2	4.0	.8	1.1	1.1	.6	.4	1.7	.8	1.0	.4
Goods-producing[3]	3.7	4.0	.8	1.2	.9	.6	.9	1.8	.9	.7	.5
Service-providing[3]	3.1	4.0	.8	1.1	1.2	.6	.2	1.5	.8	1.1	.5
State and local government workers	4.1	3.3	.6	.6	.4	2.2	.9	.7	.4	1.7	.5
Workers by bargaining status (private industry):											
Union	4.2	4.6	1.4	1.1	1.0	1.2	.9	1.6	1.2	1.0	.7
Nonunion	3.2	3.9	.7	1.1	1.1	.5	.4	1.6	.8	1.0	.4

[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] 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	2002	2003	2001	2002				2003			
			IV	I	II	III	IV	I	II	III	IV
Compensation data[1,2]											
Employment Cost Index—compensation (wages, salaries, benefits):											
Civilian nonfarm	3.4	3.8	0.8	1.0	0.9	0.9	0.6	1.4	0.8	1.1	0.5
Private nonfarm	3.2	4.0	.8	1.1	1.1	.6	.4	1.7	.8	1.0	.4
Employment Cost Index—wages and salaries:											
Civilian nonfarm	2.9	2.9	.7	.9	.8	.7	.4	1.0	.6	.9	.3
Private nonfarm	2.7	3.0	.8	.9	1.0	.4	.3	1.1	.7	.8	.4
Price data[1]											
Consumer Price Index (All Urban Consumers): All Items	2.3	2.3	–.9	.7	.5	.6	-.1	1.8	–.3	–.2	–.2
Producer Price Index:											
Finished goods	3.2	3.2	–3.2	1.1	.2	.2	-.1	3.7	–.8	.3	.0
Finished consumer goods	4.2	4.2	–4.3	1.5	.4	.0	-.3	2.4	1.8	.3	.0
Capital equipment	.4	.4	.1	2.9	–.3	–.7	.6	.6	–.6	–.1	.0
Intermediate materials, supplies, and components	4.6	4.6	–3.6	.9	1.1	1.1	.1	6.5	–2.1	–.1	.0
Crude materials	25.2	25.2	–12.2	8.0	37.1	1.9	6.5	28.0	–10.6	3.4	14.4
Productivity data[3]											
Output per hour of all persons:											
Business sector	4.8	4.3	8.7	8.3	1.6	4.9	1.3	3.2	7.1	8.7	1.8
Nonfarm business sector	4.9	4.2	8.3	9.7	.8	4.5	1.5	3.1	6.1	9.5	2.7
Nonfinancial corporations[4]	5.0	–	10.8	4.4	6.2	4.8	4.0	2.1	9.6	8.6	–

[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] 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.

[4] Output per hour of all employees.

3. Alternative measures of wage and compensation changes

Components	Quarterly change					Four quarters ending—				
	2002	2003				2002	2003			
	IV	I	II	III	IV	IV	I	II	III	IV
Average hourly compensation:[1]										
All persons, business sector	1.3	4.4	5.2	2.7	0.9	1.5	2.4	3.1	3.4	3.3
All persons, nonfarm business sector	1.4	3.7	4.8	3.4	1.3	1.5	2.2	2.8	3.3	3.3
Employment Cost Index—compensation:										
Civilian nonfarm[2]	.6	1.4	.8	1.1	.5	3.4	3.9	3.7	3.9	3.8
Private nonfarm	.4	1.7	.8	1.0	.4	3.2	3.8	3.5	4.0	4.0
Union	.9	1.6	1.2	1.0	.7	4.2	4.7	5.0	4.8	4.6
Nonunion	.4	1.6	.8	1.0	.4	3.2	3.6	3.3	3.8	3.9
State and local governments	.9	.7	.4	1.7	.5	4.1	4.2	4.1	3.6	3.3
Employment Cost Index—wages and salaries:										
Civilian nonfarm[2]	.4	1.0	.6	.9	.3	2.9	2.9	2.7	2.9	2.9
Private nonfarm	.3	1.1	.7	.8	.4	2.7	3.0	2.6	3.0	3.0
Union	.8	.5	.7	.6	.6	3.5	3.3	3.0	2.6	2.4
Nonunion	.3	1.2	.7	.9	.2	2.7	2.9	2.5	3.1	3.1
State and local governments	.6	.4	.3	1.0	.4	3.2	3.1	3.1	2.3	2.1

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

[2] Excludes Federal and 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		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
TOTAL															
Civilian noninstitutional population[1]	217,570	221,168	218,741	219,897	220,114	220,317	220,540	220,768	221,014	221,252	221,507	221,779	222,039	222,279	222,509
Civilian labor force	144,863	146,510	145,157	145,875	145,898	145,818	146,377	146,462	146,917	146,652	146,622	146,610	146,892	147,187	146,878
Participation rate	66.6	66.2	66.4	66.3	66.3	66.2	66.4	66.3	66.5	66.3	66.2	66.1	66.2	66.2	66.0
Employed	136,485	137,736	136,459	137,447	137,318	137,300	137,578	137,505	137,673	137,604	137,693	137,644	138,095	138,533	138,479
Employment-population ratio[2]	62.7	62.3	62.4	62.5	62.4	62.3	62.3	62.3	62.3	62.2	62.2	62.1	62.2	62.3	62.2
Unemployed	8,378	8,774	8,698	8,428	8,581	8,519	8,799	8,957	9,245	9,048	8,929	8,966	8,797	8,653	8,398
Unemployment rate	5.8	6.0	6.0	5.8	5.9	5.8	6.0	6.1	6.3	6.2	6.1	6.1	6.0	5.9	5.7
Not in the labor force	72,707	74,658	73,584	74,022	74,216	74,499	74,163	74,306	74,097	74,600	74,884	75,168	75,147	75,093	75,631
Men, 20 years and over															
Civilian noninstitutional population[1]	96,439	98,272	97,139	97,635	97,762	97,869	97,979	98,083	98,196	98,304	98,434	98,568	98,696	98,814	98,927
Civilian labor force	73,630	74,623	73,725	74,014	74,241	74,209	74,510	74,523	74,675	74,660	74,682	74,905	74,942	75,188	75,044
Participation rate	76.3	75.9	75.9	75.8	75.9	75.8	76.0	76.0	76.0	75.9	75.9	76.0	75.9	76.1	75.9
Employed	69,734	70,415	69,569	69,940	70,174	70,213	70,290	70,182	70,190	70,269	70,324	70,596	70,726	70,964	71,099
Employment-population ratio[2]	72.3	71.7	71.6	71.6	71.8	71.7	71.7	71.6	71.5	71.5	71.4	71.6	71.7	71.8	71.9
Unemployed	3,896	4,209	4,157	4,075	4,068	3,995	4,220	4,341	4,485	4,391	4,358	4,309	4,216	4,224	3,945
Unemployment rate	5.3	5.6	5.6	5.5	5.5	5.4	5.7	5.8	6.0	5.9	5.8	5.8	5.6	5.6	5.3
Not in the labor force	22,809	23,649	23,415	23,620	23,521	23,660	23,469	23,560	23,521	23,644	23,751	23,663	23,754	23,620	23,882
Women, 20 years and over															
Civilian noninstitutional population[1]	105,136	106,800	105,678	106,235	106,322	106,411	106,510	106,613	106,724	106,839	106,957	107,080	107,197	107,303	107,404
Civilian labor force	63,648	64,716	64,056	64,490	63,459	64,490	64,632	64,699	64,989	64,835	64,836	64,608	64,899	64,917	64,846
Participation rate	60.5	60.6	60.6	60.7	60.5	60.6	60.7	60.7	60.9	60.7	60.6	60.3	60.5	60.5	60.4
Employed	60,420	61,402	60,750	61,391	61,106	61,219	61,343	61,397	61,610	61,479	61,467	61,191	61,524	61,597	61,521
Employment-population ratio[2]	57.5	57.5	57.5	57.8	57.5	57.5	57.6	27.6	57.7	57.5	57.5	57.1	57.4	57.4	57.3
Unemployed	3,228	3,314	3,306	3,100	3,253	3,271	3,289	3,302	3,379	3,356	3,369	3,417	3,375	3,320	3,326
Unemployment rate	5.1	5.1	5.2	4.8	5.1	5.1	5.1	5.1	5.2	5.2	5.2	5.3	5.2	5.1	5.1
Not in the labor force	41,488	42,083	41,622	41,745	41,964	41,921	41,878	41,914	41,735	42,004	42,121	42,472	42,299	42,387	42,558
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	15,994	16,096	15,925	16,027	16,030	16,038	16,051	16,072	16,095	16,109	16,116	16,131	16,145	16,162	16,168
Civilian labor force	7,585	7,170	7,376	7,371	7,298	7,120	7,235	7,240	7,254	7,157	7,104	7,097	7,051	7,082	6,987
Participation rate	47.4	44.5	46.3	46.0	45.5	44.1	45.1	45.0	45.1	44.4	44.1	44.0	43.7	43.8	43.2
Employed	6,332	5,919	6,141	6,117	6,039	5,868	5,945	5,926	5,873	5,856	5,902	5,857	5,846	5,972	5,859
Employment-population ratio[2]	39.6	36.8	38.6	38.2	37.7	36.6	37.0	36.9	36.5	36.4	36.6	36.3	36.2	37.0	36.2
Unemployed	1,253	1,251	1,235	1,254	1,260	1,252	1,290	1,314	1,381	1,301	1,202	1,240	1,205	1,109	1,128
Unemployment rate	16.5	17.5	16.7	17.0	17.3	17.6	17.8	18.1	19.0	18.2	16.9	17.5	17.1	15.7	16.1
Not in the labor force	8,409	8,926	8,549	8,656	8,751	8,918	8,816	8,832	8,841	8,952	9,012	9,034	9,094	9,080	9,191
White[3]															
Civilian noninstitutional population[1]	179,783	181,292	180,580	180,460	180,599	180,728	180,873	181,021	181,184	181,341	181,512	181,696	181,871	182,032	182,185
Civilian labor force	120,150	120,546	120,072	120,117	120,247	120,223	120,514	120,470	120,816	120,645	120,658	120,411	120,736	121,041	120,751
Participation rate	66.8	66.5	66.5	66.6	66.6	66.5	66.6	66.6	66.7	66.5	66.5	66.3	66.4	66.5	66.3
Employed	114,013	114,235	113,876	113,985	114,118	114,057	114,220	113,978	114,222	114,086	114,156	114,015	114,535	114,783	114,678
Employment-population ratio[2]	63.4	63.0	63.1	63.2	63.2	63.1	63.1	63.0	63.0	62.9	62.9	62.8	63.0	63.1	62.9
Unemployed	6,137	6,311	6,195	6,132	6,129	6,166	6,294	6,491	6,594	6,559	6,502	6,397	6,200	6,258	6,075
Unemployment rate	5.1	5.2	5.2	5.1	5.1	5.1	5.2	5.4	5.5	5.4	5.4	5.3	5.1	5.2	5.0
Not in the labor force	59,633	60,746	60,509	60,343	60,352	60,505	60,359	60,551	60,368	60,696	60,854	61,285	61,135	60,991	61,434
Black or African American[3]															
Civilian noninstitutional population[1]	25,578	25,686	25,894	25,484	25,519	25,552	25,587	25,624	25,664	25,702	25,742	25,784	25,825	25,860	25,894
Civilian labor force	16,565	16,526	16,701	16,443	16,417	16,359	16,521	16,614	16,655	16,563	16,585	166,677	16,589	16,524	16,365
Participation rate	64.8	64.3	64.8	64.5	64.3	64.0	64.6	64.8	64.9	64.4	64.4	64.7	64.2	63.9	63.2
Employed	14,872	14,739	14,799	14,717	14,665	14,678	14,739	14,838	14,729	14,727	14,771	14,826	14,696	14,812	14,679
Employment-population ratio[2]	58.1	57.4	57.4	57.8	57.5	57.4	57.6	57.9	57.4	57.3	57.4	57.5	56.9	57.3	56.7
Unemployed	1,693	1,787	1,902	1,727	1,751	1,681	1,782	1,776	1,926	1,836	1,813	1,851	1,893	1,712	1,686
Unemployment rate	10.2	10.8	11.4	10.5	10.7	10.3	10.8	10.7	11.6	11.1	10.9	11.1	11.4	10.4	10.3
Not in the labor force	9,013	9,161	9,082	9,040	9,103	9,193	9,066	9,011	9,009	9,139	9,127	9,107	9,236	9,336	9,529

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		2002	2003											
	2002	2003	Dec.	Jan.	Feb	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Hispanic or Latino ethnicity															
Civilian noninstitutional population[1]	25,963	27,551	25,963	26,994	27,095	27,191	27,291	27,391	27,494	27,597	27,701	27,808	27,913	28,016	28,116
Civilian labor force	17,943	18,813	18,150	18,584	18,596	18,604	18,779	18,763	18,840	18,770	18,843	18,877	18,940	19,125	19,035
Participation rate	69.1	68.3	68.7	68.8	68.6	68.4	68.8	68.5	68.5	68.0	68.0	67.9	67.9	68.3	67 .7
Employed	16,590	17,372	16,704	17,119	17,160	17,173	17,350	17,247	17,290	17,247	173 83	17,456	17,556	17,709	17,784
Employment-population ratio[2]	63.9	63.1	63.2	63.4	63.3	63.2	63.6	63.0	62.9	62.5	62.8	62.8	62.9	63.2	63.3
Unemployed	1,353	1,441	1,446	1,465	1,436	1,431	1,428	1,516	1,550	1,523	1,460	1,421	1,383	1,416	1,250
Unemployment rate	7.5	7.7	8.0	7.9	7.7	7.7	7.6	8.1	8.2	8.1	7.8	7.5	7.3	7.4	6.6
Not in the labor force	8,020	8,738	8,286	8,410	8,498	8,587	8,512	8,628	8,654	8,828	8,858	8,931	8,974	8,891	9,083

[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		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Characteristic															
Employed, 16 years and over	136,845	137,736	136,459	137,447	137,318	137,300	137,578	137,505	137,673	137,604	137,693	137,644	138,095	138,533	138,479
Men	72,903	73,332	72,615	72,958	73,132	73,015	73,150	73,049	73,124	73,149	73,263	73,488	73,643	73,915	74,085
Women	63,582	64,404	63,844	64,489	64,186	64,285	64,427	64,456	64,548	64,455	64,431	64,155	64,452	64,618	64,394
Married men, spouse present	44,116	44,653	43,927	44,328	44,458	44,381	44,525	44,476	44,459	44,747	44,659	44,566	44,684	45,152	45,431
Married women, spouse present	34,155	34,695	34,227	34,477	34,546	34,527	34,634	34,494	34,627	34,648	34,684	34,612	34,993	35,076	35,034
Persons at work part time[1]															
All industries:															
Part time for economic reasons	4,213	4,701	4,330	4,572	4,711	4,662	4,758	4,610	4,615	4,661	4,498	4,896	4,800	4,880	4,788
Slack work or business conditions	2,788	3,118	2,912	3,019	3,107	3,100	3,172	3,069	3,136	3,113	3,063	3,185	3,030	3,226	3,205
Could only find part-time work	1,124	1,279	1,178	1,266	1,246	1,213	1,255	1,264	1,266	1,296	1,201	1,334	1,356	1,350	1,295
Part time for noneconomic reasons	18,843	19,014	18,668	19,150	18,546	18,928	18,933	19,703	19,382	19,089	19,482	19,021	18,935	19,110	18,561
Nonagricultural industries:															
Part time for economic reasons	4,119	4,596	4,281	4,451	4,589	4,550	4,643	4,498	4,500	4,568	4,404	4,794	4,690	4,782	4,727
Slack work or business conditions	2,726	3,052	2,870	2,952	3,028	3,028	3,098	3,012	3,064	3,071	2,989	3,127	2,964	3,153	3,144
Could only find part-time work	1,114	1,264	1,154	1,239	1,234	1,193	1,249	1,236	1,244	1,273	1,191	1,335	1,349	1,353	1,279
Part time for noneconomic reasons	18,487	18,658	18,353	18,710	18,353	18,580	18,571	18,653	18,930	18,651	19,016	18,633	18,628	18,752	18,367

[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		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Characteristic															
Total, 16 years and older	5.8	6.0	6.0	5.8	8.9	5.8	6.0	6.1	6.3	6.2	6.1	6.1	6.0	5.9	5.7
Both sexes, 16 to 19 years	16.5	17.5	16.7	17.0	17.3	17.6	17.8	18.1	19.0	18.2	16.9	17.5	17.1	15.7	16.1
Men, 20 years and older	5.3	5.6	5.6	5.5	5.5	5.4	5.7	5.8	6.0	5.9	5.8	5.8	5.6	5.6	5.3
Women, 20 years and older	5.1	5.1	5.2	4.8	5.1	5.1	5.1	5.1	5.2	5.2	5.2	5.3	5.2	5.1	5.1
White, total[1]	5.1	5.2	5.2	5.1	5.1	5.1	5.2	5.4	5.5	5.4	5.4	5.3	5.1	5.2	5.0
Both sexes, 16 to 19 years	14.5	15.2	14.0	15.0	15.4	15.5	15.3	15.3	16.2	15.7	15.1	15.1	14.3	14.3	14.8
Men, 16 to 19 years	15.9	17.1	15.2	16.3	17.1	17.8	17.4	17.1	17.6	17.9	16.5	17.6	15.9	16.8	16.3
Women, 16 to 19 years	13.1	13.3	12.8	13.8	13.6	13.1	13.2	13.6	14.8	13.3	13.7	12.6	12.6	11.5	13.1
Men, 20 years and older	4.7	5.0	5.0	4.9	4.8	4.8	5.0	5.2	5.3	5.3	5.3	5.0	4.9	5.0	4.7
Women, 20 years and older	4.4	4.4	4.3	4.2	4.3	4.4	4.3	4.5	4.4	4.4	4.4	4.5	4.4	4.4	4.3
Black or African American, total[1]	10.2	10.8	11.4	10.5	10.7	10.3	10.8	10.7	11.6	11.1	10.9	11.1	11.4	10.4	10.3
Both sexes, 16 to 19 years	29.8	33.0	34.4	30.6	30.6	33.3	32.9	35.8	38.5	35.1	29.8	32.7	37.3	28.9	27.3
Men, 16 to 19 years	31.3	36.0	35.3	34.1	38.0	43.1	37.1	41.1	36.5	37.1	27.8	34.2	40.9	32.5	28.4
Women, 16 to 19 years	28.3	30.3	33.7	27.6	23.1	24.5	29.3	31.3	40.3	33.4	31.5	31.4	33.2	25.7	26.5
Men, 20 years and older	9.5	10.3	10.6	10.4	10.3	9.5	10.4	11.0	11.0	10.3	10.5	11.0	10.5	10.1	9.3
Women, 20 years and older	8.8	9.2	9.7	8.6	9.1	8.8	9.1	8.0	9.6	9.6	9.7	9.2	9.8	9.1	9.7
Hispanic or Latino ethnicity	7.5	7.7	8.0	7.9	7.7	7.7	7.6	8.1	8.2	8.1	7.8	7.5	7.3	7.4	6.6
Married men, spouse present	3.6	3.8	3.7	3.6	3.7	3.8	3.8	3.9	4.3	3.9	3.9	3.8	3.8	3.7	3.3
Married women, spouse present	3.7	3.7	3.8	3.3	3.6	3.7	3.7	3.7	3.9	3.9	3.9	3.9	3.8	3.8	3.9
Full-time workers	5.9	6.1	6.1	5.9	6.0	5.9	6.1	6.2	6.4	6.3	6.2	6.2	6.1	6.1	5.8
Part-time workers	5.2	5.5	5.3	5.3	5.5	5.5	5.4	5.6	5. 9	5.5	5.3	5.7	5.5	5.1	5.3
Educational attainment[2]															
Less than a high school diploma	8.4	8.8	9.2	8.7	8.8	8.6	8.5	9.1	9.4	8.8	9.3	8.7	8.8	8.5	8.1
High school graduates, no college[3]	5.3	5.5	5.4	5.2	5.4	5.5	5.7	5.5	5.7	5.5	5.4	5.4	5.5	5.4	5.5
Some college or associate degree	4.5	4.8	5.0	4.8	4.7	4.8	4.7	4.9	4.9	5.0	4.7	4.8	4.8	4.8	4.5
Bachelor's degree and higher[4]	2.9	3.1	2.9	3.0	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.2	3.1	3.1	3.0

[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.

[3] Includes high school diploma or equivalent.

[4] Includes persons with bachelor's, master's, professional, and doctoral degrees.

NOTE: Beginning in January 2003, data reflect revised population controls used in the household survey.

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Less than 5 weeks	2,893	2,785	2,873	2,795	2,782	2,788	2,815	3,033	2,937	2,739	2,735	2,749	2,733	2,622	2,627
5 to 14 weeks	2,580	2,612	2,591	2,573	2,586	2,531	2,625	2,617	2,787	2,698	2,630	2,736	2,585	2,556	2,450
15 weeks and over	2,904	3,378	3,312	3,175	3,176	3,168	3,318	3,294	3,510	3,559	3,561	3,511	3,478	3,484	3,403
15 to 26 weeks	1,369	1,442	1,420	1,444	1,292	1,340	1,399	1,380	1,500	1,598	1,561	1,438	1,460	1,448	1,513
27 weeks and over	1,535	1,936	1,891	1,731	1,884	1,829	1,919	1,914	2,010	1,961	2,001	2,073	2,018	2,036	1,890
Mean duration, in weeks	16.6	19.2	18.5	18.5	18.7	18.1	19.4	19.2	19.6	19.3	19.2	19.6	19.4	20.0	19.6
Median duration, in weeks	9.1	10.1	9.6	9.7	9.5	9.7	10.1	10.1	11.7	10.1	10.0	10.1	10.3	10.4	10.4

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		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Job losers[1]	4,607	4,838	4,839	4,631	4,806	4,774	4,851	5,021	4,972	4,947	4,939	4,947	4,877	4,719	4,618
On temporary layoff	1,124	1,121	1,122	1,094	1,141	1,151	1,112	1,197	1,177	1,173	1,092	1,110	1,097	1,055	1,060
Not on temporary layoff	3,483	3,717	3,716	3,536	3,665	3,623	3,739	3,824	3,795	3,774	3,847	3,837	3,780	3,664	3,558
Job leavers	866	818	866	825	783	802	818	778	890	798	790	836	789	931	783
Reentrants	2,368	2,477	2,475	2,374	2,418	2,410	2,517	2,506	2,646	2,522	2,530	2,436	2,518	2,440	2,366
New entrants	536	641	534	605	589	620	633	635	642	661	650	684	653	619	694
Percent of unemployed															
Job losers[1]	55.0	55.1	55.5	54.9	55.9	55.5	55.0	56.2	54.3	55.4	55.4	55.6	55.2	54.2	54.6
On temporary layoff	13.4	12.8	12.9	13.0	13.3	13.4	12.6	13.4	12.9	13.1	12.3	12.5	12.4	12.1	12.5
Not on temporary layoff	41.6	42.4	42.6	41.9	42.5	42.1	42.4	42.8	41.5	42.3	43.2	43.1	42.8	42.1	42.0
Job leavers	10.3	9.3	9.9	9.8	9.1	9.3	9.3	8.7	9.7	8.9	8.9	9.4	8.9	10.7	9.3
Reentrants	28.3	28.2	28.4	28.1	28.1	28.0	28.5	28.0	28.9	28.2	28.4	27.4	28.5	28.0	28.0
New entrants	6.4	7.3	6.1	7.2	6.9	7.2	7.2	7.1	7.0	7.4	7.3	7.7	7.4	7.1	8.2
Percent of civilian labor force															
Job losers[1]	3.2	3.3	3.2	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.1
Job leavers	.6	.6	.6	.6	.5	.5	.6	.5	.6	.5	.5	.6	.5	.6	.5
Reentrants	1.6	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6
New entrants	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.5	.4		.4

[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		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total, 16 years and older	5.8	6.0	6.0	5.8	5.9	5.8	6.0	6.1	6.3	6.2	6.1	6.1	6.0	5.9	5.7
16 to 24 years	12.0	12.4	12.2	12.0	12.0	11.8	12.6	12.9	13.3	12.9	12.4	12.8	12.3	12.1	11.7
16 to 19 years	16.5	17.5	16.7	17.0	17.3	17.6	17.8	18.1	19.0	18.2	16.9	17.5	17.1	15.7	16.1
16 to 17 years	18.8	19.1	17.7	18.3	18.3	17.2	18.9	18.8	21.1	20.3	18.8	19.3	20.2	17.5	18.3
18 to 19 years	15.1	16.4	16.1	16.1	16.2	17.4	17.3	18.1	17.4	16.8	15.7	16.2	15.2	14.7	14.7
20 to 24 years	9.7	10.0	9.9	9.5	9.5	9.0	10.0	10.4	10.5	10.4	10.2	10.6	10.1	10.4	9.6
25 years and older	4.6	4.8	4.9	4.6	4.8	4.8	4.9	4.9	5.1	5.0	5.0	4.9	4.9	4.8	4.7
25 to 54 years	4.8	5.0	5.0	4.8	5.0	5.0	5.0	5.0	5.2	5.1	5.1	5.1	5.1	5.0	4.9
55 years and older	3.8	4.1	4.4	4.1	3.9	3.9	4.1	4.4	4.4	4.2	4.1	4.0	3.8	3.9	3.9
Men, 16 years and older	5.9	6.3	6.2	6.1	6.1	6.1	6.3	6.5	6.7	6.6	6.4	6.4	6.2	6.2	
16 to 24 years	12.8	13.4	12.8	12.7	12.7	12.5	13.7	14.1	14.1	14.4	12.9	14.1	13.2	13.4	12.6
16 to 19 years	18.1	19.3	18.1	18.6	19.5	20.5	20.2	20.3	19.9	20.4	17.6	19.6	18.7	18.3	17.4
16 to 17 years	21.1	20.7	19.4	19.5	19.5	18.5	21.3	21.5	23.2	22.3	20.6	22.1	20.4	18.3	18.4
18 to 19 years	16.4	18.4	17.6	17.9	19.2	20.7	19.6	19.9	17.9	19.0	15.6	18.2	17.9	18.1	16.9
20 to 24 years	10.2	10.6	10.3	9.9	9.6	8.9	10.7	11.3	11.5	11.6	10.7	11.7	10.8	11.2	10.4
25 years and older	4.7	5.0	5.1	4.9	5.0	5.0	5.1	5.2	5.4	5.2	5.2	5.0	5.0	5.0	4.7
25 to 54 years	4.8	5.2	5.2	5.1	5.1	5.1	5.2	5.3	5.4	5.3	5.4	5.2	5.2	5.2	4.9
55 years and older	4.1	4.4	4.6	4.4	4.3	4.3	4.6	4.7	5.3	4.6	4.4	4.2	4.0	4.1	4.0
Women, 16 years and older	5.6	5.7	5.7	5.4	5.6	5.6	5.6	5.7	5.9	5.7	5.8	5.8	5.7	5.5	5.6
16 to 24 years	11.1	11.4	11.4	11.2	11.3	11.1	11.4	11.7	12.4	11.3	11.8	11.4	11.3	10.7	10.7
16 to 19 years	14.9	15.6	15.3	15.4	15.0	14.8	15.5	16.0	18.2	15.9	16.2	15.2	15.4	13.0	14.7
16 to 17 years	16.6	17.5	16.0	17.1	17.1	15.9	16.8	16.3	19.1	18.3	17.0	16.5	20.1	16.6	18.2
18 t0 19 years	13.8	14.2	14.7	14.3	13.1	14.1	14.9	16.3	16.8	14.5	15.8	14.1	12.5	11.1	12.2
20 to 24 years	9.1	9.3	9.4	9.0	9.4	9.1	9.3	9.5	9.5	9.0	9.7	9.5	9.3	9.6	8.8
25 years and older	4.6	4.6	4.6	4.3	4.5	4.6	4.6	4.6	4.7	4.7	4.7	4.7	4.7	4.6	4.6
25 to 54 years	4.8	4.8	4.8	4.5	4.8	4.9	4.7	4.7	4.9	4.9	4.8	4.9	4.9	4.8	5.0
55 years and older[1]	3.6	3.7	3.8	4.1	3.3	3.3	3.4	3.6	3.7	4.2	4.5	3.8	3.4	3.5	3.5

[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	Nov. 2002	Oct. 2003[p]	Nov. 2003[p]	State	Nov. 2002	Oct. 2003[p]	Nov. 2003[p]
Alabama	5.9	5.6	5.8	Missouri	5.6	5.3	5.0
Alaska	8.2	7.3	7.5	Montana	4.7	4.2	4.3
Arizona	6.1	5.0	4.8	Nebraska	3.6	3.8	3.6
Arkansas	5.4	6.2	6.0	Nevada	4.9	5.0	4.5
California	6.8	6.7	6.5	New Hampshire	5.0	4.4	4.3
Colorado	5.8	5.4	5.6	New Jersey	6.0	5.7	5.5
Connecticut	4.6	4.9	5.0	New Mexico	5.4	6.0	6.0
Delaware	4.3	4.0	4.1	New York	6.3	6.2	6.1
District of Columbia	6.4	6.8	6.7	North Carolina	6.6	6.1	6.2
Florida	5.3	4.9	4.9	North Dakota	4.3	3.6	3.2
Georgia	5.3	4.2	4.2	Ohio	5.6	5.6	5.7
Hawaii	3.9	4.2	4.1	Oklahoma	4.5	5.4	5.3
Idaho	6.0	5.3	5.0	Oregon	7.3	7.6	7.3
Illinois	6.7	6.7	6.8	Pennsylvania	5.9	5.4	5.2
Indiana	5.0	5.1	5.1	Rhode Island	5.4	4.4	4.9
Iowa	4.1	4.5	4.2	South Carolina	6.3	7.1	6.8
Kansas	5.2	4.7	4.7	South Dakota	2.8	3.2	3.4
Kentucky	5.5	5.6	5.6	Tennessee	4.9	5.6	5.8
Louisiana	6.2	5.5	5.5	Texas	6.5	6.5	6.3
Maine	4.7	5.1	4.9	Utah	6.2	4.7	4.9
Maryland	4.2	4.1	4.2	Vermont	3.7	4.0	3.9
Massachusetts	5.4	5.6	5.5	Virginia	3.9	3.5	3.6
Michigan	6.1	7.6	7.1	Washington	7.0	7.0	6.9
Minnesota	4.3	4.6	4.6	West Virginia	6.2	5.9	5.5
Mississippi	7.0	5.7	5.0	Wisconsin	5.6	5.4	5.0
				Wyoming	4.3	3.9	4.0

[p] = preliminary

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

[In thousands]

State	Nov 2002	Oct. 2003[p]	Nov. 2003[p]	State	Nov. 2002	Oct. 2003[p]	Nov. 2003[p]
Alabama	2,095,354	2,165,956	2,160,760	Missouri	2,974,168	3,001,449	2,988,531
Alaska	326,033	346,217	345,283	Montana	466,903	478,324	477,025
Arizona	2,683,699	2,664,663	2,656,741	Nebraska	962,736	990,989	990,167
Arkansas	1,298,687	1,313,926	1,311,926	Nevada	1,119,659	1,107,529	1,101,632
California	17,502,978	17,722,189	17,672,919	New Hampshire	709,460	719,652	717,891
Colorado	2,444,118	2,477,532	2,480,846	New Jersey	4,384,127	4,436,700	4,440,061
Connecticut	1,782,690	1,780,764	1,783,625	New Mexico	884,840	897,483	896,993
Delaware	420,588	424,221	422,890	New York	9,441,827	9,389,708	9,417,152
District of Columbia	302,085	314,665	313,751	North Carolina	4,157,329	4,184,045	4,191,146
Florida	8,083,924	8,085,765	8,080,970	North Dakota	347,508	355,488	355,390
Georgia	4,315,768	4,394,966	4,404,982	Ohio	5,800,000	5,853,458	5,847,375
Hawaii	581,816	608,389	607,567	Oklahoma	1,695,646	1,709,561	1,694,870
Idaho	683,418	688,710	688,967	Oregon	1,840,200	1,824,786	1,805,057
Illinois	6,368,577	6,479,755	6,488,306	Pennsylvania	6,309,905	6,184,087	6,208,022
Indiana	3,182,792	3,203,213	3,205,035	Rhode Island	562,593	567,343	564,826
Iowa	1,676,954	1,644,585	1,635,987	South Carolina	1,986,316	2,040,484	2,028,236
Kansas	1,425,892	1,479,107	1,480,876	South Dakota	424,203	423,909	425,370
Kentucky	1,959,786	1,993,835	1,991,166	Tennessee	2,933,644	2,910,552	2,911,226
Louisiana	1,998,453	2,046,432	2,048,026	Texas	10,812,284	11,047,526	11,032,040
Maine	687,217	696,470	697,966	Utah	1,183,548	1,221,644	1,217,299
Maryland	2,901,657	2,921,352	2,922,449	Vermont	351,320	353,602	353,961
Massachusetts	3,505,184	3,458,091	3,454,383	Virginia	3,740,845	3,795,570	3,797,747
Michigan	4,956,969	5,146,954	5,111,026	Washington	3,124,582	3,120,115	3,127,668
Minnesota	2,918,648	2,933,368	2,932,907	West Virginia	793,668	803,009	797,113
Mississippi	1,299,439	1,325,115	1,322,066	Wisconsin	3,025,833	3,108,005	3,089,120
				Wyoming	269,976	276,766	277,348

[p] = preliminary.

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

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

[In thousands]

Industry	Annual average		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov.p	Dec.p
TOTAL NONFARM	130,376	130,045	130,198	130,356	130,235	130,084	130,062	129,986	129,903	129,846	129,881	129,980	130,380	130,123	130,124
TOTAL PRIVATE	108.886	108.544	108.642	108.780	108.647	108.537	108.536	108.502	108.427	108.388	108.411	108.524	108.607	108.651	108.656
GOODS-PRODUCING	22,619	22,064	22,323	22,288	22,191	22,159	22,119	22,098	22,061	22,001	21,982	21,978	21,966	21,954	21,942
Natural resources and mining	581	566	572	568	569	565	564	566	569	566	565	564	565	565	565
Logging	69.1	64.8	67.9	67.1	66.6	64.6	64.3	64.8	65.7	64.0	63.6	63.7	64.2	64.8	63.7
Mining	511.9	501.2	503.6	500.5	502.1	500.4	499.8	501.4	502.8	502.1	501.1	499.9	500.4	500.3	501.3
Oil amd gas extraction	122.5	124.9	121.6	122.1	121.8	122.9	124.4	125.2	125.7	125.3	125.0	125.4	125.9	126.0	126.0
Mining, except oil and gas[1]	212.1	208.1	208.1	206.9	206.3	206.9	207.5	208.2	208.9	209.6	209.1	207.5	208.1	207.9	207.5
Coal mining	74.9	72.6	73.3	72.2	72.3	72.3	72.7	72.6	73.2	73.7	72.9	71.5	72.2	72.2	72.4
Support activities for mining	177.2	168.2	173.9	171.5	174.0	170.6	167.9	168.0	168.2	167.2	167.0	167.0	166.4	166.4	167.8
Construction	6,732	6,797	6,731	6,738	6,700	6,720	6,760	6,786	6,800	6,804	6,825	6,841	6,845	6,859	6,873
Construction of buildings	1.583.9	1.612.8	1.595.3	1.597.7	1.594.4	1.605.6	1.615.8	1.615.0	1.609.7	1.606.7	1.610.9	1.620.1	1.622.4	1.621.2	1.628.0
Heavy and civil engineering	929.9	909.8	915.3	916.8	912.5	895.0	898.4	902.8	905.8	910.8	913.9	915.8	913.3	917.9	919.4
Speciality trade contractors	4.217.9	4.274.4	4.220.7	4.223.8	4.193.2	4.219.5	4.245.5	4.267.8	4.284.1	4.286.3	4.300.3	4.305.5	4.309.7	4.320.1	4.325.3
Manufacturing	15,306	14,701	15,020	14,982	14,922	14,874	14,795	14,746	14,692	14,631	14,592	14,573	14,556	14,530	14,504
Production workers	10.799	10.306	10.595	10.564	10.516	10.447	10.379	10.342	10.299	10.257	10.229	10.207	10.195	10.176	10.154
Durable goods	9,517	9,093	9,316	9,282	9,236	9,203	9,147	9,114	9,081	9,034	9,018	9,010	9,004	9,001	8,993
Production workers	6.551	6.236	6.417	6.392	6.355	6.314	6.267	6.244	6.221	6.188	6.182	6.169	6.165	6.164	6.156
Wood products	556.8	544.7	548.1	549.2	548.5	544.4	546.0	544.9	541.0	540.8	538.2	542.1	544.2	547.2	547.5
Nonmetallic mineral products	510.9	481.9	510.8	507.9	505.9	506.7	504.8	505.1	505.0	501.1	501.4	500.3	499.7	500.1	500
Primary metals	510.9	510.9	499.7	500.1	496.5	494.7	491.1	486.4	482.0	478.5	475.9	472.4	470.6	469	470.1
Fabricated metal products	1.547.8	1.480.4	1.516.0	1.508.0	1.497.5	1.495.3	1.489.4	1.482.3	1476. 4	1.470.7	1.469.2	1.465.8	1.468.6	1.470.4	1.471.9
Machinery	1.237.4	1.179.1	1.212.4	1.206.5	1.201.6	1.194.8	1.187.4	1.181.2	1.175.8	1.171.9	1.168.0	1.168.1	1.165.1	1.166.9	1.163.2
Computer and electronic products[1]	1.521.3	1.407.5	1.462.2	1.448.5	1.438.2	1.432.1	1.423.6	1.413.0	1.407.7	1.398.1	1.392.5	1.389.5	1.384.3	1.382.2	1.377.2
Computer and peripheral equipment	249.8	224.9	241.0	234.4	230.9	229.8	230.5	226.7	226.5	223.6	221.9	221.6	218.8	217.5	216.3
Communications equipment	190.9	173.2	180.1	177.6	177.8	176.5	175.5	174.4	173.3	171.9	170.9	170.5	170.4	170.8	169.6
Semiconductors and electronic components	531.4	484.6	503.7	498.8	496.0	494.1	492.0	487.7	485.1	480.9	479.5	477.6	474.8	474.9	473.7
Electronic instruments	450.6	432.3	441.3	441.4	438.7	436.5	433.5	431.5	429.9	429.0	429.0	429.3	429.2	429.0	428.1
Electrical equipment and appliances	498.9	468.2	485.2	482.4	479.8	477.5	474.8	469.3	467.7	465.9	462.1	461.1	460.8	461.2	461.6
Transportation equipment	1,828.5	1,775.9	1,804.7	1,806.5	1,800.7	1,792.5	1,771.9	1,777.6	1,774.3	1,760.2	1,767.6	1,768.1	1,768.2	1,763.2	1,761.5
Furniture and related products	604.6	577.3	589.1	587.0	582.9	582.0	576.4	576.4	574.1	574.2	572.7	573.7	574.5	575.5	576.2
Miscellaneous manufacturing	691.9	675.0	687.9	686.0	684.5	683.0	682.0	677.8	676.6	673.0	670.4	668.8	667.2	665.7	664.1
Nondurable goods	5,789	5,608	5,704	5,700	5,686	5,671	5,648	5,632	5,611	5,597	5,574	5,563	5,552	5,529	5,511
Production workers	4,249	4,080	4,178	4,172	4,161	4,133	4,112	4,098	4,078	4,069	4,047	4,038	4,030	4,012	3,998
Food manufacturing	1,525.1	1,518.8	1,518.5	1,517.1	1,514.7	1,513.3	1,512.3	1,512.4	1,517.5	1,520.9	1,521.7	1,522.7	1,523.7	1,513.7	1,511.3
Beverages and tobacco products	205.4	194.5	200.2	199.0	198.2	196.1	194.6	195.4	194.5	194.4	194.8	193.3	193.4	192.0	191.0
Textile mills	293.2	267.7	284.9	285.2	283.7	281.6	277.8	272.7	270.1	264.7	259.6	258.3	255.4	253.4	250.2
Textile product mills	196.2	185.0	193.7	191.7	192.6	192.6	190.6	188.7	186.4	184.2	178.4	179.7	179.2	179.1	178.8
Apparel	357.6	308.3	337.2	331.8	325.9	322.1	318.4	313.2	307.8	301.2	299.0	296.5	296.3	296.0	293.4
Leather and allied products	49.9	44.1	47.3	46.7	46.0	45.8	44.8	44.4	43.3	43.5	43.1	43.1	42.9	42.9	42.8
Paper and paper products	549.8	529.7	541.5	539.7	538.5	535.1	534.1	531.9	530.6	527.3	526.4	525.0	523.9	521.9	519.8
Printing and related support activities	709.9	690.7	689.8	694.5	694.0	696.4	694.8	695.3	694.1	692.2	690.0	687.7	684.5	682.8	678.5
Petroleum and coal products	119.1	117.8	119.7	120.4	120.4	120.3	119.2	119.3	118.4	118.0	116.9	116.0	115.5	115.0	114.8
Chemicals	929.5	916.4	925.8	926.0	924.2	922.5	921.7	920.6	916.5	917.7	914.8	912.5	909.8	907.1	908.0
Plastics and rubber products	853.5	834.6	845.4	848.0	847.4	845.1	839.2	837.7	831.7	833.3	829.3	828.6	826.4	825.1	822.7
SERVICE-PROVIDING	107,757	107,981	107,875	108,068	108,044	107,925	107,943	107,888	107,842	107,845	107,899	108,002	108,114	108,169	108,182
PRIVATE SERVICE-PROVIDING	86,267	86,480	86,319	86,492	86,456	86,378	86,417	86,404	86,366	86,387	86,429	86,546	86,641	86,697	86,714
Trade, transportation, and utilities	25,493	25,266	25,378	25,376	25,346	25,338	25,321	25,282	25,238	25,211	25,217	25,243	25,256	25,236	25,201
Wholesale trade	5,641.0	5,570.0	5,603.9	5,596.0	5,596.2	5,594.0	5,590.8	5,582.0	5,570.6	55,601.0	5,550.0	5,551.2	5,551.3	5,553.4	5,565.3
Durable goods	3,007.2	2,947.4	2,978.7	2,967.9	2,967.0	2,961.2	2,957.7	2,952.2	2,947.5	2,940.4	2,934.5	2,932.7	2,934.4	2,940.5	2,945.6
Nondurable goods	2,015.1	2,947.4	2,009.6	2,011.5	2,010.7	2,013.6	2,013.3	2,009.9	2,004.1	2,001.4	1,997.7	1,995.9	1,994.4	1,989.7	1,995.4
Electronic markets and agents and brokers	618.8	620.1	615.6	616.6	618.5	619.2	619.8	619.9	619.0	618.3	617.8	622.6	622.5	623.2	624.3
Retail trade	15.047.2	14.975.9	15.005.6	15.009.2	14.987.3	14.994.7	14.999.6	14.979.0	14.964.2	14.958.0	14.975.1	14.986.9	14.996.1	14.968.6	14.930.6
Motor vehicles and parts dealers[1]	1,879.2	1,880.7	1,878.9	1,876.8	1,874.9	1,875.5	1,875.4	1,879.2	1,877.9	1,883.2	1,880.5	1,884.6	1,884.6	1,884.0	1,885.8
Automobile dealers	1,250.4	1,246.3	1,249.6	1,245.5	1,242.1	1,241.5	1,242.0	1,244.3	1,246.0	1,249.0	1,248.1	1,249.5	1,248.6	1,247.2	1,247.1
Furniture and home furnishings stores	539.9	546.6	548.4	549.9	552.0	547.6	549.2	545.4	546.5	543.9	541.6	544.1	545.4	548.9	551.2
Electronics and appliance stores	528.8	523.3	529.8	531.6	526.9	524.8	525.2	523.8	522.9	519.6	519.9	520.4	521.5	523.6	525.4

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 2002	Annual average 2003	2002 Dec.	2003 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[p]	Dec.[p]
Building material and garden supply stores	1,179.1	1,197.6	1,183.9	1,190.6	1,183.6	1,181.8	1,189.0	1,188.5	1,194.2	1,196.5	1,203.3	1,210.0	1,209.3	1,209.5	1,207.9
Food and beverage stores	2,871.6	2,808.2	2,833.5	2,827.0	2,820.2	2,822.9	2,822.0	2,822.5	2,812.8	2,801.7	2,798.0	2,796.7	2,806.7	2,806.6	2,779.1
Health and personal care stores	946.6	967.5	952.5	956.8	960.1	962.6	966.2	965.7	967.9	965.8	965.9	969.4	973.6	977.7	975.0
Gasoline stations	903.6	904.3	904.2	905.2	905.0	907.1	910.9	908.8	908.6	904.0	907.1	903.9	899.9	899.0	892.7
Clothing and clothing accessories stores	1,307.8	1,280.6	1,308.5	1,291.2	1,279.7	1,282.8	1,288.3	1,280.7	1,277.5	1,277.6	1,278.9	1,278.2	1,284.0	1,279.3	1,278.5
Sporting goods, hobby, book, and music stores	660.1	642.0	637.8	653.5	652.6	650.8	646.3	645.2	642.0	640.8	640.6	640.3	638.7	636.9	630.0
General merchandise stores1	2,820.7	2,840.6	2,827.6	2,834.2	2,838.8	2,846.4	2,835.8	2,833.1	2,831.5	2,838.9	2,857.7	2,859.1	2,852.9	2,843.4	2,830.9
Department stores	1,709.8	1,701.1	1,727.5	1,720.9	1,718.6	1,710.6	1,695.5	1,690.3	1,689.9	1,690.3	1,703.6	1,704.1	1,704.1	1,701.7	1,700.7
Miscellaneous store retailers	962.5	943.5	954.6	952.4	949.1	949.8	948.6	944.1	941.8	942.5	941.0	941.0	940.7	939.8	930.5
Nonstore retailers	447.3	441.0	445.9	440.0	444.4	442.6	442.7	442.0	440.6	443.5	440.6	439.2	439.9	439.9	443.6
Transportation and warehousing	4,205.3	4,127.0	4,170.7	4,174.6	4,166.7	4,153.8	4,136.3	4,128.5	4,113.9	4,103.7	4,101.2	4,114.1	4,116.7	4,122.0	4,112.3
Air transportation	559.3	514.7	553.9	551.3	545.8	537.3	525.6	516.4	510.0	502.4	500.0	501.4	498.4	500.4	502.3
Rail transportation	218.1	216.3	216.3	215.7	215.3	215.3	216.5	216.1	217.2	217.1	214.8	216.8	216.4	216.2	215.6
Water transportation	51.6	49.7	50.3	50.6	50.5	50.1	49.9	50.3	50.1	50.0	49.9	48.6	49.1	48.7	48.9
Truck transportation	1,339.1	1,328.3	1,331.9	1,327.6	1,324.3	1,328.1	1,324.4	1,324.4	1,326.9	1,324.0	1,331.0	1,330.1	1,332.1	1,334.1	1,334.0
Transit and ground passenger transportation	371.5	353.6	360.8	358.0	357.5	351.9	353.0	350.4	345.4	347.4	348.3	355.3	358.3	359.0	358.7
Pipeline transportation	41.5	39.5	40.2	40.0	39.8	40.2	40.3	40.3	39.7	39.5	38.9	39.1	38.9	39.0	38.7
Scenic and sightseeing transportation	25.9	28.9	25.6	24.0	25.6	27.1	28.5	29.1	29.9	29.5	30.0	29.7	29.9	30.1	30.6
Support activities for transportation	526.7	523.1	531.2	527.7	527.9	525.9	522.7	527.8	523.2	520.2	519.1	521.8	520.7	520.3	520.4
Couriers and messengers	558.0	558.6	545.0	561.4	558.9	563.3	561.6	560.8	560.9	560.6	557.8	557.3	556.4	556.7	552.5
Warehousing and storage	513.6	514.3	515.5	518.3	521.1	514.6	513.8	512.9	510.6	513.0	511.4	514.0	516.5	517.5	510.6
Utilities	599.8	592.7	597.3	596.4	595.9	595.3	594.6	592.3	589.5	589.6	590.8	591.0	592.3	592.0	592.4
Information	3,420	3,286	3,353	3,328	3,308	3,305	3,303	3,294	3,285	3,278	3,267	3,270	3,266	3,265	3,270
Publishing industries, except Internet	969.4	945.2	962.2	954.0	955.3	953.5	950.8	947.2	945.1	941.4	941.5	939.2	939.5	939.9	939.8
Motion picture and sound recording industries	387.1	372.9	381.6	377.8	367.0	369.3	371.1	373.4	371.7	373.7	367.2	373.3	373.1	375.2	378.4
Broadcasting, except Internet	333.8	324.4	332.1	327.2	325.0	325.7	325.0	324.4	324.2	324.1	322.9	325.0	323.2	323.0	323.0
Internet publishing and broadcasting	34.8	33.9	32.9	33.0	33.3	33.6	33.8	33.5	34.0	34.5	34.2	34.3	34.2	34.6	34.8
Telecommunications	1,200.9	1,134.7	1,162.5	1,158.7	1,151.4	1,146.9	1,145.0	1,138.1	1,132.5	1,127.8	1,125.7	1,125.0	1,123.3	1,127.3	1,125.6
ISPs, search portals, and data processing	447.4	429.0	435.8	430.3	429.5	430.4	431.3	431.4	432.1	430.9	429.7	427.4	426.4	424.2	423.0
Other information services	46.6	45.6	45.8	46.5	46.3	46.0	46.0	45.5	45.1	45.1	45.5	45.7	46.0	45.9	45.8
Financial activities	7,843	7,579	7,889	7,902	7,916	7,930	7,956	7,971	7,972	7,981	7,980	7,986	7,971	7,964	7,952
Finance and insurance	5,814.9	5,910.8	5,861.0	5,872.4	5,885.2	5,894.8	5,912.0	5,923.2	5,923.3	5,928.6	5,924.4	5,933.2	5,916.3	5,908.1	5,891.5
Monetary authorities—central bank	23.1	22.1	22.7	22.7	22.3	22.3	22.2	22.2	22.1	22.1	22.0	22.0	21.9	21.9	21.8
Credit intermediation and related activities[1]	2,682.3	2,771.3	2,729.1	2,734.9	2,741.9	2,752.3	2,765.8	2,781.8	2,783.5	2,789.4	2,788.8	2,791.3	2,781.3	2,769.4	2,752.8
Depository credit intermediation[1]	1,738.2	1,767.5	1,751.3	1,755.1	1,757.1	1,762.3	1,764.4	1,767.9	1,768.5	1,771.5	1,772.4	1,773.8	1,774.5	1,770.4	1,767.8
Commercial banking	1,284.7	1,301.1	1,292.8	1,296.1	1,297.5	1,300.4	1,300.6	1,302.4	1,302.3	1,304.1	1,304.8	1,304.1	1,303.3	1,298.5	1,294.7
Securities, commodity contracts, investments	800.8	800.4	799.4	802.3	803.1	799.3	798.8	796.9	796.7	796.6	794.9	799.0	800.7	806.6	811.9
Insurance carriers and related activities	2,223.1	2,234.6	2,225.7	2,228.5	2,233.9	2,236.8	2,241.8	2,239.4	2,238.9	1,138.1	2,237.1	2,238.9	2,231.2	2,229.2	2,223.1
Funds, trusts, and other financial vehicles	85.6	82.5	84.1	84.0	84.0	84.1	83.4	82.9	82.1	82.4	81.6	82.0	81.2	81.0	81.9
Real estate and rental and leasing	2,027.8	2,047.7	2,028.3	2,029.2	2,030.6	2,034.7	2,044.2	2,047.8	2,048.6	2,052.7	2,055.2	2,052.7	2,054.5	2,055.5	2,060.1
Real estate	1,347.7	1,367.6	1,355.7	1,353.8	1,356.9	1,359.9	1,366.4	1,367.3	1,365.2	1,368.9	1,371.5	1,372.4	1,373.6	1,374.9	1,377.8
Rental and leasing services	652.3	651.0	645.8	648.7	646.7	647.0	649.4	651.4	654.2	654.6	654.2	650.5	650.5	650.2	651.2
Lessors of nonfinancial intangible assets	27.8	29.1	26.8	26.7	27.0	27.8	28.4	29.2	29.2	29.2	29.5	29.8	30.4	30. 4	31.1
Professional and business services	16,010	16,063	15,972	16,015	16,043	15,980	15,989	16,002	16,006	16,063	16,054	16,107	16,142	16,179	16,224
Professional and technical services[1]	6,715.0	6,715.1	6,716.9	6,745.3	6,790.5	6,758.4	6,742.2	6,698.1	6,674.9	6,661.6	6,657.3	6,685.4	6,714.0	6,736.5	6,754.3
Legal services	1,111.8	1,125.0	1,120.2	1,119.8	1,124.1	1,125.7	1,127.5	1,125.6	1,125.2	1,122.8	1,121.9	1,124.9	1,128.4	1,128.3	1,127.1
Accounting and bookkeeping		879.2													
services	867.1	879.2	872.6	910.6	941.2	913.5	899.3	866.0	848.9	847.9	854.3	856.1	868.3	880.2	891.7
Architectural and engineering services	1,251.1	1,244.2	1,252.5	1,238.6	1,247.9	1,246.0	1,242.9	1,241.4	1,236.0	1,240.9	1,238.1	1,247.2	1,247.8	1,252.3	1,253.0

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		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.	Oct.	Nov.[p]	Dec.[p]
Computer systems design and related services	1,162.7	1,139.5	1,142.7	1,142.8	1,144.3	1,144.5	1,151.9	1,146.6	1,142.0	1,130.6	1,125.4	1,133.4	1,135.8	1,137.8	1,135.3
Management and technical consulting services	731.8	738.0	739.8	734.8	736.2	735.5	732.9	734.0	731.8	735.0	736.1	739.7	746.6	746.6	750.2
Management of companies and enterprises	1,711.1	1,693.4	1,694.2	1,696.8	1,697.1	1,697.9	1,697.0	1,696.0	1,690.8	1,698.5	1,690.8	1,691.7	1,688.8	1,688.8	1,685.2
Administrative and waste services	7,583.8	7,654.8	7,561.0	7,572.9	7,555.7	7,523.3	7,549.4	7,608.3	7,639.8	7,702.5	7,706.1	7,729.6	7,738.8	7,753.2	7,784.9
Administrative and support services[1]	7,266.8	7,338.2	7,244.9	7,255.5	7,239.9	7,207.8	7,230.5	7,288.6	7,323.0	7,380.3	7,389.2	7,413.1	7,423.7	7,440.6	7,471.7
Employment services[1]	3,248.8	3,343.2	3,259.2	3,292.7	3,287.8	3,245.9	3,242.2	3,291.7	3,318.3	3,374.8	3,373.7	3,394.5	3,415.5	3,439.0	3,474.9
Temporary help services	2,185.7	2,214.7	2,159.4	2,170.2	2,151.6	2,135.9	2,131.2	2,177.6	2,207.9	2,226.6	2,236.6	2,261.1	2,271.9	2,295.0	2,325.0
Business support services	757.0	748.8	757.0	746.0	743.8	746.5	748.1	747.9	747.8	745.0	750.4	754.3	752.7	749.9	747.2
Services to buildings and dwellings	1,597.3	1,598.2	1,591.7	1,585.8	1,580.4	1,576.4	1,587.4	1,596.3	1,601.8	1,609.9	1,613.5	1,610.3	1,603.3	1,601.7	1,603.0
Waste management and remediation services	316.9	316.6	316.1	317.4	315.8	315.5	318.9	319.7	316.8	322.2	316.9	316.5	315.1	312.6	313.2
Educational and health services	16,184	16,526	16,373	16,405	16,430	16,452	16,483	16,509	16,503	16,487	16,541	16,570	16,625	16,653	16,674
Educational services	2,650.6	2,712.0	2,695.1	2,700.0	2,707.4	2,711.5	2,708.8	2,718.1	2,689.7	2,676.7	2,699.8	2,715.6	2,738.7	2,748.2	2,755.4
Health care and social assistance	13,533.2	13,813.9	13,677.5	13,704.5	13,722.6	13,740.5	13,774.2	13,790.7	13,813.2	13,810.0	13,840.8	13,854.1	13,855.8	13,904.7	13,918.6
Ambulatory health care services[1]	4,633.4	4,775.0	4,712.5	4,718.5	4,727.6	4,739.1	4,753.7	4,764.8	4,777.4	4,781.6	4,791.7	4,791.7	4,809.2	4,816.6	4,822.6
Offices of physicians	1,982.6	2,051.2	2,022.1	2,023.4	2,031.5	2,037.4	2,041.7	2,045.9	2,050.2	2,052.7	2,056.6	2,056.9	2,068.3	2,072.6	2,078.6
Outpatient care centers	409.7	413.4	412.2	412.0	411.8	412.1	412.8	413.1	414.7	412.9	413.7	413.7	414.1	416.1	415.2
Home health care services	675.1	707.0	693.0	694.2	693.0	698.6	702.9	705.3	709.0	711.1	711.8	711.3	714.0	712.7	714.7
Hospitals	4,153.1	4,226.3	4,190.4	4,197.8	4,204.7	4,210.9	4,214.0	4,218.1	4,227.0	4,226.8	4,235.2	4,239.5	4,242.5	4,249.2	4,252.4
Nursing and residential care facilities[1]	2,743.2	2,787.8	2,766.1	2,770.1	2,770.8	2,776.4	2,784.4	2,787.9	2,790.7	2,787.2	2,789.7	2,794.4	2,798.3	2,800.1	2,802.0
Nursing care facilities	1,573.7	1,585.6	1,579.2	1,582.0	1,582.5	1,582.7	1,586.2	1,587.0	1,589.6	1,586.0	1,538.8	1,586.9	1,587.6	1,588.0	1,586.4
Social assistance[1]	2,003.5	2,024.8	2,008.5	2,018.1	2,019.5	2,014.1	2,022.1	2,019.9	2,018.1	2,014.4	2,024.2	2,028.5	2,035.8	2,038.8	2,041.6
Child day care services	734.2	729.6	725.2	727.1	729.0	724.5	724.9	724.9	722.7	759.3	732.4	731.2	736	737	737.4
Leisure and hospitality	11,969	12,062	12,019	12,132	12,084	12,050	12,043	12,026	12,039	12,051	12,051	12,056	12,071	12,091	12,087
Arts, entertainment, and recreation	1,778.0	1,769.3	1,817.8	1,835.6	1,809.5	1,781.8	1,764.8	1,759.2	1,758.4	1,763.8	1,759.8	1,759.1	1,759.9	1,759.4	1,758.5
Performing arts and spectator sports	357.9	350.6	367.2	358.7	358.4	359.0	356.7	348.8	346.5	347.4	347.3	351.6	351.1	349.1	349.5
Museums, historical sites, zoos, and parks	112.5	109.9	110.5	111.6	111.2	109.9	108.4	109.8	109.8	110.0	109.8	109.1	109.8	110.2	109.9
Amusements, gambling, and recreation	1,307.6	1,308.9	1,340.1	1,365.3	1,339.9	1,312.9	1,299.7	1,300.6	1,302.1	1,306.4	1,302.7	1,298.4	1,299.0	1,300.1	1,299.1
Accommodations and food services	10,191.2	10,292.5	10,200.8	10,296.1	10,274.8	10,267.7	10,278.6	10,266.7	10,280.4	10,286.9	10,290.8	10,296.7	10,310.7	10,331.6	10,328.0
Accommodations	1,779.4	1,775.4	1,805.2	1,812.0	1,801.7	1,788.4	1,769.0	1,763.6	1,769.1	1,778.6	1,769.1	1,754.7	1,751.8	1,765.9	1,768.5
Food services and drinking places	8,411.7	8,517.1	8,395.6	8,484.1	8,473.1	8,479.3	8,509.6	8,503.1	8,511.3	8,508.3	8,521.7	8,542.0	8,558.9	8,565.7	8,559.5
Other services	5,348	5,319	5,335	5,334	5,329	5,323	5,322	5,320	5,323	5,316	5,319	5,314	5,310	5,309	5,306
Repair and maintenance	1,240.6	1,216.5	1,224.3	1,218.6	1,215.3	1,213.8	1,215.6	1,215.1	1,218.6	1,219.5	1,222.3	1,219.7	1,215.3	1,210.7	1,206.8
Personal and laundry services	1,246.7	1,225.4	1,232.7	1,235.6	1,234.8	1,229.5	1,227.0	1,226.3	1,225.0	1,224.6	1,223.5	1,219.7	1,220.3	1,221.4	1,217.0
Membership associations and organizations	2,860.7	2,876.9	2,878.2	2,879.4	2,879.0	2,880.0	2,879.1	2,878.7	2,879.5	2,872.1	2,872.7	2,874.8	2,874.0	2,876.6	2,882.0
Government	21,489	21,500	21,556	21,576	21,588	21,547	21,526	21,484	21,476	21,458	21,470	21,456	21,473	21,472	21,468
Federal	2,767	2,755	2,778	2,786	2,791	2,789	2,769	2,761	2,749	2,747	2,745	2,742	2,730	2,720	2,710
Federal, except U.S. Postal Service	1,922.5	1,938.4	1,956.4	1,960.3	1,966.2	1,964.8	1,946.0	1,937.0	1,928.2	1,928.9	1,929.5	1,929.6	1,919.5	1,913.3	1,913.4
U.S. Postal Service	844.8	816.5	821.7	825.3	824.8	823.9	823.0	823.6	821.1	817.7	815.8	812.3	810.3	807.0	796.4
State	5,006	4,949	4,984	4,974	4,979	4,958	4,952	4,941	4,925	4,920	4,928	4,948	4,952	4,954	4,951
Education	2,218.8	2,195.3	2,202.5	2,196.8	2,205.1	2,188.7	2,186.5	2,180.8	2,174.3	2,175.5	2,186.6	2,203.3	2,208.2	2,212.1	2,209.6
Other State government	2,787.4	2,753.9	2,781.0	2,777.3	2,773.4	2,769.7	2,765.3	2,759.9	2,751.1	2,744.7	2,741.6	2,744.3	2,743.4	2,742.0	2,740.9
Local	13,716	13,796	13,794	13,816	13,818	13,800	13,805	13,782	13,802	13,791	13,797	13,766	13,791	13,798	13,807
Education	7,657.2	7,706.7	7,698.1	7,708.5	7,712.4	7,693.6	7,703.5	7,689.1	7,718.7	7,723.5	7,735.1	7,682.6	7,697.2	7,697.9	7,704.5
Other local government	6,058.5	6,089.5	6,095.8	6,107.6	6,105.7	6,106.5	6,101.1	6,092.6	6,083.5	6,067.2	6,061.9	6,083.8	6,093.4	6,099.9	6,102.0

[1] Includes other industries not shown separately.

p = preliminary.

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. See "Notes on the data" for a description of the most recent benchmark revision. preliminary.

13. Average weekly hours of production or nonsupervisory workers[1] on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[p]	Dec.[p]
TOTAL PRIVATE	33.9	33.8	33.8	33.8	33.7	33.8	33.7	33.7	33.7	33.6	33.7	33.7	33.8	33.9	33.7
GOODS-PRODUCING	39.9	39.8	39.8	40.0	39.6	39.9	39.5	39.7	39.8	39.6	39.8	39.9	39.9	40.1	40.0
Natural resources and mining	43.2	43.6	43.0	43.1	43.3	44.2	43.4	43.8	43.7	43.2	43.7	43.7	43.8	43.8	43.6
Construction	38.4	38.4	38.2	38.9	37.6	38.7	37.9	38.5	38.4	38.3	38.6	38.4	38.4	38.4	38.3
Manufacturing	40.5	40.4	40.5	40.4	40.4	40.4	40.1	40.2	40.3	40.1	40.2	40.5	40.6	40.8	40.7
Overtime hours	4.2	4.2	4.3	4.4	4.3	4.1	4.0	4.1	4.0	4.1	4.1	4.2	4.3	4.5	4.6
Durable goods	40.8	40.8	40.9	40.8	40.7	40.6	40.3	40.5	40.7	40.5	40.5	40.8	41.0	41.2	41.2
Overtime hours	4.2	4.3	4.3	4.4	4.3	4.1	4.0	4.1	4.1	4.1	4.2	4.3	4.5	4.6	4.8
Wood products	39.9	40.4	39.9	40.0	39.9	40.1	40.0	39.9	40.3	40.7	40.4	40.4	40.8	41.2	40.9
Nonmetallic mineral products	42.0	42.2	41.9	42.1	42.0	42.6	42.0	42.4	42.2	41.6	42.1	41.9	42.2	42.4	42.4
Primary metals	42.4	42.4	42.6	42.4	42.5	42.6	42.2	42.2	42.0	41.7	41.9	42.2	42.4	42.8	42.8
Fabricated metal products	40.6	40.7	40.5	40.6	40.5	40.5	40.3	40.6	40.5	40.5	40.5	40.7	40.9	41.0	40.8
Machinery	40.5	40.8	40.5	40.5	40.9	40.5	40.6	40.6	40.9	40.3	40.7	41.0	41.0	41.3	41.4
Computer and electronic products	39.7	40.4	40.5	39.9	39.8	40.3	40.1	40.5	40.5	40.5	41.1	40.6	40.6	40.7	40.4
Electrical equipment and appliances	40.1	40.7	40.6	40.3	40.8	40.6	40.0	40.3	41.0	40.4	40.6	40.6	40.9	40.8	41.1
Transportation equipment	42.5	41.9	42.4	42.5	42.2	41.4	41.2	41.2	41.4	41.3	40.7	42.0	42.0	42.3	42.7
Furniture and related products	39.2	38.9	39.9	38.8	38.6	38.2	37.9	38.4	38.9	38.9	39.1	39.3	39.3	39.6	39.8
Miscellaneous manufacturing	38.6	38.4	38.8	38.9	38.6	38.3	38.0	38.1	38.6	38.4	38.2	38.4	38.3	38.9	38.5
Nondurable goods	40.1	39.9	40.0	39.8	39.9	40.0	39.8	39.7	39.7	39.4	39.7	39.9	40.0	40.2	40.0
Overtime hours	4.2	4.1	4.4	4.3	4.3	4.2	4.1	4.0	3.9	4.0	3.9	.4.1	4.1	4.3	4.2
Food manufacturing	39.6	39.4	39.4	39.1	39.1	39.6	39.4	39.3	39.4	39.0	39.3	39.4	39.4	39.4	39.3
Beverage and tobacco products	39.4	39.1	38.5	39.3	39.3	39.4	39.6	39.0	39.0	38.5	38.8	39.3	39.0	39.9	38.7
Textile mills	40.7	39.1	40.4	39.2	40.0	39.5	39.1	38.4	38.6	37.7	38.7	39.1	39.3	39.9	39.7
Textile product mills	39.2	39.6	39.3	39.2	39.2	39.0	38.5	39.0	39.1	39.8	39.9	40.6	40.3	40.2	39.8
Apparel	36.7	35.5	36.3	36.2	36.0	35.9	35.6	35.4	35.0	34.6	34.7	35.2	35.8	36.0	35.7
Leather and allied products	37.5	39.3	39.0	39.3	39.4	39.7	39.3	39.3	38.8	39.8	39.0	38.6	39.3	39.5	40.0
Paper and paper products	41.8	41.8	41.8	41.6	41.8	41.8	41.6	41.4	41.4	41.2	41.2	41.2	41.6	41.8	41.8
Printing and related support activities	38.4	38.3	38.5	38.5	38.3	38.5	38.0	37.9	38.1	38.0	38.0	38.2	38.6	38.5	38.3
Petroleum and coal products	43.0	44.6	44.0	43.9	45.1	45.8	44.3	44.1	44.1	43.9	44.4	44.2	45.0	45.9	44.6
Chemicals	42.3	42.4	42.3	42.3	42.8	42.7	42.4	42.2	42.2	42.1	42.3	42.3	42.1	42.7	42.4
Plastics and rubber products	40.6	40.4	40.3	40.2	40.3	40.2	40.0	40.3	40.1	40.0	40.2	40.5	40.7	40.7	40.8
PRIVATE SERVICE-PROVIDING	32.5	32.4	32.5	32.4	32.4	32.5	32.4	32.4	32.4	32.3	32.4	32.4	32.4	32.5	32.3
Trade, transportation, and utilities	33.6	33.5	33.5	33.5	33.4	33.4	33.4	33.4	33.4	33.4	33.5	33.6	33.6	33.6	33.4
Wholesale trade	38.0	37.9	37 .8	37.6	37.7	37.8	37.8	37.8	37.8	37.8	37.9	37.9	38.1	38.0	37.8
Retail trade	30.9	30.8	30.8	30.8	30.7	30.9	30.8	30.8	30.8	30.6	30.8	30.9	30.9	30.9	30.7
Transportation and warehousing	36.8	36.9	37.0	36.9	36.7	36.8	36.5	36.6	36.6	36.9	36.9	36.9	37.1	37.1	36.6
Utilities	40.9	41.0	41.2	41.2	41.2	41.4	41.0	40.9	41.0	40.9	40.9	40.5	41.0	41.1	40.6
Information	36.5	36.3	36.4	35.9	36.2	36.3	36.2	36.4	36.4	36.4	36.3	36.2	36.3	36.5	36.3
Financial activities	35.6	35.5	35.7	35.6	35.6	35.6	35.5	35.6	35.5	35.5	35.5	35.4	35.5	35.5	35.3
Professional and business services	34.2	34.1	34.2	34.3	34.3	34.2	34.0	34.1	34.1	34.0	33.9	34.0	34.0	34.1	33.8
Education and health services	32.4	32.5	32.4	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.7	32.5	32.5	32.7	32.6
Leisure and hospitality	25.8	25.6	25.8	25.8	25.6	25.7	25.6	25.6	25.5	25.3	25.4	25.6	25.6	25.7	25.6
Other services	32.0	31.8	31.9	31.8	31.9	31.9	31.8	31.8	31.8	31.7	31.7	31.7	31.7	31.7	31.5

[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.

p = preliminary.

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. See "Notes on the data" for a description of the most recent benchmark revision.

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

Industry	Annual average 2002	Annual average 2003	2002 Dec.	2003 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[p]	Dec.[p]
TOTAL PRIVATE															
Current dollars	$14.95	$15.38	$15.20	$15.22	$15.29	$15.29	$15.30	$15.35	$15.38	$15.43	$15.45	$15.44	$15.45	$15.46	$15.46
Constant (1982) dollars	8.24	8.29	8.30	8.28	8.26	8.22	8.27	8.31	8.30	8.32	8.30	8.27	8.29	8.32	8.32
GOODS-PRODUCING	16.33	16.80	16.60	16.63	16.65	16.68	16.71	16.76	16.79	16.81	16.86	16.89	16.88	16.99	16.99
Natural resources and mining	17.22	17.65	17.37	17.45	17.45	17.54	17.67	17.55	17.60	17.62	17.69	17.74	17.79	17.80	17.80
Construction	18.51	18.95	18.81	18.77	18.84	18.83	18.90	18.95	18.96	18.96	18.99	19.02	19.03	19.06	19.06
Manufacturing	15.29	15.74	15.55	15.59	15.63	15.64	15.63	15.68	15.72	15.73	15.79	15.83	15.80	15.83	15.83
Excluding overtime	14.54	14.96	14.77	14.78	14.84	14.88	14.89	14.92	14.98	14.96	15.02	15.05	15.01	15.02	15.02
Durable goods	16.01	16.44	16.28	16.33	16.35	16.34	16.33	16.37	16.42	16.42	16.49	16.55	16.49	16.50	16.50
Nondurable goods	14.15	14.64	14.41	14.44	14.50	14.55	14.56	14.61	14.63	14.66	14.70	14.71	14.73	14.77	14.77
PRIVATE SERVICE-PROVIDING	14.56	15.00	14.81	14.82	14.92	14.91	14.91	14.97	15.00	15.06	15.06	15.04	15.07	15.08	15.08
Trade,transportation, and		14.34													
utilities	14.02	14.34	14.19	14.21	14.29	14.26	14.24	14.31	14.34	14.40	14.39	14.37	14.39	14.40	14.40
Wholesale trade	16.97	17.32	17.13	17.16	17.25	17.22	17.25	17.29	17.34	17.36	17.40	17.40	17.42	17.39	17.39
Retail trade	11.67	11.91	11.83	11.85	11.88	11.85	11.83	11.90	11.92	11.96	11.96	11.94	11.95	11.96	11.96
Transportation and warehousing	15.77	16.31	16.02	16.05	16.22	16.22	16.18	16.25	16.30	16.40	16.36	16.34	16.34	16.35	16.35
Utilities	23.94	24.73	24.09	24.05	24.19	24.36	24.33	24.48	24.62	24.73	24.95	24.93	25.17	25.20	25.20
Information	20.23	21.10	20.74	20.70	20.79	20.90	20.97	21.09	21.13	21.26	21.32	21.28	21.26	21.23	21.23
Financial activities	16.17	17.09	16.56	16.69	16.77	16.78	16.93	17.02	17.17	17.33	17.33	17.25	17.25	17.22	17.22
Professional and business services	16.81	17.24	17.09	17.02	17.17	17.20	17.23	17.24	17.22	17.23	17.24	17.24	17.30	17.36	17.36
Education and health services	15.22	15.70	15.52	15.57	15.61	15.63	15.57	15.64	15.67	15.72	15.76	15.76	15.80	15.81	15.81
Leisure and hospitality	8.57	8.74	8.73	8.71	8.77	8.72	8.71	8.73	8.75	8.76	8.75	8.76	8.76	8.77	8.77
Other services	13.72	13.98	13.94	13.98	14.03	14.02	13.98	13.97	13.98	13.98	13.98	13.98	13.97	13.97	13.97

[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.

p = preliminary.

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. See "Notes on the data" for a description of the most recent benchmark revision.

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

Industry	Annual average		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.	Oct.	Nov.[p]	Dec.[p]
TOTAL PRIVATE	$14.95	$15.38	$15.26	$15.27	$15.35	$15.34	$15.31	$15.31	$15.34	$15.32	$15.35	$15.48	$15.46	$15.53	$15.52
Seasonally adjusted	15.20	15.50	15.20	15.22	15.29	15.29	15.30	15.35	15.38	15.43	15.45	15.44	15.44	15.46	15.47
GOODS-PRODUCING	16.33	16.80	16.66	16.56	16.54	16.59	16.66	16.71	16.78	16.84	16.92	17.01	16.94	16.95	17.04
Natural resources and mining	17.22	17.65	17.40	17.49	17.43	17.58	17.76	17.47	17.52	17.61	17.61	17.78	17.77	17.76	18.01
Construction	18.51	18.95	18.90	18.68	18.69	18.73	18.83	18.85	18.90	18.99	19.06	19.17	19.11	19.11	19.18
Manufacturing	15.29	15.74	15.65	15.61	15.62	15.62	15.63	15.64	15.69	15.69	15.76	15.88	15.81	15.87	16.02
Durable goods	16.01	16.44	16.39	16.34	16.34	16.33	16.30	16.33	16.40	16.31	16.47	16.61	16.54	16.56	16.73
Wood products	12.33	12.69	12.49	12.52	12.51	12.51	12.48	12.57	12.70	12.81	12.76	12.83	12.82	12.88	12.84
Nonmetallic mineral products	15.39	15.75	15.55	15.62	15.48	15.52	15.69	15.73	15.70	15.83	15.81	15.83	15.95	15.94	15.91
Primary metals	17.68	18.10	18.09	18.05	17.96	17.86	18.03	17.93	18.02	18.23	18.10	18.27	18.22	18.27	18.33
Fabricated metal products	14.68	15.01	14.97	14.95	14.92	14.97	14.94	14.92	14.92	15.00	15.04	15.09	15.02	15.05	15.25
Machinery	15.93	16.33	16.20	16.11	16.16	16.19	16.20	16.23	16.33	16.39	16.35	16.42	16.38	16.52	16.71
Computer and electronic products	16.19	16.66	16.41	16.32	16.55	16.55	16.59	16.56	16.75	16.76	16.78	16.75	16.74	16.81	16.79
Electrical equipment and appliances	13.97	14.33	14.16	14.08	14.18	14.25	14.25	14.19	14.28	14.29	14.13	14.47	14.34	14.55	14.63
Transportation equipment	20.64	21.21	21.42	21.22	21.16	21.07	20.94	21.08	21.20	20.77	21.30	21.56	21.36	21.27	21.58
Furniture and related products	12.62	13.00	12.93	12.93	12.91	12.93	12.89	12.90	12.96	12.98	13.05	13.10	13.01	13.08	13.21
Miscellaneous manufacturing	12.91	13.29	13.08	13.12	13.14	13.22	13.20	13.19	13.13	13.25	13.26	13.41	13.47	13.49	13.57
Nondurable goods	14.15	14.64	14.48	14.47	14.49	14.53	14.57	14.56	14.58	14.72	14.67	14.74	14.68	14.79	14.88
Food manufacturing	12.54	12.76	12.81	12.70	12.66	12.70	12.72	12.71	12.70	12.81	12.78	12.88	12.75	12.81	12.94
Beverages and tobacco products	17.68	17.16	18.04	17.68	17.53	17.69	17.70	17.93	17.56	17.74	17.60	17.58	17.90	18.30	17.96
Textile mills	11.73	12.00	11.83	11.99	11.92	11.92	11.95	11.95	11.92	11.97	11.94	12.06	12.02	12.14	12.20
Textile product mills	10.96	11.27	11.20	11.12	11.11	10.98	11.14	11.13	11.18	11.29	11.47	11.49	11.39	11.42	11.56
Apparel	9.10	9.57	9.30	9.30	9.33	9.45	9.47	9.49	9.47	9.68	9.75	9.77	9.70	9.70	9.85
Leather and allied products	11.01	11.72	11.51	11.53	11.62	11.62	11.76	11.71	11.59	11.57	11.73	11.69	11.89	11.94	11.99
Paper and paper products	16.89	17.44	17.26	17.21	17.22	17.22	17.38	17.38	17.33	17.59	17.46	17.54	17.57	17.71	17.66
Printing and related support activities	14.93	15.38	15.35	15.28	15.32	15.33	15.35	15.26	15.26	15.41	15.37	15.48	15.42	15.53	15.58
Petroleum and coal products	23.06	23.69	23.65	23.58	24.29	24.17	23.92	23.36	25.53	23.21	23.01	23.51	23.69	24.00	23.97
Chemicals	17.97	18.54	18.34	18.28	18.29	18.33	18.35	18.46	18.55	18.53	18.61	18.68	18.68	18.84	18.84
Plastics and rubber products	13.55	14.16	13.81	13.91	13.95	14.00	14.07	14.09	14.18	14.37	14.26	14.29	14.17	14.22	14.41
PRIVATE SERVICE-PROVIDING	14.56	15.00	14.88	14.92	15.04	15.00	14.94	14.92	14.94	14.91	14.92	15.05	15.05	15.15	15.11
Trade, transportation, and utilities	14.02	14.34	14.12	14.24	14.36	14.34	14.31	14.28	14.33	14.31	14.32	14.42	14.39	14.43	14.34
Wholesale trade	16.97	17.32	17.22	17.18	17.32	17.29	17.26	17.24	17.33	17.29	17.32	17.38	17.39	17.48	17.37
Retail trade	11.67	11.91	11.76	11.88	11.92	11.90	11.90	11.88	11.91	11.90	11.90	12.00	11.92	11.92	11.91
Transportation and warehousing	15.77	16.31	16.04	16.02	16.26	16.23	16.21	16.19	16.29	16.38	16.36	16.35	16.35	16.51	16.52
Utilities	23.94	24.73	24.26	24.02	24.16	24.41	24.47	24.52	24.58	24.60	24.78	25.11	25.20	25.44	25.50
Information	20.23	21.10	20.90	20.79	20.88	20.88	20.98	21.01	21.03	21.10	21.21	21.45	21.35	21.36	21.17
Financial activities	16.17	17.09	16.64	16.70	16.95	16.89	16.93	16.97	17.16	17.24	17.30	17.25	17.23	17.27	17.12
Professional and business services	16.81	17.24	17.28	17.14	17.40	17.36	17.21	17.18	17.25	17.11	17.07	17.15	17.17	17.45	17.36
Education and health services	15.22	15.70	15.55	15.61	15.61	15.62	15.56	15.58	15.61	15.69	15.75	15.78	15.81	15.83	15.89
Leisure and hospitality	8.57	8.74	8.81	8.74	8.80	8.73	8.69	8.72	8.69	8.66	8.66	8.77	8.77	8.80	8.92
Other services	13.72	13.98	14.01	14.00	14.02	14.02	13.99	13.99	13.97	13.89	13.91	13.99	13.95	14.01	14.05

[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: 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. See "Notes on the data" for a description of the most recent benchmark revision.

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

Industry	Annual average		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.p	Dec.p
TOTAL PRIVATE	$506.22	$519.56	$520.37	$510.02	$517.30	518.49.	$511.35	$515.95	$523.09	$517.82	$521.90	$523.22	$522.55	$529.07	$523.02
Seasonally adjusted	–	–	513.76	514.44	515.27	516.80	515.61	517.30	518.31	518.45	520.67	520.33	522.55	524.43	522.35
GOODS-PRODUCING	651.60	669.33	668.07	654.12	645.06	658.62	654.74	665.06	672.88	665.18	678.49	685.50	680.99	683.09	686.71
Natural resources and mining	743.11	769.96	748.20	743.33	747.75	777.00	765.46	766.93	776.14	760.75	776.60	784.10	781.88	783.22	781.63
Construction	711.61	727.49	710.64	707.97	678.45	715.49	708.01	731.38	737.10	740.61	752.87	749.55	743.38	730.00	723.09
Manufacturing	618.87	636.13	644.78	625.96	626.36	629.49	623.64	628.73	635.45	621.32	633.55	647.90	643.47	653.84	664.83
Durable goods	652.83	670.68	681.82	661.77	660.14	663.00	655.26	663.00	672.40	650.77	668.68	684.33	679.79	687.24	702.66
Wood products	491.98	513.14	499.60	490.78	490.39	497.90	497.95	505.31	520.70	521.37	519.33	526.03	525.62	533.23	527.72
Nonmetallic mineral products	646.74	664.60	645.33	640.42	634.68	651.84	655.84	677.24	673.53	664.86	673.51	675.94	679.47	680.64	668.22
Primary metals	749.08	766.65	783.30	765.32	759.71	760.84	760.87	760.23	760.44	749.25	752.96	776.45	770.71	785.61	799.19
Fabricated metal products	596.44	610.36	619.76	605.48	601.28	604.79	599.09	605.75	608.74	598.50	609.12	617.18	615.82	635.93	610.36
Machinery	645.81	666.87	670.68	650.84	657.71	658.93	654.48	662.18	671.16	652..32	662.18	673.22	668.30	685.58	706.83
Computer and electronic products	642.86	673.94	681.02	647.90	657.04	668.62	660.28	667.37	680.05	668.72	686.30	683.40	682.99	694.25	693.43
Electrical equipment and appliances	560.09	582.80	591.89	564.61	575.71	577.13	570.00	569.02	588.34	567.31	581.53	588.93	590.81	602.37	620.31
Transportation equipment	877.84	887.94	921.06	895.48	886.60	874.41	864.82	874.82	888.28	824.57	871.17	918.40	905.66	903.98	945.20
Furniture and related products	494.14	505.76	522.37	493.93	494.45	493.93	488.53	491.49	505.44	504.92	514.17	518.76	508.69	520.58	535.01
Miscellaneous manufacturing	499.09	510.61	515.35	505.12	504.58	508.97	500.28	502.54	506.82	502..18	505.21	514.94	515.90	530.16	531.94
Nondurable goods	567.11	583.61	586.44	571.57	572.36	579.75	575.52	576.58	580.28	577.02	582.40	594.02	588.67	601.95	604.13
Food manufacturing	496.78	502.27	513.68	491.49	487.41	496.57	493.54	496.96	500.38	498.31	507.37	516.49	506.18	514.96	516.31
Beverages and tobacco products	697.09	694.45	699.95	675.38	669.65	686.37	695.61	704.65	695.38	690.09	688.16	701.44	701.68	732.00	695.05
Textile mills	476.70	469.41	480.30	467.61	472.03	473.22	472.03	461.27	463.69	440.50	462.08	475.16	486.81	461.37	469.34
Textile product mills	429.49	446.84	449.12	431.46	429.96	431.51	431.12	432.96	441.61	448.21	459.95	468.79	460.16	461.37	469.34
Apparel	333.77	340.09	338.52	332.01	333.08	340.20	336.19	336.90	337.13	332.02	338.33	341.95	349.20	353.08	353.62
Leather and allied products	413.05	460.54	451.19	447.36	456.67	463.64	468.05	459.03	454.33	452.39	455.12	448.90	466.09	472.82	483.20
Paper and paper products	707.36	724.20	735.28	714.22	711.19	716.35	717.79	714.32	717.46	719.43	715.86	731.42	732.67	747.36	754.08
Printing and related support activities	573.42	588.59	597.12	580.64	582.16	591.74	580.23	573.78	578.35	580.96	585.60	600.62	599.84	605.67	604.50
Petroleum and coal products	992.05	1,056.12	1,040.60	1,039.88	1,095.48	1,109.40	1,052.48	1,006.82	1,047.09	1,025.88	1,010.14	1,048.55	1,070.79	1,104.00	1,066.67
Chemicals	759.57	785.76	786.79	769.59	780.98	780.86	776.21	777.17	786.52	772.70	785.34	793.90	786.43	812.00	808.24
Plastics and rubber products	549.57	571.63	566.21	556.40	558.00	561.40	561.39	569.24	572.87	564.74	571.83	583.03	579.14	584.44	599.46
PRIVATE SERVICE-PROVIDING	473.10	486.01	488.06	477.44	488.80	487.50	481.07	481.92	490.03	484.58	486.39	486.12	486.12	495.41	486.54
Trade, transportation, and utilities	471.09	480.54	478.67	467.07	476.75	478.96	475.09	476.95	487.22	483.68	485.45	485.95	483.50	486.29	479.29
Wholesale trade	643.99	655.90	657.80	639.10	654.70	655.29	647.25	651.67	663.74	651.83	658.16	658.70	660.82	674.73	654.85
Retail trade	360.53	366.99	366.91	356.40	362.37	364.14	362.95	365.90	373.97	372.47	373.66	372.00	367.14	365.94	366.83
Transportation and warehousing	580.68	600.95	603.10	581.53	593.49	595.64	586.80	590.94	604.36	604.42	606.96	608.22	606.59	622.43	609.59
Utilities	978.44	1,014.25	997.09	987.22	992.98	1,003.25	1,005.72	1,000.42	1,010.24	1,006.14	1,013.50	1,024.49	1,038.24	1,055.76	1,032.75
Information	739.41	766.17	769.12	742.20	760.03	757.94	753.18	758.46	773.90	768.04	774.17	774.35	775.01	790.32	766.35
Financial activities	575.43	607.09	604.03	587.84	611.90	608.04	595.94	599.04	621.19	606.85	612.42	607.20	608.22	623.45	602.62
Professional and business services	574.59	587.57	596.16	579.33	598.56	597.18	585.14	584.12	598.58	581.74	581.08	579.67	582.06	598.54	585.03
Education and health services	493.02	510.76	506.93	507.33	508.89	509.21	502.59	503.23	510.45	509.93	515.03	512.85	512.24	520.81	516.43
Leisure and hospitality	221.15	223.86	227.30	217.63	224.40	224.36	219.86	222.36	226.81	226.03	227.76	221.88	223.64	226.16	224.78
Other services	439.65	443.94	449.72	442.40	445.84	447.24	443.48	443.48	447.04	441.70	443.73	443.48	442.22	445.52	442.58

[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: 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. 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:												
1999	56.3	64.7	56.7	65.8	64.2	61.9	63.3	59.9	57.6	64.4	69.1	64.4
2000	65.5	60.3	65.5	58.8	47.7	61.7	65.5	52.9	52.3	54.1	57.7	53.2
2001	52.3	49.6	48.6	36.5	41.4	38.1	35.6	38.5	39.0	35.6	37.8	36.0
2002	40.5	37.0	37.6	41.0	41.7	43.7	39.0	41.7	43.3	43.9	42.4	37.2
2003	44.2	36.7	44.1	46.9	43.3	37.2	43.2	40.8	50.0	50.0	54.3	50.4
Over 3-month span:												
1999	61.5	64.9	61.0	65.8	66.4	69.1	66.9	64.4	62.2	62.9	66.7	69.6
2000	70.1	66.0	68.3	68.3	58.5	56.3	58.1	62.2	55.9	53.1	54.0	58.3
2001	54.9	50.7	50.5	43.5	37.2	39.7	36.2	35.8	34.5	32.2	31.7	30.9
2002	34.4	38.3	36.5	35.4	36.7	38.8	39.7	41.4	38.1	39.0	37.8	34.9
2003	36.0	35.6	36.0	41.2	43.0	40.6	37.6	34.5	43.5	46.6	50.5	49.8
Over 6-month span:												
1999	66.9	64.9	63.7	64.0	65.6	65.8	66.7	66.2	69.4	68.7	66.4	66.5
2000	67.6	68.7	71.4	71.9	68.5	66.2	67.3	60.4	58.3	55.0	61.0	55.2
2001	53.2	51.4	50.7	47.1	42.8	38.8	37.6	34.5	31.1	32.9	31.3	31.7
2002	30.6	29.9	31.1	31.3	33.3	35.8	36.9	37.4	37.8	39.9	38.3	35.8
2003	37.4	36.5	35.1	34.7	37.4	36.5	38.7	35.1	40.8	38.8	42.6	44.8
Over 12-month span:												
1999	70.5	68.7	68.2	68.0	68.3	68.3	68.0	68.0	67.8	69.1	68.3	69.1
2000	70.9	69.2	73.2	71.0	69.8	71.0	70.0	70.3	70.3	65.6	63.8	62.1
2001	59.5	59.5	53.4	49.3	48.6	45.0	43.3	43.9	39.9	37.8	37.1	34.9
2002	33.6	31.7	30.2	30.2	30.4	30.6	30.8	31.8	31.5	30.0	33.5	33.3
2003	33.8	33.3	34.5	35.4	36.5	35.4	35.8	33.6	38.1	37.4	34.9	38.5
	Manufacturing payrolls, 84 industries											
Over 1-month span:												
1999	42.3	38.7	33.3	39.3	52.4	34.5	50.0	40.5	41.7	50.6	56.0	51.8
2000	50.6	53.6	54.8	42.9	39.9	53.6	62.5	28.6	24.4	35.1	41.1	38.7
2001	24.4	22.0	24.4	14.3	14.3	19.6	14.3	13.7	17.9	16.7	16.7	9.5
2002	19.0	22.6	20.8	33.9	30.4	32.1	34.5	25.0	31.0	19.6	21.4	25.0
2003	36.3	19.0	27.4	20.2	30.4	25.6	31.5	25.6	33.3	32.7	42.9	38.1
Over 3-month span:												
1999	33.9	40.5	37.5	35.7	41.7	43.5	42.3	38.1	41.1	44.6	49.4	56.5
2000	54.2	54.8	58.3	51.8	41.7	41.1	54.8	48.2	29.2	25.6	25.0	42.3
2001	34.5	24.4	17.9	14.3	11.9	14.3	10.7	7.7	8.3	9.5	8.9	8.3
2002	11.9	11.9	16.7	20.2	21.4	20.2	28.6	25.6	25.6	17.9	14.9	10.7
2003	14.9	15.5	19.6	16.7	17.9	14.3	20.2	18.5	24.4	25.6	31.0	35.1
Over 6-month span:												
1999	37.5	32.7	30.4	33.3	36.9	38.1	38.1	34.5	40.5	46.4	41.1	48.2
2000	47.0	51.2	56.5	57.1	49.4	47.6	56.0	44.0	36.9	35.1	34.5	31.0
2001	23.8	24.4	20.8	17.9	14.9	11.9	13.7	9.5	8.3	6.5	6.5	6.0
2002	7.7	8.9	7.7	8.9	12.5	16.7	19.6	19.6	23.8	17.9	16.7	13.7
2003	13.7	14.3	12.5	11.9	12.5	15.5	13.1	13.7	16.1	16.7	19.6	24.4
Over 12-month span:												
1999	35.7	32.1	29.8	32.1	32.7	32.1	34.5	32.1	33.3	39.3	41.1	42.9
2000	41.7	39.3	47.0	50.0	46.4	52.4	51.8	49.4	46.4	40.5	35.1	33.3
2001	29.8	32.1	20.8	19.0	13.1	12.5	10.7	11.9	11.9	10.1	8.3	6.0
2002	7.1	6.0	6.0	7.1	7.7	5.4	6.0	8.9	7.7	9.5	13.1	13.1
2003	13.7	15.5	16.7	13.1	15.5	16.1	13.1	14.3	12.5	13.1	11.9	14.3

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industres 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. Establishment size and employment covered under UI, private ownership, by Supersector, first quarter 2001

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	7,665,968	4,526,062	1,304,741	858,606	598,438	208,084	121,189	31,149	11,678	6,021
Employment, March	108,932,804	6,886,752	8,633,337	11,588,220	18,104,061	14,323,060	18,158,276	10,611,556	7,917,065	12,710,477
Natural resources and mining										
Establishments, first quarter	127,969	74,644	23,304	15,169	9,501	2,935	1,700	499	167	50
Employment, March	1,566,104	110,942	154,199	203,845	285,486	200,360	254,358	172,011	109,973	74,930
Construction										
Establishments, first quarter	765,649	494,254	127,017	75,983	47,230	13,591	6,040	1,176	293	65
Employment, March	6,481,334	714,992	832,978	1,020,982	1,410,131	925,178	890,282	390,630	197,146	99,015
Manufacturing										
Establishments, first quarter	398,837	148,682	67,510	60,267	58,942	28,633	22,490	7,636	3,198	1,479
Employment, March	16,806,452	255,376	453,750	830,685	1,836,858	2,009,224	3,456,620	2,622,512	2,166,352	3,175,075
Trade, transportation, and utilities										
Establishments, first quarter	1,840,104	969,760	376,578	244,890	153,450	53,110	32,898	6,970	1,813	635
Employment, March	25,518,430	1,629,626	2,507,906	3,278,074	4,630,611	3,670,363	4,888,033	2,343,794	1,191,894	1,378,129
Information										
Establishments, first quarter	150,855	84,672	20,636	17,119	14,772	6,698	4,475	1,476	674	333
Employment, March	3,692,948	113,812	137,426	234,492	457,236	465,567	685,746	507,063	462,533	629,073
Financial activities										
Establishments, first quarter	716,808	458,390	128,266	71,615	37,529	11,731	6,084	1,808	897	488
Employment, March	7,623,126	750,421	843,311	952,198	1,121,825	801,994	917,250	621,240	609,199	1,005,688
Professional and business services										
Establishments, first quarter	1,238,267	825,617	173,773	107,694	73,807	29,139	19,405	5,654	2,177	1,001
Employment, March	16,441,289	1,170,098	1,140,772	1,451,932	2,245,729	2,022,745	2,951,873	1,933,668	1,480,878	2,043,594
Education and health services										
Establishments, first quarter	679,762	321,428	155,333	96,121	61,097	22,789	15,989	3,721	1,690	1,594
Employment, March	14,712,829	603,470	1,027,913	1,291,605	1,836,799	1,589,809	2,383,443	1,274,120	1,178,727	3,526,943
Leisure and hospitality										
Establishments, first quarter	627,875	249,542	104,548	110,374	117,264	33,939	9,463	1,725	667	353
Employment, March	11,590,048	390,258	705,222	1,542,760	3,560,715	2,263,935	1,344,217	586,269	453,703	742,969
Other services										
Establishments, first quarter	954,627	750,261	115,619	55,756	24,254	5,498	2,630	484	102	23
Employment, March	4,187,740	977,871	752,689	734,980	703,687	372,499	384,044	160,249	66,660	35,061

[1] Includes establishments that reported no workers in March 2001.

[2] Includes data for unclassified establishments, not shown separately.

NOTE: Detail may not add to totals due to rounding. Data reflect the movement of Indian Tribal Council establishments from private industry to the public sector. See Notes on Current Labor Statistics.

19. Annual data: establishments, employment, and wages covered under UI and UCFE by ownership

Year	Average establishments	Average annual employment	Total annual wages (in thousands)	Average annual wages per employee	Average weekly wage
	Total covered (UI and UCFE)				
1992	6,532,608	107,413,728	$2,781,676,477	$25,897	$498
1993	6,679,934	109,422,571	2,884,472,282	26,361	507
1994	6,826,677	112,611,287	3,033,676,678	26,939	518
1995	7,040,677	115,487,841	3,215,921,236	27,846	536
1996	7,189,168	117,963,132	3,414,514,808	28,946	557
1997	7,369,473	121,044,432	3,674,031,718	30,353	584
1998	7,634,018	124,183,549	3,967,072,423	31,945	614
1999	7,820,860	127,042,282	4,235,579,204	33,340	641
2000	7,879,116	129,877,063	4,587,708,584	35,323	679
2001	7,984,529	129,635,800	4,695,225,123	36,219	697
	UI covered				
1992	6,485,473	104,288,324	$2,672,081,827	$25,622	$493
1993	6,632,221	106,351,431	2,771,023,411	26,055	501
1994	6,778,300	109,588,189	2,918,684,128	26,633	512
1995	6,990,594	112,539,795	3,102,353,355	27,567	530
1996	7,137,644	115,081,246	3,298,045,286	28,658	551
1997	7,317,363	118,233,942	3,553,933,885	30,058	578
1998	7,586,767	121,400,660	3,845,494,089	31,676	609
1999	7,771,198	124,255,714	4,112,169,533	33,094	636
2000	7,828,861	127,005,574	4,454,966,824	35,077	675
2001	7,933,536	126,883,182	4,560,511,280	35,943	691
	Private industry covered				
1992	6,308,719	89,349,803	$2,282,598,431	$25,547	$491
1993	6,454,381	91,202,971	2,365,301,493	25,934	499
1994	6,596,158	94,146,344	2,494,458,555	26,496	510
1995	6,803,454	96,894,844	2,658,927,216	27,441	528
1996	6,946,858	99,268,446	2,837,334,217	28,582	550
1997	7,121,182	102,175,161	3,071,807,287	30,064	578
1998	7,381,518	105,082,368	3,337,621,699	31,762	611
1999	7,560,567	107,619,457	3,577,738,557	33,244	639
2000	7,622,274	110,015,333	3,887,626,769	35,337	680
2001	7,724,965	109,304,802	3,952,152,155	36,157	695
	State government covered				
1992	58,801	4,044,914	$112,405,340	$27,789	$534
1993	59,185	4,088,075	117,095,062	28,643	551
1994	60,686	4,162,944	122,879,977	29,518	568
1995	60,763	4,201,836	128,143,491	30,497	586
1996	62,146	4,191,726	131,605,800	31,397	604
1997	65,352	4,214,451	137,057,432	32,521	625
1998	67,347	4,240,779	142,512,445	33,605	646
1999	70,538	4,296,673	149,011,194	34,681	667
2000	65,096	4,370,160	158,618,365	36,296	698
2001	64,583	4,452,237	168,358,331	37,814	727
	Local government covered				
1992	117,923	10,892,697	$277,045,557	$25,434	$489
1993	118,626	11,059,500	288,594,697	26,095	502
1994	121,425	11,278,080	301,315,857	26,717	514
1995	126,342	11,442,238	315,252,346	27,552	530
1996	128,640	11,621,074	329,105,269	28,320	545
1997	130,829	11,844,330	345,069,166	29,134	560
1998	137,902	12,077,513	365,359,945	30,251	582
1999	140,093	12,339,584	385,419,781	31,234	601
2000	141,491	12,620,081	408,721,690	32,387	623
2001	143,989	13,126,143	440,000,795	33,521	645
	Federal Government covered (UCFE)				
1992	47,136	3,125,404	$109,594,650	$35,066	$674
1993	47,714	3,071,140	113,448,871	36,940	710
1994	48,377	3,023,098	114,992,550	38,038	731
1995	50,083	2,948,046	113,567,881	38,523	741
1996	51,524	2,881,887	116,469,523	40,414	777
1997	52,110	2,810,489	120,097,833	42,732	822
1998	47,252	2,782,888	121,578,334	43,688	840
1999	49,661	2,786,567	123,409,672	44,287	852
2000	50,256	2,871,489	132,741,760	46,228	889
2001	50,993	2,752,619	134,713,843	48,940	941

NOTE: Detail may not add to totals due to rounding. Data reflect the movement of Indian Tribal Council establishments from private industry to the public sector. See Notes on Current Labor Statistics.

20. Annual data: establishments, employment, and wages covered under UI and UCFE, by State

State	Average establishments		Average annual employment		Total annual wages (in thousands)		Average weekly wage	
	2001	2000-2001 change	2001	2000-2001 change	2001	2000-2001 change	2001	2000-2001 change
Total United States	7,984,529	154,540	129,635,800	-185,779	$4,695,225,123	$109,884,920	$697	$18
Alabama	112,356	30	1,854,462	-23,500	55,822,097	1,284,088	579	21
Alaska	19,287	467	283,033	7,479	10,237,292	553,237	696	20
Arizona	118,706	3,546	2,243,652	22,942	74,963,072	2,546,248	643	16
Arkansas	72,814	587	1,127,151	-3,731	30,725,592	963,862	524	18
California	1,065,699	74,645	14,981,757	138,284	619,146,651	7,497,476	795	3
Colorado	153,824	5,347	2,201,379	14,728	83,547,602	2,274,669	730	15
Connecticut	108,201	414	1,665,607	-9,121	78,272,099	2,095,243	904	29
Delaware	25,253	505	406,736	482	15,629,636	787,067	739	36
District of Columbia	28,414	9	635,749	-1,535	35,543,559	1,790,086	1,075	56
Florida	454,077	9,367	7,153,589	92,606	225,713,701	9,933,356	607	19
Georgia	230,232	5,219	3,871,763	-10,941	136,039,438	3,195,926	676	18
Hawaii	35,439	1,412	557,146	3,961	17,412,210	469,266	601	12
Idaho	46,480	1,084	571,314	8,137	15,864,510	263,832	534	1
Illinois	319,588	-2,723	5,886,248	-54,259	230,054,835	4,050,811	752	20
Indiana	151,376	-1,328	2,871,236	-63,392	91,246,189	183,520	611	14
Iowa	91,006	-5,825	1,429,543	-13,432	41,223,534	919,492	555	18
Kansas	80,521	52	1,319,667	5,984	39,792,114	1,221,387	580	15
Kentucky	108,025	302	1,736,575	-26,160	52,133,417	1,367,028	577	23
Louisiana	115,807	-2,386	1,869,966	827	54,473,146	2,345,871	560	24
Maine	46,206	1,344	593,166	2,472	17,092,043	750,886	554	22
Maryland	147,158	622	2,421,899	16,392	92,644,873	5,096,016	736	36
Massachusetts	191,824	6,848	3,276,224	21,104	147,348,234	3,574,494	865	16
Michigan	259,556	5,809	4,476,659	-107,880	167,385,129	-2,295,158	719	7
Minnesota	156,031	487	2,609,669	1,325	95,479,188	3,107,396	704	23
Mississippi	63,207	-748	1,111,255	-25,520	28,806,869	151,385	499	14
Missouri	163,121	138	2,652,876	-23,960	86,009,694	2,000,438	623	19
Montana	40,477	2,136	383,905	4,862	9,672,371	472,112	485	18
Nebraska	52,653	836	883,920	1,516	25,083,293	646,745	546	13
Nevada	49,635	1,770	1,043.748	25,919	34,569,506	1,717,063	637	16
New Hampshire	46,070	171	610,192	3,685	21,650,267	582,754	682	14
New Jersey	256,536	-13,793	3,876,194	-1,221	171,793,642	2,443,618	852	12
New Mexico	48,439	522	729,422	12,293	20,935,825	1,216,191	552	23
New York	538,898	9,822	8,423,312	-47,446	393,598,666	9,383,346	899	27
North Carolina	224,426	2,208	3,805,498	-57,272	121,866,007	1,858,872	616	19
North Dakota	23,326	38	311,632	2,412	8,011,085	378,510	494	19
Ohio	285,567	4,705	5,434,769	-77,865	180,885,154	1,681,299	640	15
Oklahoma	90,603	1,574	1,463,622	11,771	41,004,250	1,821,743	539	20
Oregon	111,073	2,150	1,596,753	-11,175	53,018,365	317,098	639	9
Pennsylvania	331,405	16,187	5,552,366	-5,535	194,211,696	5,158,632	673	19
Rhode Island	33,636	311	468,952	1,351	15,758,369	507,610	646	19
South Carolina	114,979	5,613	1,786,899	-33,210	52,275,679	986,967	563	21
South Dakota	27,365	221	364,715	598	9,337,014	306,302	492	15
Tennessee	125,165	140	2,625,746	-41,005	82,762,402	1,275,641	606	18
Texas	494,088	4,509	9,350,770	62,437	337,047,962	12,484,223	693	21
Utah	68,607	2,470	1,050,674	6,551	31,600,715	1,082,204	578	16
Vermont	24,156	287	298,020	1,558	9,011,468	439,492	581	25
Virginia	195,639	3,048	3,436,172	8,411	126,222,350	5,662,779	706	30
Washington	221,450	1,775	2,689,507	-14,921	100,746,663	413,740	720	7
West Virginia	46,620	-186	685,754	-845	19,187,832	726,836	538	21
Wisconsin	148,227	2,374	2,717,660	-18,388	85,713,725	1,733,629	607	17
Wyoming	21,288	429	237,278	6,446	6,654,092	459,596	539	23
Puerto Rico	51,733	-633	1,007,919	-18,234	19,884,381	578,173	379	17
Virgin Islands	3,236	-17	44,330	1,981	1,294,885	120,936	562	29

NOTE: Detail may not add to totals due to rounding.

21. Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 249 largest U.S. counties

County[1]	Employment			Average annual pay	
	2001	Percent change, 2000-2001[2]	Ranked by percent change, 2000-2001[3]	2001	Percent change, 2000-2001[2]
United States[4]	129,635,800	-.1	–	36,219	2.5
Jefferson, AL	380,680	-1.0	197	35,453	4.2
Madison, AL	156,169	1.3	54	37,089	3.5
Mobile, AL	167,000	-1.5	212	29,502	3.1
Montgomery, AL	129,878	-.9	192	29,979	3.8
Anchorage, AK	133,842	3.1	16	37,998	3.7
Maricopa, AZ	1,561,773	1.2	61	35,689	1.6
Pima, AZ	326,917	-.6	170	30,690	5.1
Pulaski, AR	240,754	-.7	175	32,261	4.7
Alameda, CA	697,181	-.1	135	46,489	3.1
Contra Costa, CA	337,444	.7	80	44,744	5.7
Fresno, CA	322,084	-.1	136	27,878	6.5
Kern, CA	242,232	1.5	49	30,106	5.3
Los Angeles, CA	4,103,370	.6	87	40,891	3.1
Marin, CA	111,939	1.3	55	43,547	2.2
Monterey, CA	166,186	.8	75	31,735	5.9
Orange, CA	1,411,944	1.6	46	40,252	2.6
Placer, CA	116,185	6.1	1	34,773	4.1
Riverside, CA	491,535	4.2	8	29,971	2.8
Sacramento, CA	588,426	3.0	18	39,173	3.8
San Bernardino, CA	545,113	2.8	21	30,995	3.6
San Diego, CA	1,218,982	2.0	37	38,418	2.3
San Francisco, CA	586,085	-3.3	246	61,068	6.1
San Joaquin, CA	204,504	1.9	39	30,818	5.3
San Mateo, CA	369,868	.1	120	62,288	-7.2
Santa Barbara, CA	177,234	.8	76	33,626	3.2
Santa Clara, CA	1,002,637	-2.3	233	65,931	-13.5
Santa Cruz, CA	102,669	.9	64	35,022	-2.2
Solano, CA	121,402	3.0	19	33,496	5.7
Sonoma, CA	194,922	2.1	32	36,145	1.1
Stanislaus, CA	164,473	2.2	30	29,591	4.9
Tulare, CA	132,878	.0	130	24,732	4.2
Ventura, CA	293,208	1.5	50	37,783	1.9
Adams, CO	146,043	.6	88	34,753	4.0
Arapahoe, CO	285,963	-.2	144	44,999	-2.7
Boulder, CO	184,755	3.2	13	44,310	-2.8
Denver, CO	461,996	-.6	171	46,134	4.0
El Paso, CO	240,100	.9	65	34,391	4.1
Jefferson, CO	210,375	.1	121	37,819	4.5
Larimer, CO	121,880	2.3	29	33,248	2.6
Fairfield, CT	421,211	-1.0	198	63,163	3.3
Hartford, CT	497,280	-.5	163	45,050	3.2
New Haven, CT	363,265	-1.1	201	39,483	2.9
New London, CT	124,684	1.6	47	38,505	4.8
New Castle, DE	282,318	.2	112	42,849	5.8
Washington, DC	635,734	-.2	145	55,909	5.6
Alachua, FL	119,148	.7	81	26,917	2.9
Brevard, FL	184,725	1.7	43	32,798	2.2
Broward, FL	663,954	2.1	33	33,966	2.2
Collier, FL	110,230	5.9	2	30,839	2.9
Duval, FL	436,663	1.8	41	33,721	2.9
Escambia, FL	121,285	.8	77	28,610	7.1
Hillsborough, FL	595,768	1.8	42	32,874	3.7
Lee, FL	171,902	4.5	5	29,432	4.6
Leon, FL	142,981	.9	66	30,287	3.5
Manatee, FL	118,788	5.2	4	26,629	4.4
Miami-Dade, FL	993,834	1.6	48	34,524	3.6
Orange, FL	602,668	.2	113	32,218	3.5
Palm Beach, FL	499,688	3.9	9	35,957	2.1
Pinellas, FL	448,788	3.3	12	31,742	1.5
Polk, FL	184,471	.1	122	28,890	3.6
Sarasota, FL	147,206	4.5	6	29,030	1.9
Seminole, FL	145,147	2.2	31	31,951	3.6
Volusia, FL	142,478	-.2	146	26,064	3.9
Chatham, GA	122,608	-.2	147	30,549	3.0
Clayton, GA	114,982	-.3	151	38,301	4.2
Cobb, GA	301,520	-.1	137	40,174	3.6
Dekalb, GA	305,903	-.7	176	39,648	2.7
Fulton, GA	754,870	.1	123	47,761	1.5
Gwinnett, GA	289,538	2.9	20	39,405	.9
Richmond, GA	104,694	-.9	193	29,431	2.9

See footnotes at end of table.

21. Continued—Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 249 largest U.S. counties

County[1]	Employment			Average annual pay	
	2001	Percent change, 2000-2001[2]	Ranked by percent change, 2000-2001[3]	2001	Percent change, 2000-2001[2]
Honolulu, HI	409,669	.4	99	32,531	2.1
Ada, ID	182,309	2.7	23	33,081	-4.0
Cook, IL	2,630,768	-1.5	213	44,108	2.8
Du Page, IL	580,938	-.2	148	43,470	2.1
Kane, IL	194,374	-.1	138	33,362	3.7
Lake, IL	316,150	-.3	152	43,970	3.2
Peoria, IL	102,764	-1.8	223	33,288	6.1
Sangamon, IL	145,195	.2	114	36,259	4.3
Will, IL	145,570	.1	124	34,280	6.1
Winnebago, IL	139,815	-2.9	241	31,951	1.4
Allen, IN	183,329	-2.3	234	32,830	1.7
Elkhart, IN	113,524	-6.8	249	30,797	1.5
Lake, IN	194,624	-1.9	226	32,017	1.4
Marion, IN	591,406	-1.3	210	37,885	3.8
St. Joseph, IN	124,967	-3.1	244	30,769	3.7
Vanderburgh, IN	109,418	.1	125	30,494	3.1
Linn, IA	119,914	-1.7	219	34,649	1.6
Polk, IA	263,469	-.2	149	34,944	3.8
Johnson, KS	292,984	2.4	27	37,204	-.1
Sedgwick, KS	249,863	.1	126	33,937	3.8
Shawnee, KS	100,462	.3	105	30,513	3.9
Fayette, KY	167,714	-2.4	237	32,237	5.0
Jefferson, KY	431,347	-1.7	220	34,688	4.1
Caddo, LA	120,877	1.3	56	29,354	2.0
East Baton Rouge, LA	243,392	-1.1	202	30,397	3.9
Jefferson, LA	213,911	-.4	160	29,326	4.6
Lafayette, LA	119,294	4.5	7	32,364	8.2
Orleans, LA	263,427	.1	127	32,880	3.7
Cumberland, ME	168,147	1.3	57	32,327	5.1
Anne Arundel, MD	200,174	2.8	22	37,190	4.9
Baltimore, MD	360,128	.2	115	36,240	6.2
Howard, MD	132,935	1.3	58	40,191	6.1
Montgomery, MD	449,881	.9	67	45,893	5.0
Prince Georges, MD	304,022	.5	94	38,986	5.2
Baltimore City, MD	381,155	.4	100	40,508	5.0
Bristol, MA	218,818	-1.1	203	32,012	4.1
Essex, MA	306,111	.2	116	39,242	.5
Hampden, MA	204,824	.9	68	33,357	3.6
Middlesex, MA	850,295	1.4	52	51,734	.0
Norfolk, MA	327,067	.7	82	44,173	2.2
Plymouth, MA	166,471	.8	78	34,929	3.4
Suffolk, MA	602,983	.1	128	58,906	4.0
Worcester, MA	321,044	.3	106	37,299	-.9
Genesee, MI	160,442	-3.0	242	35,995	-.9
Ingham, MI	174,290	-.3	153	35,753	2.3
Kalamazoo, MI	116,728	-1.7	221	33,908	3.8
Kent, MI	339,510	-1.8	224	34,570	1.7
Macomb, MI	326,600	-3.2	245	40,481	-1.0
Oakland, MI	755,451	-1.4	211	45,038	1.2
Ottawa, MI	115,880	-2.5	239	32,246	.9
Washtenaw, MI	195,562	.2	117	40,249	.2
Wayne, MI	848,463	-2.4	238	42,968	1.2
Anoka, MN	109,521	-.3	154	34,585	1.9
Dakota, MN	155,662	1.3	59	35,683	3.8
Hennepin, MN	863,674	-.8	186	45,495	3.8
Ramsey, MN	333,380	.0	131	40,400	3.4
Hinds, MS	134,285	-.9	194	31,138	1.8
Greene, MO	140,739	-.9	195	28,065	4.1
Jackson, MO	384,942	-2.3	235	37,405	3.7
St. Louis, MO	641,151	-.8	187	38,929	2.1
St. Louis City, MO	245,192	-2.2	231	40,834	5.8
Douglas, NE	325,629	-.7	177	32,866	1.6
Lancaster, NE	148,200	.9	69	29,352	2.9
Clark, NV	720,184	3.2	14	32,648	1.6
Washoe, NV	193,571	2.4	28	34,231	4.5
Hillsborough, NH	192,712	.0	132	39,320	.3
Rockingham, NH	130,917	.7	83	36,642	2.3
Atlantic, NJ	141,240	.9	70	32,555	4.8
Bergen, NJ	453,626	1.5	51	46,828	1.1
Burlington, NJ	187,398	3.6	11	38,776	3.1

See footnotes at end of table.

21. Continued—Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 249 largest U.S. counties

County[1]	Employment			Average annual pay	
	2001	Percent change, 2000-2001[2]	Ranked by percent change, 2000-2001[3]	2001	Percent change, 2000-2001[2]
Camden, NJ	199,869	.5	95	36,530	4.0
Essex, NJ	361,569	-.5	164	46,526	4.2
Hudson, NJ	237,253	.0	133	47,638	.4
Mercer, NJ	215,524	2.6	25	46,831	4.9
Middlesex, NJ	399,332	1.3	60	47,726	2.7
Monmouth, NJ	240,757	3.2	15	40,399	1.8
Morris, NJ	277,653	.4	101	53,829	-11.0
Ocean, NJ	133,657	3.7	10	31,034	1.9
Passaic, NJ	175,108	-1.1	204	39,192	3.8
Somerset, NJ	176,713	1.7	44	55,769	1.8
Union, NJ	236,609	-.1	139	46,204	2.0
Bernalillo, NM	309,166	.7	84	31,663	4.9
Albany, NY	229,957	-.5	165	37,848	5.7
Bronx, NY	214,227	.4	102	34,248	4.3
Dutchess, NY	112,912	2.5	26	38,748	7.4
Erie, NY	454,839	-1.1	205	32,103	1.9
Kings, NY	439,343	-.1	140	31,952	3.9
Monroe, NY	393,783	-.7	178	36,597	3.3
Nassau, NY	593,368	-.8	188	40,599	1.4
New York, NY	2,342,338	-1.5	214	74,883	3.2
Oneida, NY	108,686	-1.8	225	28,381	4.0
Onondaga, NY	249,754	-1.1	206	33,469	3.0
Orange, NY	120,903	.7	85	30,218	2.9
Queens, NY	478,661	-.7	179	36,963	5.7
Rockland, NY	107,348	.4	103	38,720	3.9
Suffolk, NY	581,938	.1	129	38,706	2.2
Westchester, NY	404,974	-.4	161	48,716	3.5
Buncombe, NC	105,378	-.3	155	28,701	3.8
Cumberland, NC	106,381	-2.8	240	26,981	3.3
Durham, NC	169,609	.3	107	48,076	-2.6
Forsyth, NC	180,155	-.7	180	34,693	2.0
Guilford, NC	274,077	-2.0	229	33,217	3.1
Mecklenburg, NC	514,036	.3	108	41,775	3.1
Wake, NC	385,777	.9	71	36,996	4.6
Butler, OH	126,863	-.5	166	32,325	2.6
Cuyahoga, OH	796,353	-1.6	217	37,533	2.8
Franklin, OH	702,628	.2	118	36,090	3.2
Hamilton, OH	559,852	-1.1	207	38,339	2.0
Lorain, OH	103,115	-3.5	247	32,194	.6
Lucas, OH	234,678	-1.7	222	33,088	2.6
Mahoning, OH	108,769	-3.7	248	26,860	3.5
Montgomery, OH	298,982	-1.5	215	34,783	.7
Stark, OH	173,888	-1.6	218	29,197	2.4
Summit, OH	261,098	-2.1	230	33,416	2.1
Oklahoma, OK	415,507	.4	104	30,161	3.2
Tulsa, OK	342,502	.6	89	32,771	5.2
Clackamas, OR	133,997	-.2	150	33,699	3.7
Lane, OR	137,574	-1.9	227	28,983	4.0
Marion, OR	126,999	-.6	172	28,785	2.4
Multnomah, OR	444,393	-1.1	208	37,668	2.4
Washington, OR	228,453	1.4	53	42,222	-5.0
Allegheny, PA	711,532	.3	109	38,086	3.7
Berks, PA	165,263	-.7	181	32,807	2.5
Bucks, PA	246,491	.6	90	35,239	3.5
Chester, PA	217,148	.6	91	44,216	1.0
Cumberland, PA	122,649	-.6	173	33,996	3.6
Dauphin, PA	173,292	.3	110	34,855	3.5
Delaware, PA	214,106	1.0	63	38,494	4.5
Erie, PA	128,893	-2.3	236	29,293	3.3
Lancaster, PA	218,415	-.3	156	31,493	2.2
Lehigh, PA	172,860	.2	119	35,564	.8
Luzerne, PA	141,944	-.8	189	28,924	3.8
Montgomery, PA	485,822	.5	96	44,366	1.3
Philadelphia, PA	658,827	-.7	182	40,813	2.8
Westmoreland, PA	134,128	-.4	162	28,827	3.0
York, PA	165,879	-1.0	199	31,936	3.3
Providence, RI	288,650	-.7	183	34,566	3.5
Charleston, SC	180,711	-1.0	200	29,013	4.8
Greenville, SC	226,362	-3.0	243	32,622	4.3
Richland, SC	205,841	-.5	167	30,591	3.3

See footnotes at end of table.

21. Continued—Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 249 largest U.S. counties

County[1]	Employment			Average annual pay	
	2001	Percent change, 2000-2001[2]	Ranked by percent change, 2000-2001[3]	2001	Percent change, 2000-2001[2]
Spartanburg, SC	117,262	-2.2	232	31,856	4.1
Minnehaha, SD	106,717	1.1	62	29,205	3.5
Davidson, TN	434,006	-.1	141	35,509	1.9
Hamilton, TN	187,724	-.3	157	31,240	2.2
Knox, TN	203,470	.6	92	30,765	2.2
Shelby, TN	496,647	-.5	168	35,791	4.2
Bexar, TX	655,195	.9	72	31,032	3.7
Cameron, TX	111,374	2.1	34	22,142	2.7
Collin, TX	181,007	5.7	3	41,338	2.0
Dallas, TX	1,550,835	-.6	174	44,909	1.2
Denton, TX	122,552	.9	73	30,788	5.1
El Paso, TX	248,407	-1.2	209	25,847	3.1
Harris, TX	1,864,100	1.7	45	43,751	4.5
Hidalgo, TX	168,610	3.1	17	22,313	2.8
Jefferson, TX	118,764	-1.9	228	32,570	4.1
Lubbock, TX	118,042	2.1	35	26,577	1.1
Nueces, TX	143,470	.7	86	29,406	4.3
Tarrant, TX	709,162	.5	97	37,287	5.2
Travis, TX	534,861	-.7	184	41,698	.9
Salt Lake, UT	530,497	-.1	142	33,210	3.2
Utah, UT	143,423	.5	98	28,266	1.3
Arlington, VA	159,170	.3	111	55,390	4.8
Chesterfield, VA	107,721	-.1	143	32,957	3.4
Fairfax, VA	542,984	2.7	24	52,641	2.1
Henrico, VA	169,827	2.0	38	37,869	4.8
Norfolk, VA	146,414	.8	79	33,504	4.1
Richmond, VA	164,906	-.7	185	40,173	4.0
Virginia Beach, VA	166,007	.9	74	26,750	5.3
Clark, WA	114,716	2.1	36	33,125	3.0
King, WA	1,146,191	-.9	196	47,186	-.6
Pierce, WA	238,600	-1.5	216	31,261	4.7
Snohomish, WA	209,657	-.3	158	36,388	3.6
Spokane, WA	190,057	.0	134	29,310	-1.5
Kanawha, WV	111,552	-.8	190	31,601	4.8
Brown, WI	141,950	-.3	159	32,631	3.5
Dane, WI	279,208	1.9	40	34,097	3.9
Milwaukee, WI	522,022	-.8	191	35,736	2.9
Waukesha, WI	224,721	.6	93	37,092	3.7
San Juan, PR	324,791	-.5	169	22,179	4.1

[1] Includes areas not officially designated as counties. See Notes on Current Labor Statistics.

[2] Percent changes were computed from annual employment and pay data adjusted for noneconomic county reclassifications. See Notes on Current Labor Statistics.

[3] Rankings for percent change in employment are based on the 249 counties that are comparable over the year.

[4] Totals for the United States do not include data for Puerto Rico.

Note: Data pertain to workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. The 248 U.S. counties comprise 66.2 percent of the total covered workers in the United States.

22. Annual data: Employment status of the population

[Numbers in thousands]

Employment status	1993	1994[1]	1995	1996	1997[1]	1998[1]	1999[1]	2000[1]	2001	2002	2003
Civilian noninstitutional population	194,838	196,814	198,584	200,591	203,133	205,220	207,753	212,577	215,092	217,570	221,168
Civilian labor force	129,200	131,056	132,304	133,943	136,297	137,673	139,368	142,583	143,734	144,863	146,510
Labor force participation rate	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.1	66.8	66.6	66.2
Employed	120,259	123,060	124,900	126,708	129,558	131,463	133,488	136,891	136,933	136,485	137,736
Employment-population ratio	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.4	63.7	62.7	62.3
Unemployed	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,692	6,801	8,378	8,774
Unemployment rate	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0	4.7	5.8	6.0
Not in the labor force	65,638	65,758	66,280	66,647	66,836	67,547	68,385	69,994	71,359	72,707	74,658

[1] Not strictly comparable with prior years.

23. Annual data: Employment levels by industry

[In thousands]

Industry	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total private employment	91,855	95,016	97,866	100,169	103,113	106,021	108,686	110,996	110,707	108,886	108,554
Total nonfarm employment	110,844	114,291	117,298	119,708	122,770	125,930	128,993	131,785	131,826	130,376	130,045
Goods-producing	22,219	22,774	23,156	23,410	23,886	24,354	24,465	24,649	23,873	22,619	22,064
Natural resources and mining	666	659	641	637	654	645	598	599	606	581	566
Construction	4,779	5,095	5,274	5,536	5,813	6,149	6,545	6,787	6,826	6,732	6,797
Manufacturing	16,744	17,021	17,241	17,237	17,419	17,560	17,322	17,263	16,441	15,306	14,701
Private service-providing	69,636	72,242	74,710	76,759	79,227	81,667	84,221	86,346	86,834	86,267	86,480
Trade, transportation, and utilities	22,378	23,128	23,834	24,239	24,700	25,186	25,771	26,225	25,983	25,493	25,266
Wholesale trade	5,093.2	5,247.3	5,433.1	5,522.0	5,663.9	5,795.2	5,892.5	5,933.2	5,772.7	5,641.0	5,570.0
Retail trade	13,020.5	13,490.8	13,896.7	14,142.5	14,388.9	14,609.3	14,970.1	15,279.8	15,238.6	15,047.2	14,975.9
Transportation and warehousing	3,553.8	3,701.0	3,837.8	3,935.3	4,026.5	4,168.0	4,300.3	4,410.3	4,372.0	4,205.3	4,127.0
Utilities	710.7	689.3	666.2	639.6	620.9	613.4	608.5	601.3	599.4	599.8	592.7
Information	2,668	2,738	2,843	2,940	3,084	3,218	3,419	3,631	3,629	3,420	3,286
Financial activities	6,709	6,867	6,827	6,969	7,178	7,462	7,648	7,687	7,807	7,843	7,959
Professional and business services	11,495	12,174	12,844	13,462	14,335	15,147	15,957	16,666	16,476	16,010	16,063
Education and health services	12,303	12,807	13,289	13,683	14,087	14,446	14,798	15,109	15,645	16,184	16,526
Leisure and hospitality	9,732	10,100	10,501	10,777	11,018	11,232	11,543	11,862	12,036	11,969	12,062
Other services	4,350	4,428	4,572	4,690	4,825	4,976	5,087	5,168	5,258	5,348	5,319
Government	18,989	19,275	19,432	19,539	19,664	19,909	20,307	20,790	21,118	21,489	21,500

NOTE: Data reflect the conversion to the 2002 version of the North American Industry Classification System (NAICS), replacing the Standard Industrrial Classification (SIC) system. NAICS-based data by industry are not comparable with SIC-based data. See "Notes on the data" for a description of the most recent benchmark revision.

24. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

Industry	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Private sector:											
Average weekly hours	34.3	34.5	34.3	34.3	34.5	34.5	34.3	34.3	34.0	33.9	33.8
Average hourly earnings (in dollars)	11.03	11.32	11.64	12.03	12.49	13.00	13.47	14.00	14.53	14.95	15.38
Average weekly earnings (in dollars)	378.40	390.73	399.53	412.74	431.25	448.04	462.49	480.41	493.20	506.22	519.56
Goods-producing:											
Average weekly hours	40.6	41.1	40.8	40.8	41.1	40.8	40.8	40.7	39.9	39.9	39.8
Average hourly earnings (in dollars)	12.28	12.63	12.96	13.38	13.82	14.23	14.71	15.27	15.78	16.33	16.80
Average weekly earnings (in dollars)	498.82	519.58	528.62	546.48	568.43	580.99	599.99	621.86	630.04	651.60	669.33
Natural resources and mining											
Average weekly hours	44.9	45.3	45.3	46.0	46.2	44.9	44.2	44.4	44.6	43.2	43.6
Average hourly earnings (in dollars)	14.12	14.41	14.78	15.10	15.57	16.20	16.33	16.55	17.00	17.22	17.65
Average weekly earnings (in dollars)	634.77	653.14	670.32	695.07	720.11	727.28	721.74	734.92	757.92	743.11	769.96
Construction:											
Average weekly hours	38.4	38.8	38.8	38.9	38.9	38.8	39.0	39.2	38.7	38.4	38.4
Average hourly earnings (in dollars)	14.04	14.38	14.73	15.11	15.67	16.23	16.80	17.48	18.00	18.51	18.95
Average weekly earnings (in dollars)	539.81	558.53	571.57	588.48	609.48	629.75	655.11	685.78	695.89	711.61	727.49
Manufacturing:											
Average weekly hours	41.1	41.7	41.3	41.3	41.7	41.4	41.4	41.3	40.3	40.5	40.4
Average hourly earnings (in dollars)	11.70	12.04	12.34	12.75	13.14	13.45	13.85	14.32	14.76	15.29	15.74
Average weekly earnings (in dollars)	480.80	502.12	509.26	526.55	548.22	557.12	573.17	590.65	595.19	618.87	636.13
Private service-providing:											
Average weekly hours	32.5	32.7	32.6	32.6	32.8	32.8	32.7	32.7	32.5	32.5	32.4
Average hourly earnings (in dollars)	10.60	10.87	11.19	11.57	12.05	12.59	13.07	13.60	14.16	14.56	15.00
Average weekly earnings (in dollars)	345.03	354.97	364.14	376.72	394.77	412.78	427.30	445.00	460.32	473.10	480.54
Trade, transportation, and utilities:											
Average weekly hours	34.1	34.3	34.1	34.1	34.3	34.2	33.9	33.8	33.5	33.6	33.5
Average hourly earnings (in dollars)	10.55	10.80	11.10	11.46	11.90	12.39	12.82	13.31	13.70	14.02	14.34
Average weekly earnings (in dollars)	359.33	370.38	378.79	390.64	407.57	423.30	434.31	449.88	459.53	471.09	480.54
Wholesale trade:											
Average weekly hours	38.5	38.8	38.6	38.6	38.8	38.6	38.6	38.8	38.4	38.0	37.9
Average hourly earnings (in dollars)	12.57	12.93	13.34	13.80	14.41	15.07	15.62	16.28	16.77	16.97	17.32
Average weekly earnings (in dollars)	484.46	501.17	515.14	533.29	559.39	582.21	602.77	631.40	643.45	643.99	655.90
Retail trade:											
Average weekly hours	30.7	30.9	30.8	30.7	30.9	30.9	30.8	30.7	30.7	30.9	30.8
Average hourly earnings (in dollars)	8.36	8.61	8.85	9.21	9.59	10.05	10.45	10.86	11.29	11.67	11.91
Average weekly earnings (in dollars)	484.46	501.17	515.14	533.29	559.39	582.21	602.77	631.40	643.45	643.99	655.90
Transportation and warehousing:											
Average weekly hours	38.9	39.5	38.9	39.1	39.4	38.7	37.6	37.4	36.7	36.8	36.9
Average hourly earnings (in dollars)	12.71	12.84	13.18	13.45	13.78	14.12	14.55	15.05	15.33	15.77	15.77
Average weekly earnings (in dollars)	494.36	507.27	513.37	525.60	542.55	546.86	547.97	562.31	562.70	580.68	600.95
Utilities:											
Average weekly hours	42.1	42.3	42.3	42.0	42.0	42.0	42.0	42.0	41.4	40.9	41.0
Average hourly earnings (in dollars)	17.95	18.66	19.19	19.78	20.59	21.48	22.03	22.75	23.58	23.94	24.73
Average weekly earnings (in dollars)	756.35	789.98	811.52	830.74	865.26	902.94	924.59	955.66	977.18	978.44	1014.25
Information:											
Average weekly hours	36.0	36.0	36.0	36.4	36.3	36.6	36.7	36.8	36.9	36.5	36.3
Average hourly earnings (in dollars)	14.86	15.32	15.68	16.30	17.14	17.67	18.40	19.07	19.80	20.23	21.10
Average weekly earnings (in dollars)	535.25	551.28	564.98	592.68	622.40	646.52	675.32	700.89	731.11	739.41	766.17
Financial activities:											
Average weekly hours	35.5	35.5	35.5	35.5	35.7	36.0	35.8	35.9	35.8	35.6	35.5
Average hourly earnings (in dollars)	11.36	11.82	12.28	12.71	13.22	13.93	14.47	14.98	15.59	16.17	17.09
Average weekly earnings (in dollars)	403.02	419.20	436.12	451.49	472.37	500.95	517.57	537.37	558.02	575.43	607.09
Professional and business services:											
Average weekly hours	34.0	34.1	34.0	34.1	34.3	34.3	34.4	34.5	34.2	34.2	34.1
Average hourly earnings (in dollars)	11.96	12.15	12.53	13.00	13.57	14.27	14.85	15.52	16.33	16.81	17.24
Average weekly earnings (in dollars)	406.20	414.16	426.44	442.81	465.51	490.00	510.99	535.07	557.84	574.59	587.57
Education and health services:											
Average weekly hours	32.0	32.0	32.0	31.9	32.2	32.2	32.1	32.2	32.3	32.4	32.5
Average hourly earnings (in dollars)	11.21	11.50	11.80	12.17	12.56	13.00	13.44	13.95	14.64	15.22	15.70
Average weekly earnings (in dollars)	359.08	368.14	377.73	388.27	404.65	418.82	431.35	449.29	473.39	493.02	510.76
Leisure and hospitality:											
Average weekly hours	25.9	26.0	25.9	25.9	26.0	26.2	26.1	26.1	25.8	25.8	25.6
Average hourly earnings (in dollars)	6.32	6.46	6.62	6.82	7.13	7.48	7.76	8.11	8.35	8.57	8.74
Average weekly earnings (in dollars)	163.45	168.00	171.43	176.48	185.81	195.82	202.87	211.79	215.19	221.15	223.86
Other services:											
Average weekly hours	32.6	32.7	32.6	32.5	32.7	32.6	32.5	32.5	32.3	32.0	31.8
Average hourly earnings (in dollars)	9.90	10.18	10.51	10.85	11.29	11.79	12.26	12.73	13.27	13.72	13.98
Average weekly earnings (in dollars)	322.69	332.44	342.36	352.62	368.63	384.25	398.77	413.41	428.64	439.65	443.94

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.

25. Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	2001	2002				2003				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2003	
Civilian workers[2]	156.8	158.4	159.9	161.3	162.2	164.5	165.8	167.6	168.4	0.5	3.8
Workers, by occupational group:											
White-collar workers	158.9	160.5	162.1	163.5	164.3	166.7	167.9	169.9	170.7	.5	3.9
Professional specialty and technical	157.5	158.5	159.3	161.4	162.4	164.1	165.0	167.0	168.0	.6	3.4
Executive, admintrative, and managerial	161.2	163.7	165.6	166.3	166.7	171.1	172.0	174.0	174.9	.5	4.9
Administrative support, including clerical	160.0	162.0	163.3	164.9	166.1	168.3	170.0	171.7	172.5	.5	3.9
Blue-collar workers	152.0	153.7	155.1	156.4	157.5	159.8	161.4	162.9	163.7	.5	3.9
Service occupations	156.9	158.4	159.4	161.3	162.2	164.1	165.0	166.8	167.9	.7	3.5
Workers, by industry division:											
Goods-producing	154.4	156.3	157.7	158.7	169.2	163.1	164.6	165.8	166.8	.5	4.0
Manufacturing	154.6	156.6	158.1	159.1	160.5	164.0	165.4	166.5	167.1	.4	4.1
Service-producing	157.6	159.1	160.7	162.2	162.8	165.0	166.2	168.2	169.1	.5	3.9
Services	159.0	160.2	161.1	163.2	163.9	165.3	166.3	168.5	169.5	.6	3.4
Health services	158.3	160.5	161.8	163.1	164.5	166.4	167.6	169.3	170.7	.8	3.8
Hospitals	160.0	162.3	163.8	165.7	167.6	169.9	170.8	173.1	174.8	1.0	4.3
Educational services	156.6	157.1	157.4	161.6	162.8	163.6	164.2	166.9	167.6	.4	2.9
Public administration[3]	155.2	156.5	157.5	160.2	161.7	163.4	164.3	167.3	168.1	.5	4.0
Nonmanufacturing	157.2	158.7	160.2	161.7	162.4	164.5	165.8	167.8	168.6	.5	3.8
Private industry workers	157.2	158.9	160.7	161.6	162.3	165.0	166.4	168.1	168.8	.4	4.0
Excluding sales occupations	157.2	159.0	160.5	161.6	162.4	165.1	166.6	168.1	169.0	.5	4.1
Workers, by occupational group:											
White-collar workers	160.1	161.9	163.8	164.6	165.2	168.1	169.4	171.2	172.0	.5	4.1
Excluding sales occupations	160.9	162.8	164.3	165.3	165.9	169.1	170.4	172.1	173.0	.5	4.3
Professional specialty and technical occupations	160.3	161.5	162.5	163.6	164.4	166.5	167.7	169.4	170.5	.6	3.7
Executive, admintrative, and managerial occupations	161.8	164.4	166.6	167.0	167.2	172.1	173.1	175.0	175.9	.5	5.2
Sales occupations	156.7	157.7	161.6	161.6	161.9	163.5	165.1	167.2	167.1	–.1	3.2
Administrative support occupations, including clerical	160.8	162.8	164.2	165.6	166.7	169.0	170.9	172.3	173.2	.5	3.8
Blue-collar workers	151.9	153.6	155.1	156.3	157.3	159.7	161.4	162.8	163.6	.5	4.0
Precision production, craft, and repair occupations	152.5	153.7	155.7	156.9	157.8	160.0	162.0	163.1	164.2	.7	4.1
Machine operators, assemblers, and inspectors	151.5	153.6	154.7	155.4	156.7	159.9	161.1	162.6	163.2	.4	4.1
Transportation and material moving occupations	146.3	148.7	149.6	151.0	151.8	153.2	155.1	156.7	156.9	.1	3.4
Handlers, equipment cleaners, helpers, and laborers	156.5	158.7	159.9	161.4	162.9	164.9	166.8	168.6	169.5	.5	4.1
Service occupations	154.8	156.4	157.4	159.0	159.8	161.7	162.6	163.8	164.3	.7	3.2
Production and nonsupervisory occupations[4]	155.5	157.1	158.7	159.7	160.5	162.6	164.1	165.7	166.6	.5	3.8
Workers, by industry division:											
Goods-producing	154.4	156.2	157.6	158.6	160.1	163.0	164.5	165.7	166.5	.5	4
Excluding sales occupations	153.7	155.5	156.9	157.9	159.2	162.4	163.8	165.0	165.9	.5	4.2
White-collar occupations	158.1	160.1	161.9	162.9	164.3	167.8	169.2	170.1	170.5	.2	3.8
Excluding sales occupations	156.5	158.4	160.2	161.1	162.3	166.3	167.5	168.5	169.2	.4	4.3
Blue-collar occupations	151.9	153.6	154.8	155.9	157.3	159.9	161.5	162.9	163.9	.6	4.2
Construction	153.0	154.1	155.2	156.3	157.9	159.1	161.1	162.3	163.3	.6	3.4
Manufacturing	154.6	156.6	158.1	159.1	160.5	164.0	165.4	166.5	167.1	.4	4.1
White-collar occupations	156.9	159.1	161.1	162.2	163.3	167.1	168.7	169.5	169.6	.1	3.9
Excluding sales occupations	154.7	156.7	158.6	159.6	160.7	165.1	166.4	167.4	167.8	.2	4.4
Blue-collar occupations	152.7	154.6	155.8	156.7	158.3	161.6	162.8	164.1	165.1	.6	4.3
Durables	155.3	156.9	158.3	158.9	160.6	164.4	165.5	166.6	167.3	.4	4.2
Nondurables	153.2	156.0	157.5	159.2	160.3	163.1	164.9	166.0	166.6	.4	3.9
Service-producing	158.2	159.9	161.8	162.7	163.1	165.6	167.0	168.8	169.7	.5	4.0
Excluding sales occupations	159.0	160.9	162.4	163.5	164.0	166.6	168.0	169.7	170.6	.5	4.0
White-collar occupations	160.3	162.1	164.0	164.7	165.1	167.9	169.2	171.2	172.0	.5	4.2
Excluding sales occupations	162.2	164.1	165.6	166.5	167.0	169.9	171.3	173.1	174.2	.6	4.3
Blue-collar occupations	151.4	153.2	155.2	156.6	156.9	158.7	160.8	162.2	162.6	.2	3.6
Service occupations	154.2	155.9	157.0	158.5	159.3	161.1	162.0	163.2	164.3	.7	3.1
Transportation and public utilities	155.5	157.3	158.9	160.8	161.7	163.2	165.4	166.5	167.0	.3	3.3
Transportation	151.1	152.5	153.9	155.4	156.1	157.8	158.9	159.4	159.6	.1	2.2
Public utilities	161.5	163.9	165.5	168.2	169.2	170.5	174.2	176.4	177.0	.3	4.6
Communications	163.4	166.0	166.1	169.0	170.1	171.3	175.5	178.4	179.0	.3	5.2
Electric, gas, and sanitary services	159.1	161.3	164.8	167.2	168.1	169.5	172.6	173.8	174.6	.5	3.9
Wholesale and retail trade	155.5	156.5	159.5	159.6	159.7	161.3	162.5	164.3	165.0	.4	3.3
Excluding sales occupations	157.1	157.5	160.0	160.3	160.4	161.8	162.7	165.0	165.9	.5	3.4
Wholesale trade	159.5	161.9	166.3	165.9	166.7	169.5	171.3	172.0	172.0	.0	3.2
Excluding sales occupations	160.6	162.3	164.4	166.1	167.2	168.4	169.9	171.2	171.3	.1	2.5
Retail trade	153.2	153.5	155.6	156.0	155.8	156.6	157.4	159.9	161.0	.7	3.3
General merchandise stores	150.9	152.4	154.2	156.1	155.1	156.4	159.2	161.2	165.6	2.7	6.8
Food stores	151.7	152.9	154.5	156.3	156.3	157.5	158.6	159.3	160.3	.6	2.6

See footnotes at end of table.

25. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	2001	2002				2002				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2003	
Finance, insurance, and real estate	161,3	165.2	167.3	168.0	168.5	176.7	178.3	180.2	180.9	0.4	7.4
Excluding sales occupations	165.0	169.8	171.3	172.1	173.1	182.0	184.0	1,853.0	186.1	.4	7.5
Banking, savings and loan, and other credit agencies	174.5	182.1	184.2	184.6	185.3	204.3	206.3	207.6	209.0	.7	12.8
Insurance	161.3	164.0	166.1	167.1	167.9	172.1	173.9	175.1	176.2	.6	4.9
Services	161.0	162.6	163.7	164.9	165.4	167.1	168.4	170.4	171.4	.6	3.6
Business services	166.2	166.3	166.6	167.2	167.5	168.5	169.2	171.9	172.6	.4	3.0
Health services	158.4	160.6	162.0	163.2	164.4	166.5	167.9	169.4	170.8	.8	3.9
Hospitals	160.3	162.8	164.5	166.2	168.1	170.8	171.9	173.9	175.9	1.2	4.6
Educational services	167.6	168.5	169.0	173.5	175.2	176.3	177.1	180.2	181.3	.6	3.5
Colleges and universities	167.5	168.1	168.4	172.0	173.7	174.5	175.4	178.4	179.4	.6	3.3
Nonmanufacturing	157.6	159.3	161.1	162.0	162.5	164.9	166.4	168.1	169.0	.5	4.0
White-collar workers	160.5	162.2	164.1	164.8	165.3	168.0	169.3	171.2	172.1	.5	4.1
Excluding sales occupations	162.3	164.2	165.7	166.6	167.1	170.0	171.4	173.2	174.2	.6	4.2
Blue-collar occupations	150.6	152.2	154.0	155.4	155.9	157.5	159.7	161.1	161.7	.4	3.7
Service occupations	154.1	155.9	156.9	158.4	159.2	161.1	162.0	163.2	162.4	.6	3.1
State and local government workers	155.2	156.1	156.7	160.1	161.5	162.6	163.2	165.9	166.8	.5	3.3
Workers, by occupational group:											
White-collar workers	154.4	155.2	155.7	159.3	160.7	161.7	162.2	164.9	165.7	.5	3.1
Professional specialty and technical	153.2	153.6	154.1	158.1	159.4	160.2	160.8	163.4	164.1	.4	2.9
Executive, administrative, and managerial	157.6	159.5	159.6	162.3	163.8	165.3	165.7	168.0	169.1	.7	3.2
Administrative support, including clerical	155.6	156.9	158.0	161.0	162.4	163.8	164.4	167.9	168.5	4.0	3.8
Blue-collar workers	153.2	154.0	154.7	158.4	159.8	161.3	161.7	163.6	165.2	1.0	3.4
Workers, by industry division:											
Services	154.9	155.5	155.9	159.7	160.9	161.8	162.3	164.9	165.7	.5	3.0
Services excluding schools[5]	156.1	157.9	158.7	161.0	162.8	164.0	164.2	166.8	168.2	.8	3.3
Health services	158.5	160.4	161.4	163.5	165.5	166.4	166.7	169.5	171.0	.9	3.3
Hospitals	159.1	160.7	161.8	164.1	166.2	167.0	167.3	170.3	171.4	.6	3.1
Educational services	154.5	154.8	155.1	159.2	160.3	161.1	161.7	164.3	165.0	.4	2.9
Schools	154.8	155.1	155.4	159.6	160.7	161.4	162.0	164.7	165.3	.4	2.9
Elementary and secondary	153.1	153.4	153.6	157.7	158.8	159.4	160.0	163.0	163.7	.4	3.1
Colleges and universities	159.6	160.0	160.4	164.7	165.8	167.0	167.5	169.2	170.0	.5	2.5
Public administration[3]	155.2	156.5	157.9	160.2	161.7	163.4	164.3	167.3	168.1	.5	4.0

[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.

[4] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[5] Includes, for example, library, social, and health services.

26. Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	2001	2002				2003				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2003	
Civilian workers[1]	153.4	154.8	156.1	157.2	157.8	159.3	160.3	161.8	162.3	0.3	2.9
Workers, by occupational group:											
White-collar workers	155.6	157.0	158.4	159.6	160.1	161.9	162.9	164.5	165.1	.4	3.1
Professional specialty and technical	155.1	155.6	156.2	158.0	158.6	159.3	160.1	161.8	162.5	.4	2.5
Executive, adminitrative, and managerial	158.1	160.7	162.6	163.5	163.8	167.9	169.0	170.5	171.2	.4	4.5
Administrative support, including clerical	155.7	157.3	158.4	159.6	160.6	161.8	163.1	164.3	164.9	.4	2.7
Blue-collar workers	148.5	149.7	151.0	151.9	152.6	153.8	154.8	155.8	156.3	.3	2.4
Service occupations	153.0	154.2	155.1	‘56.2	156.9	158.0	158.7	159.8	160.6	.5	2.4
Workers, by industry division:											
Goods-producing	150.5	151.8	153.1	153.9	155.1	156.3	157.5	158.3	160.6	.3	2.3
Manufacturing	151.7	153.1	154.5	155.4	156.5	158.0	159.0	159.7	160.1	.3	2.3
Service-producing	154.5	155.9	157.2	156.4	158.8	160.5	161.4	163.0	163.6	.4	3.0
Services	157.1	158.1	158.8	160.7	161.1	161.9	162.8	164.7	165.4	.4	2.7
Health services	155.5	157.3	158.5	159.6	160.9	162.0	163.2	164.7	165.9	.7	3.1
Hospitals	155.5	157.2	158.6	160.3	162.2	163.5	164.4	166.3	167.7	.8	3.4
Educational services	155.1	155.3	155.6	159.3	160.1	160.4	160.7	162.7	163.2	.3	1.9
Public administration[2]	151.6	152.5	153.4	154.8	155.8	157.2	158.0	159.4	160.0	.4	2.7
Nonmanufacturing	153.8	155.0	156.4	157.5	158.0	159.6	160.5	162.1	162.7	.4	3.0
Private industry workers	153.3	154.7	156.3	157.0	157.5	159.3	160.4	161.7	162.3	.4	3.0
Excluding sales occupations	153.3	154.9	156.1	157.0	157.9	159.4	160.5	161.7	162.4	.4	3.1
Workers, by occupational group:											
White-collar workers	156.1	157.7	159.4	160.0	160.4	162.6	163.8	165.3	165.9	.4	3.4
Excluding sales occupations	156.9	158.6	160.0	169.8	160.8	163.6	164.8	166.2	167.0	.5	3.5
Professional specialty and technical occupations	155.9	156.7	157.4	158.2	158.5	159.5	160.5	162.1	163.0	.6	2.8
Executive, adminitrative, and managerial occupations	158.6	161.3	163.6	164.3	164.5	169.1	170.3	171.8	172.5	.4	4.9
Sales occupations	152.6	153.6	157.0	156.9	156.8	158.1	159.3	161.6	161.1	-.3	2.7
Administrative support occupations, including clerical	156.5	158.2	159.2	160.3	161.3	162.6	164.0	165.1	165.7	.4	2.7
Blue-collar workers	148.3	149.6	150.9	151.7	152.4	153.6	154.6	155.6	156.1	.3	2.4
Precision production, craft, and repair occupations	148,4	149.2	151.0	151.8	152.3	153.4	154.7	155.5	156.2	.5	2.6
Machine operators, assemblers, and inspectors	149.0	150.5	151.6	152.0	153.2	154.7	155.3	156.8	156.9	.1	2.4
Transportation and material moving occupations	142.8	144.8	145.2	146.3	146.9	147.8	149.0	149.8	149.8	.0	2.0
Handlers, equipment cleaners, helpers, and laborers	152.4	154.2	155.1	156.0	157.2	158.4	159.0	159.9	160.6	.4	2.2
Service occupations	150.6	152.0	152.8	153.9	154.4	155.5	156.1	157.1	157.8	.4	2.1
Production and nonsupervisory occupations[3]	151.5	152.7	154.0	154.7	155.2	156.4	157.4	158.8	159.4	.4	2.7
Workers, by industry division:											
Goods-producing	150.5	151.7	153.1	153.9	155.0	156.3	157.4	158.3	158.7	.3	2.4
Excluding sales occupations	149.7	150.9	152.2	153.0	154.0	155.4	156.5	157.4	158.0	.4	2.6
White-collar occupations	153.6	155.0	156.6	157.9	158.6	160.0	161.4	161.9	162.1	.1	2.2
Excluding sales occupations	151.7	152.9	154.5	155.4	156.3	158.0	159.2	159.9	160.4	.3	2.6
Blue-collar occupations	148.4	149.6	150.7	151.5	152.6	153.8	154.8	155.9	156.4	.3	2.5
Construction	146.3	147.0	148.2	149.0	150.2	150.6	152.4	153.6	154.0	.3	2.5
Manufacturing	151.7	153.1	154.4	155.4	156.5	158.0	159.0	159.7	160.1	.3	2.3
White-collar occupations	153.3	154.9	156.6	157.7	158.6	160.1	161.6	162.0	162.1	.1	2.2
Excluding sales occupations	151.0	152.3	153.9	155.0	155.9	157.7	158.9	159.5	160.0	.3	2.6
Blue-collar occupations	150.3	151.7	152.8	153.5	154.7	156.3	156.9	157.9	158.5	.4	2.5
Durables	151.7	153.9	155.3	156.0	157.3	158.8	159.7	160.6	160.9	.2	2.3
Nondurables	153.9	151.9	153.1	154.4	155.2	156.6	157.8	158.3	158.7	.3	2.3
Service-producing	151.9	156.1	157.7	158.4	158.6	160.6	161.7	163.3	163.9	.4	3.3
Excluding sales occupations	156.1	157.2	158.5	159.3	159.6	161.7	162.8	164.2	165.0	.5	3.4
White-collar occupations	157.2	158.2	159.9	160.5	160.7	163.0	164.1	166.0	166.6	.4	3.7
Excluding sales occupations	158.2	160.4	161.6	162.5	162.8	165.3	166.5	168.2	169.0	.5	3.8
Blue-collar occupations	148.1	149.4	151.1	151.8	152.0	153.2	154.3	155.1	155.4	.2	2.2
Service occupations	149.4	151.6	152.4	153.5	154.1	155.1	155.6	156.6	157.4	.5	2.1
Transportation and public utilities	149.2	150.5	152.1	153.4	154.1	154.8	155.6	156.0	156.5	.3	1.6
Transportation	145.7	147.4	148.6	149.6	150.1	150.5	150.6	150.4	150.8	.3	.5
Public utilities	153.6	154.3	156.4	158.2	159.3	160.4	162.1	163.4	164.1	.4	3.0
Communications	155.2	155.3	157.1	159.6	160.7	161.9	163.4	165.4	165.9	.5	3.2
Electric, gas, and sanitary services	151.7	153.0	155.5	156.5	157.4	158.6	160.4	161.0	161.8	.2	2.8
Wholesale and retail trade	152.1	153.0	155.7	155.5	155.5	156.7	157.5	159.2	159.5	1.1	2.6
Excluding sales occupations	–	–	–	–	–	–	–	–	–	–	–
Wholesale trade	154.8	157.2	161.3	160.4	161.0	163.4	164.7	164.8	165.3	.3	2.7
Excluding sales occupations	157.9	159.4	161.2	162.6	163.7	163.9	165.2	165.7	166.3	.4	1.6
Retail trade	150.7	150.9	152.7	152.9	152.7	153.1	153.8	156.3	156.5	.1	2.5
General merchandise stores	146.5	147.9	148.9	150.1	149.2	149.8	152.0	153.1	153.6	.3	2.9
Food stores	146.7	148.0	148.9	150.1	150.3	151.0	151.6	152.2	152.8	.4	1.7

See footnotes at end of table.

26. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	2001	2002				2003				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2003	
Finance, insurance, and real estate	156.0	160.3	162.0	162.4	162.6	171.1	172.4	174.1	174.5	0.2	7.3
Excluding sales occupations	159.1	164.5	165.7	166.1	167.3	176.7	178.5	179.2	210.2	.3	7.5
Banking, savings and loan, and other credit agencies	171.7	181.2	182.8	182.7	183.9	206.4	208.7	209.1	164.5	.5	14.3
Insurance	155.0	157.1	158.6	159.6	159.1	161.6	163.0	163.9	164.5	.4	3.4
Services	158.2	159.5	160.3	161.5	161.7	162.8	164.0	165.9	166.7	.5	3.1
Business services	163.7	164.0	164.0	164.6	164.8	165.6	166.4	169.1	169.8	.4	3.0
Health services	155.4	157.3	158.4	159.9	160.7	161.9	163.2	164.6	135.8	.7	3.2
Hospitals	155.4	157.1	158.6	160.2	162.1	163.6	164.6	166.5	167.9	.8	3.6
Educational services	160.5	161.2	161.2	165.2	166.5	167.1	167.5	170.3	171.0	.4	2.7
Colleges and universities	159.6	159.9	159.9	163.1	164.3	164.4	165.1	167.6	168.4	.5	2.5
Nonmanufacturing	153.5	155.0	156.5	157.2	157.5	159.4	160.5	162.1	162.6	.3	3.2
White-collar workers	156.4	158.0	159.6	160.2	160.5	162.8	163.9	165.7	166.3	.4	3.6
Excluding sales occupations	158.3	160.1	161.3	162.1	162.5	164.9	166.1	167.7	168.5	.5	3.7
Blue-collar occupations	146.4	147.5	149.0	149.8	150.2	151.1	152.4	153.4	153.8	.3	2.4
Service occupations	150.1	151.4	152.3	153.4	154.0	155.0	155.5	156.5	157.3	.5	2.1
State and local government workers	155.2	156.1	156.7	160.1	161.5	162.6	163.2	165.9	166.8	.4	2.1
Workers, by occupational group:											
White-collar workers	153.3	153.9	154.4	157.4	158.4	158.9	159.2	161.0	161.5	.3	2.0
Professional specialty and technical	153.4	153.6	154.1	157.5	158.4	158.8	159.1	161.0	161.4	.2	1.9
Executive, administrative, and managerial	155.1	156.6	156.8	159.0	160.1	160.9	161.0	162.5	163.3	.5	2.0
Administrative support, including clerical	150.9	151.9	152.8	155.1	156.0	156.9	157.2	159.1	159.5	.3	2.2
Blue-collar workers	150.8	151.6	152.1	154.5	155.1	156.2	156.5	157.6	158.3	.4	2.1
Workers, by industry division:											
Services	154.2	154.6	155.0	158.4	159.2	159.5	159.8	161.6	162.1	.3	1.8
Services excluding schools[4]	154.9	156.7	157.3	159.1	160.3	161.4	161.8	163.2	164.5	.8	2.6
Health services	155.8	157.8	158.6	160.5	162.2	162.9	163.5	165.1	166.7	1.0	2.8
Hospitals	155.7	157.7	158.8	160.6	162.5	163.1	163.8	165.5	166.7	.7	2.6
Educational services	154.0	154.2	154.5	158.1	158.9	159.1	159.3	161.2	161.6	.2	1.7
Schools	154.1	154.3	154.6	158.3	159.0	159.2	159.5	161.4	161.8	.2	1.8
Elementary and secondary	153.1	153.4	153.6	157.4	158.1	158.2	158.5	160.6	160.9	.2	1.8
Colleges and universities	156.7	156.8	157.3	160.7	161.6	162.1	162.1	163.5	164.0	.3	1.5
Public administration[2]	151.6	152.5	153.4	154.8	155.8	157.2	158.0	159.4	160.0	.4	2.7

[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.

[3] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[4] Includes, for example, library, social, and health services.

27. Employment Cost Index, benefits, private industry workers by occupation and industry group

[June 1989 = 100]

Series	2001	2002				2003				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2003	
Private industry workers	166.7	169.3	171.6	173.1	174.6	179.6	182.0	184.3	185.8	0.8	6.4
Workers, by occupational group:											
White-collar workers	171.2	173.5	176.1	177.2	178.5	183.6	185.5	187.7	189.2	.8	6.0
Blue-collar workers	159.2	162.2	164.0	166.2	167.8	172.7	176.1	178.4	179.9	.8	7.2
Workers, by industry division:											
Goods-producing	162.6	165.8	167.4	168.8	171.0	178.0	180.2	182.3	183.8	.8	7.5
Service-producing	168.4	170.7	173.3	174.9	175.9	179.9	182.3	184.7	186.2	.8	5.9
Manufacturing	160.4	163.7	165.5	166.8	168.9	176.9	179.0	181.1	182.3	.7	7.9
Nonmanufacturing	168.6	171.1	173.5	175.2	176.3	180.3	182.8	185.1	186.7	.9	5.9

28. Employment Cost Index, private nonfarm workers by bargaining status, region, and area size

[June 1989 = 100]

Series	2001	2002				2003				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2003	
COMPENSATION											
Workers, by bargaining status[1]											
Union	153.1	154.8	156.3	158.1	159.5	162.1	164.1	165.7	166.8	0.7	4.6
Goods-producing	151.6	153.4	154.7	156.2	157.8	161.4	163.4	164.7	165.9	.7	5.1
Service-producing	154.2	156.0	157.6	159.9	161.1	162.6	164.6	166.5	167.5	.6	4.0
Manufacturing	151.4	153.4	154.6	155.9	157.9	162.3	163.8	165.0	166.3	.8	5.3
Nonmanufacturing	153.5	155.0	156.6	158.8	159.9	161.4	163.7	165.5	166.5	.6	4.1
Nonunion	157.8	159.6	161.4	162.5	162.8	165.4	166.8	168.4	169.1	.4	3.9
Goods-producing	155.3	157.2	158.6	159.5	160.8	163.6	164.9	166.1	166.7	.4	3.7
Service-producing	158.6	160.3	162.2	162.9	163.3	165.9	167.2	169.0	169.8	.5	4.0
Manufacturing	155.5	157.6	159.1	160.1	161.3	164.5	165.8	166.9	167.3	.2	3.7
Nonmanufacturing	158.2	159.9	161.7	162.4	162.9	165.4	166.7	168.5	139.3	.5	3.9
Workers, by region[1]											
Northeast	156.3	158.3	159.9	160.5	161.3	163.8	165.2	166.9	167.9	.6	4.1
South	154.6	156.2	157.6	158.9	159.0	160.6	161.6	163.2	163.9	.4	3.1
Midwest (formerly North Central)	158.6	161.1	162.2	163.5	164.6	169.0	170.4	171.7	172.5	.5	4.8
West	159.4	160.4	162.9	163.8	165.0	167.3	169.5	171.4	172.2	.5	4.4
Workers, by area size[1]											
Metropolitan areas	157.4	159.1	160.9	161.8	162.5	165.2	166.6	168.3	169.1	.5	4.1
Other areas	155.6	157.5	158.5	160.0	169.8	163.5	165.0	166.1	166.9	.5	3.8
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	147.4	148.4	149.8	151.3	152.5	153.3	154.3	155.3	156.2	.6	2.4
Goods-producing	146.3	147.2	158.6	150.0	151.2	152.4	153.9	154.8	155.4	.4	2.8
Service-producing	148.9	150.0	151.4	152.9	154.1	154.6	155.1	156.3	157.3	.6	2.1
Manufacturing	148.0	149.0	150.2	151.6	153.1	154.6	155.9	156.7	157.1	.3	2.6
Nonmanufacturing	147.1	148.1	149.6	151.1	152.1	152.5	153.5	154.6	155.6	.6	2.3
Nonunion	154.4	155.9	157.5	158.1	158.5	160.4	161.5	163.0	163.4	.2	3.1
Goods-producing	152.1	153.5	154.8	155.5	156.6	157.8	158.9	159.7	160.1	.3	2.2
Service-producing	155.1	156.7	158.3	158.9	159.0	161.2	162.3	164.0	164.5	.3	3.5
Manufacturing	153.1	154.7	156.1	156.8	157.8	159.3	160.2	160.9	161.3	.2	2.2
Nonmanufacturing	154.4	155.9	157.5	158.1	158.3	160.4	161.5	163.1	163.7	.4	3.4
Workers, by region[1]											
Northeast	151.7	153.5	154.9	155.1	155.7	157.3	158.4	160.0	160.9	.6	3.3
South	151.2	152.5	153.6	154.7	154.6	155.3	156.1	157.4	157.9	.3	2.1
Midwest (formerly North Central)	154.7	157.1	158.5	159.2	160.2	164.1	165.0	166.1	166.5	.2	3.9
West	156.0	156.4	158.7	159.3	160.1	161.3	163.1	164.7	165.2	.3	3. 2
Workers, by area size[1]											
Metropolitan areas	153.7	155.1	156.7	157.4	157.9	159.6	160.7	162.2	162.7	.3	3.0
Other areas	150.5	151.7	152.6	153.8	154.8	156.8	158.0	158.9	159.5	.4	3.0

[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.

28. Employment Cost Index, private nonfarm workers by bargaining status, region, and area size

[June 1989 = 100]

Series	2001	2002				2003				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2003	
COMPENSATION											
Workers, by bargaining status[1]											
Union	153.1	154.8	156.3	158.1	159.5	162.1	164.1	165.7	166.8	0.7	4.6
Goods-producing	151.6	153.4	154.7	156.2	157.8	161.4	163.4	164.7	165.9	.7	5.1
Service-producing	154.2	156.0	157.6	159.9	161.1	162.6	164.6	166.5	167.5	.6	4.0
Manufacturing	151.4	153.4	154.6	155.9	157.9	162.3	163.8	165.0	166.3	.8	5.3
Nonmanufacturing	153.5	155.0	156.6	158.8	159.9	161.4	163.7	165.5	166.5	.6	4.1
Nonunion	157.8	159.6	161.4	162.5	162.8	165.4	166.8	168.4	169.1	.4	3.9
Goods-producing	155.3	157.2	158.6	159.5	160.8	163.6	164.9	166.1	166.7	.4	3.7
Service-producing	158.6	160.3	162.2	162.9	163.3	165.9	167.2	169.0	169.8	.5	4.0
Manufacturing	155.5	157.6	159.1	160.1	161.3	164.5	165.8	166.9	167.3	.2	3.7
Nonmanufacturing	158.2	159.9	161.7	162.4	162.9	165.4	166.7	168.5	139.3	.5	3.9
Workers, by region[1]											
Northeast	156.3	158.3	159.9	160.5	161.3	163.8	165.2	166.9	167.9	.6	4.1
South	154.6	156.2	157.6	158.9	159.0	160.6	161.6	163.2	163.9	.4	3.1
Midwest (formerly North Central)	158.6	161.1	162.2	163.5	164.6	169.0	170.4	171.7	172.5	.5	4.8
West	159.4	160.4	162.9	163.8	165.0	167.3	169.5	171.4	172.2	.5	4.4
Workers, by area size[1]											
Metropolitan areas	157.4	159.1	160.9	161.8	162.5	165.2	166.6	168.3	169.1	.5	4.1
Other areas	155.6	157.5	158.5	160.0	169.8	163.5	165.0	166.1	166.9	.5	3.8
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	147.4	148.4	149.8	151.3	152.5	153.3	154.3	155.3	156.2	.6	2.4
Goods-producing	146.3	147.2	158.6	150.0	151.2	152.4	153.9	154.8	155.4	.4	2.8
Service-producing	148.9	150.0	151.4	152.9	154.1	154.6	155.1	156.3	157.3	.6	2.1
Manufacturing	148.0	149.0	150.2	151.6	153.1	154.6	155.9	156.7	157.1	.3	2.6
Nonmanufacturing	147.1	148.1	149.6	151.1	152.1	152.5	153.5	154.6	155.6	.6	2.3
Nonunion	154.4	155.9	157.5	158.1	158.5	160.4	161.5	163.0	163.4	.2	3.1
Goods-producing	152.1	153.5	154.8	155.5	156.6	157.8	158.9	159.7	160.1	.3	2.2
Service-producing	155.1	156.7	158.3	158.9	159.0	161.2	162.3	164.0	164.5	.3	3.5
Manufacturing	153.1	154.7	156.1	156.8	157.8	159.3	160.2	160.9	161.3	.2	2.2
Nonmanufacturing	154.4	155.9	157.5	158.1	158.3	160.4	161.5	163.1	163.7	.4	3.4
Workers, by region[1]											
Northeast	151.7	153.5	154.9	155.1	155.7	157.3	158.4	160.0	160.9	.6	3.3
South	151.2	152.5	153.6	154.7	154.6	155.3	156.1	157.4	157.9	.3	2.1
Midwest (formerly North Central)	154.7	157.1	158.5	159.2	160.2	164.1	165.0	166.1	166.5	.2	3.9
West	156.0	156.4	158.7	159.3	160.1	161.3	163.1	164.7	165.2	.3	3. 2
Workers, by area size[1]											
Metropolitan areas	153.7	155.1	156.7	157.4	157.9	159.6	160.7	162.2	162.7	.3	3.0
Other areas	150.5	151.7	152.6	153.8	154.8	156.8	158.0	158.9	159.5	.4	3.0

[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.

29. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, medium and large private establishments, selected years, 1980–97

Item	1980	1982	1984	1986	1988	1989	1991	1993	1995	1997
Scope of survey (in 000's)	21,352	21,043	21,013	21,303	31,059	32,428	31,163	28,728	33,374	38,409
Number of employees (in 000's):										
With medical care	20,711	20,412	20,383	20,238	27,953	29,834	25,865	23,519	25,546	29,340
With life insurance	20,498	20,201	20,172	20,451	28,574	30,482	29,293	26,175	29,078	33,495
With defined benefit plan	17,936	17,676	17,231	16,190	19,567	20,430	18,386	16,015	17,417	19,202
Time-off plans										
Participants with:										
Paid lunch time	10	9	9	10	11	10	8	9	–	–
Average minutes per day	–	25	26	27	29	26	30	29	–	–
Paid rest time	75	76	73	72	72	71	67	68	–	–
Average minutes per day	–	25	26	26	26	26	28	26	–	–
Paid funeral leave	–	–	–	88	85	84	80	83	80	81
Average days per occurrence	–	–	–	3.2	3.2	3.3	3.3	3.0	3.3	3.7
Paid holidays	99	99	99	99	96	97	92	91	89	89
Average days per year	10.1	10.0	9.8	10.0	9.4	9.2	10.2	9.4	9.1	9.3
Paid personal leave	20	24	23	25	24	22	21	21	22	20
Average days per year	–	3.8	3.6	3.7	3.3	3.1	3.3	3.1	3.3	3.5
Paid vacations	100	99	99	100	98	97	96	97	96	95
Paid sick leave [1]	62	67	67	70	69	68	67	65	58	56
Unpaid maternity leave	–	–	–	–	33	37	37	60	–	–
Unpaid paternity leave	–	–	–	–	16	18	26	53	–	–
Unpaid family leave	–	–	–	–	–	–	–	–	84	93
Insurance plans										
Participants in medical care plans	97	97	97	95	90	92	83	82	77	76
Percent of participants with coverage for:										
Home health care	–	–	46	66	76	75	81	86	78	85
Extended care facilities	58	62	62	70	79	80	80	82	73	78
Physical exam	–	–	8	18	28	28	30	42	56	63
Percent of participants with employee contribution required for:										
Self coverage	26	27	36	43	44	47	51	61	67	69
Average monthly contribution	–	–	$11.93	$12.80	$19.29	$25.31	$26.60	$31.55	$33.92	$39.14
Family coverage	46	51	58	63	64	66	69	76	78	80
Average monthly contribution	–	–	$35.93	$41.40	$60.07	$72.10	$96.97	$107.42	$118.33	$130.07
Participants in life insurance plans	96	96	96	96	92	94	94	91	87	87
Percent of participants with:										
Accidental death and dismemberment insurance	69	72	74	72	78	71	71	76	77	74
Survivor income benefits	–	–	–	10	8	7	6	5	7	6
Retiree protection available	–	64	64	59	49	42	44	41	37	33
Participants in long-term disability insurance plans	40	43	47	48	42	45	40	41	42	43
Participants in sickness and accident insurance plans	54	51	51	49	46	43	45	44	–	–
Participants in short-term disability plans [1]	–	–	–	–	–	–	–	–	53	55
Retirement plans										
Participants in defined benefit pension plans	84	84	82	76	63	63	59	56	52	50
Percent of participants with:										
Normal retirement prior to age 65	55	58	63	64	59	62	55	52	52	52
Early retirement available	98	97	97	98	98	97	98	95	96	95
Ad hoc pension increase in last 5 years	–	–	47	35	26	22	7	6	4	10
Terminal earnings formula	53	52	54	57	55	64	56	61	58	56
Benefit coordinated with Social Security	45	45	56	62	62	63	54	48	51	49
Participants in defined contribution plans	–	–	–	60	45	48	48	49	55	57
Participants in plans with tax-deferred savings arrangements	–	–	–	33	36	41	44	43	54	55
Other benefits										
Employees eligible for:										
Flexible benefits plans	–	–	–	2	5	9	10	12	12	13
Reimbursement accounts [2]	–	–	–	5	12	23	36	52	38	32
Premium conversion plans	–	–	–	–	–	–	–	–	5	7

[1] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1995 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-terms disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

[2] Prior to 1995, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

31. Work stoppages involving 1,000 workers or more

Measure	Annual totals		2002	2003[p]											
	2002	2003[p]	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of stoppages:															
Beginning in period	19	14	1	1	0	2	1	1	1	0	3	0 5	0		14
In effect during period	20	15	1	2	0	2	1	1	1	1	3	3	3	2	1
Workers involved:															
Beginning in period (in thousands)	46	129.2	1.4	17.5	.0	4.0	4.0	1.3	4.0	.0	8.2	.0	82.2	8.9	.0
In effect during period (in thousands)	47	130.5	1.4	18.8	.0	4.0	4.0	1.3	4.0	4.0	8.2	3.2	82.2	76.7	70.5
Days idle:															
Number (in thousands)	6,596	4,091.2	28.6	48.8	0.0	18.5	40.0	7.8	16.0	12.0	35.9	51.3	1,168.5	1,219.0	1,473.4
Percent of estimated working time[1]	(2)	.01	(2)	(2)	(2)	(2)	.00	.00	(2)	(2)	(2)	.04	.05	.05	.01

[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.

[2] Less than 0.005.

NOTE: Dash indicates data not available. P = preliminary.

32. 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		2002	2003										
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	July	Aug.	Sept.	Oct.	Nov.	Dec.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS														
All items	179.9	184.4	180.9	181.7	183.1	184.2	183.8	183.5	183.9	184.6	185.2	185.0	184.5	184.3
All items (1967 = 100)	538.8	551.1	541.9	544.2	548.5	551.8	550.5	549.7	550.9	553.0	554.7	554.3	552.7	552.1
Food and beverages	176.8	180.5	177.8	178.1	178.9	179.2	179.0	179.4	180.3	180.9	181.3	182.2	182.9	184.7
Food	176.2	180.0	177.3	177.5	178.3	178.6	178.4	178.8	179.7	180.4	180.7	181.7	182.4	180.0
Food at home	175.6	179.4	176.1	176.7	177.6	177.7	177.3	177.8	178.9	179.7	180.1	181.5	182.4	184.1
Cereals and bakery products	198.0	202.8	197.3	199.8	201.8	202.1	201.9	203.0	204.5	204.5	203.5	203.1	202.5	202.9
Meats, poultry, fish, and eggs	162.1	169.3	162.4	161.6	164.7	164.8	165.2	164.7	168.2	169.7	171.1	174.0	179.3	181.1
Dairy and related products[1]	168.1	167.9	167.3	166.4	167.2	167.1	165.8	165.4	164.7	167.5	170.3	171.8	171.2	173.0
Fruits and vegetables	220.9	225.9	224.9	227.1	223.3	223.6	221.3	226.2	226.6	224.9	224.4	226.3	227.5	232.4
Nonalcoholic beverages and beverage materials	139.2	139.8	139.8	140.6	140.8	140.3	140.5	140.3	138.4	139.7	139.2	140.5	137.9	139.3
Other foods at home	160.8	162.6	161.1	161.8	162.2	162.6	162.1	162.1	167.7	163.2	163.1	163.0	162.0	163.0
Sugar and sweets	159.0	162.0	159.1	169.7	161.8	162.5	161.4	162.3	162.7	162.5	162.3	162.5	161.7	161.0
Fats and oils	155.4	157.4	152.8	155.8	158.7	157.5	156.1	157.6	156.3	157.7	157.6	159.7	157.3	157.7
Other foods	177.1	178.8	178.2	178.2	177.9	178.6	178.5	177.8	179.0	179.4	179.4	178.7	177.9	179.6
Other miscellaneous foods[1,2]	109.2	110.3	110.2	109.7	110.5	110.1	110.4	110.1	111.3	109.9	111.0	110.7	109.0	109.8
Food away from home[1]	178.3	182.1	180.1	179.9	180.7	181.0	181.1	181.5	182.2	182.6	182.8	183.3	183.8	184.3
Other food away from home[1,2]	117.7	121.3	119.8	119.9	120.2	120.4	120.4	120.5	121.3	121.4	121.8	122.3	122.7	122.9
Alcoholic beverages	183.6	187.2	184.9	185.8	185.9	186.6	186.4	186.7	187.2	187.1	187.9	188.1	188.6	188.7
Housing	180.3	184.8	181.1	182.3	183.2	184.3	184.1	184.5	185.9	186.1	185.8	185.7	185.1	185.1
Shelter	208.1	213.1	209.5	210.9	211.6	212.1	212.1	212.8	213.8	214.3	213.8	214.7	214.2	213.1
Rent of primary residence	199.7	205.5	202.5	203.3	203.7	204.1	204.5	204.9	205.6	206.1	206.6	206.9	207.5	205.5
Lodging away from home	118.3	119.3	109.2	114.3	117.6	119.7	118.7	121.4	124.8	125.1	118.5	120.9	115.0	119.3
Owners' equivalent rent of primary residence[3]	214.7	219.9	217.9	218.5	218.7	218.9	218.9	219.1	219.6	220.1	220.7	221.4	221.9	219.9
Tenants' and household insurance[1,2]	108.7	114.8	112.3	113.9	114.1	114.0	114.2	114.3	115.6	115.8	115.9	116.0	114.3	114.8
Fuels and utilities	143.6	154.5	144.2	146.1	148.3	154.5	153.1	153.7	159.4	159.2	159.6	155.0	152.9	154.5
Fuels	127.2	138.2	127.5	129.5	131.9	138.5	136.8	137.5	143.6	143.0	143.4	138.2	135.7	138.7
Fuel oil and other fuels	115.5	139.5	125.6	136.6	156.3	169.0	147.9	137.0	130.5	130.7	130.5	131.4	134.8	139.1
Gas (piped) and electricity	134.4	145.0	134.1	135.6	136.9	143.5	143.0	144.5	151.6	151.0	151.5	145.6	142.6	145.0
Household furnishings and operations	128.3	126.1	127.0	127.4	127.7	127.1	127.2	126.3	126.1	125.5	125.2	125.1	124.9	124.7
Apparel	124.0	120.9	121.5	118.1	120.6	123.6	123.9	122.5	116.2	117.2	122.0	124.8	123.1	119.0
Men's and boys' apparel	121.7	118.0	119.3	116.1	117.3	121.0	120.8	119.5	113.8	113.4	117.3	120.8	121.4	118.0
Women's and girls' apparel	115.8	113.1	113.1	107.6	112.4	117.2	117.8	115.5	106.1	107.9	115.5	118.8	115.7	110.9
Infants' and toddlers' apparel[1]	126.4	122.1	125.3	121.1	122.3	124.1	123.4	123.6	117.9	120.8	124.1	125.2	123.0	119.2
Footwear	121.4	119.6	120.7	119.7	119.8	119.8	119.9	119.7	117.5	117.8	120.3	121.8	121.0	118.5
Transportation	152.9	157.6	154.2	155.5	158.9	161.0	159.3	157.2	156.8	158.3	159.4	157.1	155.7	154.7
Private transportation	148.8	153.6	150.4	151.8	155.3	157.3	155.5	153.1	152.4	154.1	155.4	153.0	151.7	150.8
New and used motor vehicles[2]	99.2	96.5	98.7	98.2	98.0	98.0	97.8	97.4	96.5	96.0	95.1	94.6	94.6	94.4
New vehicles	140.0	137.9	140.6	139.7	139.2	139.3	138.7	138.1	137.7	136.8	136.4	136.5	137.5	138.0
Used cars and trucks[1]	152.0	142.9	148.5	148.3	148.4	148.5	148.4	147.9	145.7	143.3	139.0	135.1	132.0	131.0
Motor fuel	116.6	135.8	119.7	126.3	140.4	148.1	140.6	131.3	130.6	139.0	147.1	136.6	131.2	127.8
Gasoline (all types)	116.0	135.1	119.1	125.7	139.7	147.4	139.9	130.6	130.0	138.4	146.5	136.0	130.6	135.1
Motor vehicle parts and equipment	106.9	107.8	107.0	107.8	108.2	107.9	107.7	107.8	107.6	107.9	107.7	107.9	107.9	107.8
Motor vehicle maintenance and repair	190.2	195.6	193.3	193.7	194.5	194.3	194.6	194.9	196.0	195.7	196.2	196.9	197.2	198.0
Public transportation	207.4	209.3	203.0	202.2	203.6	206.1	207.2	211.6	216.7	213.8	211.2	211.3	207.9	205.6
Medical care	285.6	297.1	291.3	292.6	293.7	294.2	294.6	295.5	297.6	298.4	299.2	299.9	300.8	302.1
Medical care commodities	256.4	262.8	259.5	260.3	260.4	261.4	261.6	261.8	263.6	264.1	264.9	264.7	264.0	265.0
Medical care services	292.9	306.0	299.4	300.8	302.3	302.6	303.1	304.2	306.4	307.2	308.2	309.1	310.6	311.9
Professional services	253.9	261.2	257.0	257.8	258.8	259.1	259.8	261.1	260.9	261.7	262.2	263.0	263.0	261.2
Hospital and related services	367.8	394.8	382.4	385.7	388.2	388.7	388.7	388.9	394.7	398.6	399.6	400.7	405.6	407.0
Recreation[2]	106.2	107.5	106.5	106.9	107.2	107.4	107.4	107.6	107.7	107.7	107.7	107.6	107.8	107.7
Video and audio[1,2]	102.6	103.6	103.2	103.4	103.8	103.7	103.8	103.8	103.7	103.7	103.5	103.5	103.8	103.3
Education and communication[2]	107.9	109.8	109.2	109.7	109.7	109.4	109.0	108.6	108.9	110.1	110.9	110.9	110.8	110.9
Education[2]	126.0	134.4	130.0	130.6	131.0	131.1	131.2	131.4	132.6	136.2	138.7	139.1	139.0	139.4
Educational books and supplies	317.6	335.4	323.3	329.5	332.8	333.2	332.3	332.5	335.0	338.5	338.2	339.7	336.0	342.8
Tuition, other school fees, and child care	362.1	362.1	374.0	375.5	376.3	376.5	377.1	377.7	381.2	392.1	400.0	401.1	401.2	401.7
Communication[1,2]	92.3	89.7	91.8	92.0	91.9	91.3	90.5	89.8	89.4	89.0	88.6	88.4	88.2	88.2
Information and information processing[1,2]	90.8	87.8	90.0	90.3	90.1	89.5	88.6	87.9	87.5	87.0	86.7	86.4	86.2	86.2
Telephone services[1,2]	99.7	98.3	99.9	100.4	100.5	99.7	98.7	98.1	98.1	97.8	97.4	97.1	97.2	97.2
Information and information processing other than telephone services[1,4]	18.3	16.1	17.2	17.1	16.9	16.8	16.7	16.4	16.0	15.7	15.6	15.6	15.4	15.3
Personal computers and peripheral equipment[1,2]	22.2	17.6	19.7	19.5	19.1	19.0	18.7	18.0	17.2	16.7	16.3	16.5	16.3	16.2
Other goods and services	293.2	298.7	295.8	296.5	297.5	297.3	298.1	298.1	299.2	299.6	299.9	300.2	300.0	300.2
Tobacco and smoking products	461.5	469.0	472.5	472.4	472.7	467.2	467.9	465.6	469.1	471.8	468.7	469.5	469.1	470.4
Personal care[1]	174.7	178.0	175.4	175.9	176.7	177.2	177.7	177.9	178.4	178.4	179.0	179.1	179.0	179.0
Personal care products[1]	154.7	153.5	153.4	153.0	153.3	153.3	154.1	153.6	154.2	153.5	153.4	153.6	153.2	153.4
Personal care services[1]	188.4	193.2	189.9	190.6	190.9	191.7	192.5	193.0	193.2	193.9	195.4	195.6	194.2	194.3

See footnotes at end of table.

32. 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 2002	Annual average 2003	2002 Dec.	2003 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Miscellaneous personal services	274.4	283.5	276.9	278.1	280.4	281.4	282.0	282.7	283.8	284.1	284.3	285.3	285.8	287.0	287.1
Commodity and service group:															
Commodities	149.7	151.2	149.7	150.0	152.0	153.1	152.2	150.9	150.4	150.0	150.9	152.0	151.4	150.9	150.4
Food and beverages	176.8	180.5	177.8	178.1	178.9	179.2	179.0	179.4	180.2	180.3	180.9	181.3	182.2	182.9	184.1
Commodities less food and beverages	134.2	134.5	133.6	133.9	136.4	138.0	136.7	134.6	133.6	132.9	133.9	135.4	134.1	132.9	131.7
Nondurables less food and beverages	145.1	149.7	145.2	146.1	151.2	154.5	152.3	148.9	147.4	146.6	149.2	153.1	151.2	149.0	146.7
Apparel	124.0	120.9	121.5	118.1	120.6	123.6	123.9	122.5	119.5	116.2	117.2	122.0	124.8	123.1	119.0
Nondurables less food, beverages, and apparel	162.2	171.5	163.9	167.4	174.1	177.8	173.9	169.2	168.6	169.2	173.0	176.4	171.6	169.1	167.7
Durables	121.4	117.5	120.2	119.9	119.7	119.5	119.2	118.5	118.0	117.4	116.7	115.7	115.2	115.1	115.0
Services	209.8	216.5	211.9	213.1	214.0	215.1	215.1	215.9	216.8	217.6	218.0	218.1	218.4	217.9	217.9
Rent of shelter[3]	216.7	221.9	218.1	219.5	220.3	220.9	220.8	221.5	221.7	222.6	223.1	222.6	223.5	223.0	222.9
Transportation services	209.1	216.3	212.0	212.3	213.4	214.2	215.3	216.3	217.1	218.0	217.2	216.8	218.9	218.6	217.7
Other services	246.4	254.4	250.2	251.4	252.4	252.6	252.5	252.8	253.0	253.7	255.5	257.0	257.2	257.3	257.4
Special indexes:															
All items less food	180.5	184.7	181.6	182.4	183.9	185.2	184.7	184.3	184.5	184.6	185.3	186.0	185.6	184.9	184.4
All items less shelter	170.8	174.6	171.7	172.3	174.0	175.3	174.7	174.1	174.3	174.2	175.0	176.0	175.5	174.9	174.7
All items less medical care	174.3	178.1	175.1	175.9	177.3	178.4	178.0	177.7	177.9	178.0	178.7	179.2	179.1	178.5	178.2
Commodities less food	136.0	136.5	135.6	135.8	138.3	139.8	138.6	136.5	135.5	134.9	135.9	137.3	136.1	135.0	133.8
Nondurables less food	147.4	151.9	147.6	148.4	153.3	156.5	154.3	151.1	151.1	149.0	151.5	155.2	153.3	151.3	149.2
Nondurables less food and apparel	163.3	172.1	165.0	168.2	174.4	177.7	174.2	169.9	169.4	170.0	173.4	176.6	172.2	170.0	168.8
Nondurables	161.1	165.3	161.6	162.2	165.3	167.2	165.9	164.3	163.9	163.5	165.2	167.4	166.8	166.1	165.4
Services less rent of shelter[3]	217.5	226.4	220.5	221.6	222.8	224.4	224.6	225.5	227.2	228.0	228.4	229.2	228.7	228.2	228.4
Services less medical care services	202.5	208.7	204.3	205.5	206.4	207.4	207.5	208.2	209.1	209.8	210.3	210.3	210.5	209.9	209.9
Energy	121.7	136.5	123.3	127.5	135.4	142.6	138.1	134.0	136.5	136.8	140.6	144.6	136.9	133.1	131.8
All items less energy	187.7	190.6	188.6	189.0	189.7	190.2	190.2	190.3	190.3	190.5	190.8	191.0	191.7	191.6	191.5
All items less food and energy	190.5	193.2	191.4	191.8	192.5	193.0	193.1	193.2	193.0	193.2	193.5	193.6	194.3	193.9	193.6
Commodities less food and energy	143.7	140.9	142.5	141.7	142.1	142.6	142.5	141.7	140.8	139.9	139.7	140.2	140.4	139.9	139.0
Energy commodities	117.1	136.7	120.7	127.5	142.1	150.1	141.7	132.3	130.9	131.3	139.2	146.9	137.0	132.1	129.0
Services less energy	217.5	223.8	219.8	221.0	221.9	222.4	222.5	223.1	223.5	224.3	224.9	224.9	225.8	225.6	225.5
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items	175.9	179.8	177.0	177.7	179.2	180.3	179.8	179.4	179.6	179.6	180.6	181.0	180.7	180.2	179.9
All items (1967 = 100)	523.9	535.6	527.2	529.2	533.7	537.1	535.5	534.3	534.3	535.0	537.1	539.2	538.2	536.7	536.0
Food and beverages	176.1	179.9	177.1	177.4	178.3	178.5	178.3	178.7	179.5	179.6	180.2	180.7	181.7	182.4	183.6
Food	176.5	179.4	176.5	176.8	177.7	177.9	177.7	178.1	178.9	179.1	179.7	180.2	181.2	181.9	183.1
Food at home	175.1	178.5	175.1	175.7	176.7	176.8	176.4	176.8	177.9	178.0	178.8	179.4	180.7	181.6	183.3
Cereals and bakery products	198.0	202.8	197.1	199.9	201.9	202.1	201.8	202.9	203.7	204.4	204.5	203.5	203.2	202.4	202.4
Meats, poultry, fish, and eggs	162.0	169.2	162.3	161.5	164.5	164.8	165.2	164.6	167.0	168.2	169.5	170.9	173.8	179.2	181.0
Dairy and related products[1]	167.2	167.6	167.2	166.3	167.1	166.7	165.6	165.1	163.5	164.4	167.0	170.2	171.7	171.0	172.7
Fruits and vegetables	222.9	224.3	222.9	225.7	221.8	222.2	220.0	224.3	225.7	225.3	223.8	223.4	224.9	225.3	229.7
Nonalcoholic beverages and beverage materials	138.6	139.1	139.1	139.9	140.1	139.5	139.6	139.7	139.6	137.5	138.9	138.5	139.8	137.3	138.6
Other foods at home	160.4	162.2	160.6	161.3	161.9	162.1	161.7	161.7	163.0	162.3	162.6	162.8	162.5	161.6	162.5
Sugar and sweets	158.8	161.6	158.9	160.4	161.3	162.1	160.9	162.1	162.4	162.3	162.1	162.1	162.1	161.4	160.5
Fats and oils	155.3	157.4	152.9	155.7	158.7	157.7	156.2	157.6	156.5	156.2	157.7	157.6	159.6	157.3	157.7
Other foods	177.6	179.2	178.5	178.5	178.5	178.9	179.0	187.1	180.5	179.4	179.7	180.0	179.0	178.3	180.0
Other miscellaneous foods[1,2]	109.7	110.8	110.7	110.1	110.9	110.5	110.9	110.5	112.1	111.6	110.0	111.3	111.2	109.5	110.3
Food away from home[1]	178.2	182.0	180.0	179.8	180.5	181.0	181.0	181.4	181.7	182.1	182.4	182.7	183.3	183.7	184.2
Other food away from home[1,2]	118.1	121.5	120.1	120.2	120.4	120.7	120.8	120.8	121.3	121.4	121.6	122.0	122.5	122.9	123.1
Alcoholic beverages	183.3	187.1	184.7	185.5	185.7	186.8	186.6	186.8	186.8	187.0	186.9	187.7	188.1	188.8	188.9
Housing	175.7	180.4	176.9	177.9	178.7	179.9	179.7	180.0	180.9	181.4	181.6	181.6	181.3	180.9	181.0
Shelter	201.9	206.9	203.9	204.9	205.5	205.9	205.9	206.4	206.5	207.2	207.7	207.6	208.3	208.2	208.2
Rent of primary residence	199.0	204.7	201.9	202.6	203.0	203.4	203.7	204.1	204.4	204.8	205.3	205.8	206.1	206.6	207.0
Lodging away from home[2]	118.4	119.8	109.6	114.3	118.0	120.4	119.0	122.2	122.6	125.0	125.2	119.8	121.7	116.2	113.4
Owners' equivalent rent of primary residence[3]	195.1	199.7	198.0	198.5	198.6	198.8	198.8	199.0	199.0	199.4	199.9	200.4	201.0	201.4	201.7
Tenants' and household insurance[1,2]	108.7	114.7	112.3	113.7	113.9	113.8	114.0	114.0	115.0	115.4	115.7	115.8	116.0	114.4	114.4
Fuels and utilities	142.9	153.9	143.5	145.3	147.4	153.6	152.4	153.0	158.6	158.9	158.7	159.1	154.3	152.3	153.0
Fuels	126.1	137.0	126.4	128.3	130.5	137.0	135.7	136.3	142.2	142.4	141.9	142.3	137.0	134.7	135.4
Fuel oil and other fuels	115.0	138.7	125.0	135.8	155.7	167.9	146.9	136.1	131.6	129.6	129.6	129.4	130.7	134.4	136.2
Gas (piped) and electricity	133.4	144.1	133.2	134.7	136.0	142.6	142.3	143.5	150.3	150.6	150.1	150.6	144.6	141.9	142.5
Household furnishings and operations	124.4	121.9	123.0	123.2	123.5	122.8	122.8	122.0	121.9	121.9	121.4	121.0	120.9	120.7	120.4
Apparel	123.1	120.0	120.9	117.3	119.4	122.5	122.8	121.5	118.7	115.2	116.1	121.0	123.9	122.6	118.7
Men's and boys' apparel	121.7	117.5	118.8	115.7	116.8	120.6	120.4	119.1	116.2	113.4	112.9	116.5	120.0	121.1	117.8
Women's and girls' apparel	114.6	112.1	112.3	106.7	111.0	116.4	116.4	114.2	110.4	105.0	106.9	114.5	118.2	115.3	110.5
Infants' and toddlers' apparel[1]	128.6	124.1	127.2	122.4	123.6	125.8	125.5	125.7	122.9	120.3	122.9	126.5	127.7	125.0	121.4
Footwear	121.2	119.1	120.8	119.5	119.3	119.6	119.8	119.9	118.5	116.9	117.2	119.6	121.1	120.4	117.8
Transportation	151.8	156.3	153.0	154.6	158.2	160.3	158.5	156.2	155.7	155.5	157.1	158.1	155.4	153.6	152.5
Private transportation	149.0	153.5	150.4	152.0	155.7	157.8	155.9	153.3	152.8	152.5	154.2	155.3	152.5	150.8	149.7
New and used motor vehicles[2]	99.4	96.0	98.5	98.2	97.9	98.0	97.7	96.9	96.9	96.3	95.7	94.4	93.5	93.1	92.8

See footnotes at end of table.

32. 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		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
New vehicles	141.1	139.0	141.7	140.9	140.3	140.4	139.7	139.1	138.4	137.7	137.9	137.6	137.8	138.7	139.2
Used cars and trucks[1]	152.8	143.7	149.3	149.2	149.2	149.2	149.2	148.7	148.1	146.4	144.0	139.8	135.9	132.8	131.7
Motor fuel	117.0	136.1	120.0	126.7	140.9	148.5	140.8	131.5	130.4	130.9	139.4	147.5	136.9	131.5	128.1
Gasoline (all types)	116.4	135.5	119.4	126.1	140.3	147.8	140.2	130.9	129.8	130.4	138.9	147.0	136.4	130.9	127.6
Motor vehicle parts and equipment	106.1	107.3	106.3	107.1	107.5	107.2	107.1	107.2	107.1	107.0	107.3	107.2	107.5	107.5	107.3
Motor vehicle maintenance and repair	191.7	197.3	195.0	195.4	196.2	196.0	196.3	196.5	196.8	197.7	197.3	197.9	198.6	198.9	199.8
Public transportation	202.6	206.0	199.2	198.1	199.8	202.0	203.0	208.5	210.8	212.8	210.5	208.4	208.7	205.8	203.6
Medical care	284.6	296.3	290.6	291.8	293.0	293.5	293.7	294.6	295.5	296.7	297.4	298.3	299.1	300.1	301.4
Medical care commodities	251.1	257.4	254.0	254.8	255.1	256.1	256.2	256.4	256.7	258.2	258.6	259.4	259.2	258.5	259.4
Medical care services	292.5	305.9	299.5	300.9	302.3	302.7	303.0	304.1	305.1	306.3	307.0	307.9	309.1	310.6	311.9
Professional services	256.0	263.4	259.2	260.0	261.0	261.3	261.9	263.3	263.5	264.1	263.9	264.4	265.2	265.2	266.5
Hospital and related services	363.2	391.2	379.1	382.2	384.8	385.3	384.9	385.0	388.1	390.9	394.2	395.8	397.5	402.4	403.4
Recreation[2]	104.6	105.5	104.7	105.1	105.4	105.4	105.4	105.5	105.5	105.6	105.7	105.5	105.4	105.6	105.5
Video and audio[1,2]	102.0	102.9	102.4	102.7	103.0	102.9	103.0	103.0	102.9	102.9	102.9	102.7	102.8	103.0	102.5
Education and communication[2]	107.6	109.0	108.8	109.2	109.2	108.9	108.4	108.0	107.8	108.2	109.1	109.7	109.7	109.6	109.7
Education[2]	125.9	133.8	129.7	130.3	130.7	130.8	130.9	131.1	131.8	132.3	135.5	137.8	138.1	138.0	138.0
Educational books and supplies	318.5	336.5	324.5	330.6	333.6	333.9	333.4	333.6	335.5	336.3	339.6	339.6	340.6	337.5	343.8
Tuition, other school fees, and child care	354.8	377.3	366.0	367.2	368.0	368.2	368.8	369.3	371.1	372.6	382.1	389.2	390.1	390.2	390.7
Communication[1,2]	93.7	91.2	93.2	93.5	93.4	92.8	92.0	91.3	90.7	90.9	90.5	90.2	89.9	89.8	89.7
Information and information processing[1,2]	92.7	89.9	93.0	92.3	92.2	91.6	90.7	90.0	89.6	89.6	89.1	89.1	88.5	88.4	88.3
Telephone services[1,2]	99.9	98.5	100.1	100.7	100.7	99.9	98.9	98.3	97.7	98.3	98.0	97.6	97.3	97.4	97.4
Information and information processing other than telephone services[1,4]	19.0	16.7	17.8	17.7	17.5	17.4	17.4	17.0	16.8	16.5	16.3	16.1	16.2	15.9	15.8
Personal computers and peripheral equipment[1,2]	21.8	17.3	19.3	19.1	18.6	18.6	18.5	17.8	16.9	16.9	16.3	16.0	16.2	16.0	15.9
Other goods and services	302.0	307.0	305.1	305.6	306.4	305.6	306.4	306.0	306.0	307.5	308.0	307.9	308.2	307.7	308.1
Tobacco and smoking products	463.2	470.5	474.3	474.3	474.8	469.1	469.8	464.8	464.8	470.5	473.2	469.9	470.7	470.2	471.5
Personal care[1]	174.1	177.0	174.7	175.2	175.7	176.1	176.7	176.9	177.2	177.5	177.4	177.9	178.0	177.7	177.8
Personal care products[1]	155.5	154.2	154.2	154.8	154.0	153.8	154.6	154.2	154.4	154.8	154.3	154.0	154.1	153.8	154.2
Personal care services[1]	189.1	193.9	190.7	189.1	191.6	192.4	193.2	193.6	193.5	193.9	194.6	196.1	196.3	194.8	194.9
Miscellaneous personal services	274.0	283.3	276.7	277.9	279.9	281.1	281.6	282.4	283.9	284.0	284.4	285.2	285.6	286.7	286.6
Commodity and service group:															
Commodities	150.4	151.8	150.3	150.7	152.8	154.0	153.0	151.6	151.1	150.7	151.6	152.7	151.9	151.3	150.7
Food and beverages	176.1	179.9	177.1	177.4	178.3	178.5	178.3	178.7	179.5	179.6	180.2	180.7	181.7	182.4	183.6
Commodities less food and beverages	135.5	135.8	135.0	135.5	138.0	139.6	138..2	136.0	135.0	134.2	135.4	136.7	135.2	133.8	132.5
Nondurables less food and beverages	147.0	152.1	147.3	148.3	153.8	157.3	154.8	151.1	149.6	148.7	151.7	155.9	153.6	151.4	149.0
Apparel	123.1	120.0	120.9	117.3	119.4	122.5	122.8	121.5	118.7	115.2	116.1	121.0	123.9	122.6	118.7
Nondurables less food, beverages, and apparel	165.3	175.6	167.2	171.0	178.7	182.6	178.3	173.0	172.3	173.0	177.4	181.2	175.7	172.9	171.6
Durables	121.8	117.4	120.4	120.1	119.9	119.8	119.4	118.8	118.3	117.6	116.9	115.5	114.7	114.2	114.0
Services	205.9	212.6	208.3	209.4	210.2	211.2	211.3	212.0	212.9	213.6	214.0	214.3	214.4	214.1	214.2
Rent of shelter[3]	194.5	199.2	196.3	197.3	197.9	198.3	198.3	198.8	198.9	199.5	200.0	199.9	200.6	200.5	200.6
Transporatation services	207.7	216.2	211.7	212.2	213.2	213.9	215.0	216.1	216.7	217.4	216.8	216.8	219.0	218.8	218.0
Other services	241.6	248.5	245.1	246.2	247.1	247.0	246.8	246.8	247.2	247.9	249.3	250.6	250.7	250.7	250.9
Special indexes:															
All items less food	175.8	179.7	177.0	177.7	179.3	180.6	180.0	179.5	179.5	179.6	180.3	181.0	180.4	179.7	179.2
All items less shelter	168.3	171.9	169.1	169.7	171.5	172.9	172.2	171.4	171.7	171.5	172.3	173.3	172.6	171.9	171.6
All items less medical care	171.1	174.8	172.1	172.7	174.2	175.4	174.8	174.4	174.5	174.5	175.2	176.0	175.6	175.0	174.7
Commodities less food	137.3	137.7	136.8	137.1	139.7	141.4	140.0	137.9	136.9	136.1	137.2	138.6	137.0	135.8	134.5
Nondurables less food	149.2	154.2	149.6	150.5	155.8	159.2	156.8	153.2	151.8	151.0	151.0	157.9	155.7	153.7	151.4
Nondurables less food and apparel	166.1	175.9	168.0	171.6	178.7	182.3	178.4	173.5	172.8	173.5	177.5	181.1	176.1	173.6	172.1
Nondurables	161.4	166.4	162.6	163.2	166.5	168.5	167.1	165.3	164.9	164.6	166.4	168.8	168.1	167.3	166.6
Services less rent of shelter[3]	193.1	201.3	195.9	196.9	197.9	199.5	199.7	200.4	202.2	202.8	203.1	203.7	203.2	202.7	202.9
Services less medical care services	198.9	205.2	201.1	202.1	202.9	204.0	204.0	204.7	205.2	206.2	206.6	206.8	206.9	206.5	206.6
Energy	120.9	135.9	122.6	126.9	135.1	142.2	137.7	133.2	135.6	135.9	140.0	144.2	136.3	132.4	131.1
All items less energy	183.6	186.1	184.6	184.8	185.5	185.9	185.8	185.9	185.9	185.9	186.2	186.4	187.0	187.0	186.9
All items less food and energy	185.6	187.9	186.7	186.9	187.5	188.0	188.0	188.0	187.7	187.7	187.9	188.1	188.6	188.4	188.0
Commodities less food and energy	144.4	141.1	143.1	142.2	142.6	143.1	143.0	142.2	141.3	140.3	140.1	140.2	140.3	139.7	141.1
Energy commodities	17.3	136.8	120.7	127.6	142.1	150.0	141.7	132.3	131.0	131.4	139.5	147.2	137.2	132.1	136.8
Services less energy	213.9	220.2	216.7	217.7	218.5	218.8	219.0	219.6	219.8	220.5	221.0	221.3	222.1	222.1	222.1

[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.

Dash indicates data not available.

NOTE: Index applied to a month as a whole, not to any specific date.

33. 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 2003						Urban Wage Earners 2003					
		July	Aug.	Sept.	Oct.	Nov.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
U.S. city average	M	183.9	184.6	185.2	185.0	184.5	184.3	179.6	180.3	181.0	180.7	180.2	179.9
Region and area size[2]													
Northeast urban	M	193.5	194.3	195.0	195.4	195.1	194.9	190.0	190.7	191.9	192.1	191.9	191.7
Size A—More than 1,500,000	M	195.5	196.6	197.3	197.7	197.3	197.1	190.8	191.8	193.0	193.2	192.8	192.7
Size B/C—50,000 to 1,500,000[3]	M	114.5	114.4	115.0	115.2	115.3	115.0	114.5	114.5	115.1	115.3	115.4	115.2
Midwest urban[4]	M	178.1	178.8	179.5	179.1	178.9	178.4	173.3	174.1	174.6	174.1	173.9	173 .4
Size A—More than 1,500,000	M	180.5	181.2	182.0	181.7	181.4	180.9	174.8	175.5	176.4	176.0	175.7	175.1
Size B/C—50,000 to 1,500,000[3]	M	113.1	113.6	113.9	113.6	113.6	113.3	112.5	113.0	113.2	112.7	112.7	112.4
Size D—Nonmetropolitan (less than 50,000)	M	171.4	172.1	172.3	171.8	171.4	171.5	169.1	169.8	170	169.3	169.1	169.1
South urban	M	177.3	177.9	178.3	178.1	177.5	177.5	174.3	174.8	175.3	174.9	174.3	174.2
Size A—More than 1,500,000	M	179.1	179.8	180.1	180.1	179.1	179.2	176.2	177.0	177.5	177.3	176.4	176.4
Size B/C—50,000 to 1,500,000[3]	M	113.1	113.4	113.8	113.6	113.3	113.3	111.9	112.1	112.4	112.1	111.9	111.8
Size D—Nonmetropolitan (less than 50,000)	M	175.0	175.9	176.3	175.6	175.4	175.1	174.6	174.5	175.9	174.8	174.5	174.2
West urban	M	188.4	189.2	189.6	189.4	188.5	188.3	183.4	184.2	185.0	184.4	183.5	183.3
Size A—More than 1,500,000	M	190.9	191.7	192.3	191.9	191.0	190.6	184.3	185.3	186.1	185.4	184.4	183.9
Size B/C—50,000 to 1,500,000[3]	M	115.1	115.5	115.6	115.5	114.9	115.2	114.6	114.8	115.3	115.0	114.6	114.8
Size classes:													
A[5]	M	168.3	169.0	169.6	169.5	168.9	168.7	166.3	167.2	168.0	167.7	167.1	166.8
B/C[3]	M	113.6	113.9	114.3	114.1	113.9	113.8	112.9	113.1	113.5	113.2	113.0	112.9
D	M	184.1	177.1	177.4	176.9	176.6	176.5	174.4	175.3	175.6	174.9	174.5	174.3
Selected local areas[6]													
Chicago–Gary–Kenosha, IL–IN–WI	M	184.1	184.5	186.1	186.1	185.6	185.5	177.8	178.3	179.8	179.1	179.1	178.8
Los Angeles–Riverside–Orange County, CA	M	186.3	186.9	188.2	187.8	187.1	187.0	179.6	180.5	181.9	181.2	180.5	180.2
New York, NY–Northern NJ–Long Island, NY–NJ–CT–PA	M	197.7	199.1	199.6	200.0	199.4	199.3	192.8	194.1	195.0	195.2	194.7	194.6
Boston–Brockton–Nashua, MA–NH–ME–CT	1	203.0	–	206.8	–	206.5	–	202.2	–	206.2	–	205.6	–
Cleveland–Akron, OH	1	176.0	–	178.5	–	177.6	–	167.0	–	169.5	–	168.3	–
Dallas–Ft Worth, TX	1	176.5	–	177.0	–	1175.9	–	175.9	–	176.7	–	175.6	–
Washington–Baltimore, DC–MD–VA–WV[7]	1	116.8	–	117.2	–	116.7	–	116.2	–	116.9	–	116.1	–
Atlanta, GA	2	–	179.7	–	180.1	–	179	–	179.4	–	177.6	–	176.6
Detroit–Ann Arbor–Flint, MI	2	–	183.6	–	183.3	–	181.3	–	177.5	–	178.2	–	175.9
Houston–Galveston–Brazoria, TX	2	–	164.1	–	166.1	–	164.1	–	162.5	–	164.0	–	162.2
Miami–Ft. Lauderdale, FL	2	–	180.9	–	181.6	–	181.6	–	178.3	–	179.0	–	178.9
Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD	2	–	191.1	–	190.3	–	189.0	–	189.2	–	190.2	–	189
San Francisco–Oakland–San Jose, CA	2	–	196.3	–	196.3	–	195.3	–	192.3	–	191.9	–	191.1
Seattle–Tacoma–Bremerton, WA	2	–	194.4	–	193.7	–	191.0	–	188.2	–	187.8	–	185.3

[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; Cincinnati, 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.

34. Annual data: Consumer Price Index, U.S. city average, all items and major groups

[1982–84 = 100]

Series	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Consumer Price Index for All Urban Consumers:											
All items:											
Index	144.5	148.2	152.4	156.9	160.5	163.0	166.6	172.2	177.1	179.9	184.0
Percent change	3.0	2.6	2.8	3.0	2.3	1.6	2.2	3.4	2.8	1.6	2.3
Food and beverages:											
Index	141.6	144.9	148.9	153.7	157.7	161.1	164.6	168.4	173.6	176.8	180.5
Percent change	2.1	2.3	2.8	3.2	2.6	2.2	2.2	2.3	3.1	1.8	2.1
Housing:											
Index	141.2	144.8	148.5	152.8	156.8	160.4	163.9	169.6	176.4	180.3	184.8
Percent change	2.7	2.5	2.6	2.9	2.6	2.3	2.2	3.5	4.0	2.2	2.5
Apparel:											
Index	133.7	133.4	132.0	131.7	132.9	133.0	131.3	129.6	127.3	124.0	120.9
Percent change	1.4	–.2	–1.0	–.2	.9	.1	–1.3	–1.3	–1.8	–2.6	–2.5
Transportation:											
Index	130.4	134.3	139.1	143.0	144.3	141.6	144.4	153.3	154.3	152.9	157.6
Percent change	3.1	3.0	3.6	2.8	0.9	–1.9	2.0	6.2	0.7	–.9	3.1
Medical care:											
Index	201.4	211.0	220.5	228.2	234.6	242.1	250.6	260.8	272.8	285.6	297.1
Percent change	5.9	4.8	4.5	3.5	2.8	3.2	3.5	4.1	4.6	4.7	4.0
Other goods and services:											
Index	192.9	198.5	206.9	215.4	224.8	237.7	258.3	271.1	282.6	293.2	298.7
Percent change	5.2	2.9	4.2	4.1	4.4	5.7	8.7	5.0	4.2	3.8	1.9
Consumer Price Index for Urban Wage Earners and Clerical Workers:											
All items:											
Index	142.1	145.6	149.8	154.1	157.6	159.7	163.2	168.9	173.5	175.9	179.8
Percent change	2.8	2.5	2.9	2.9	2.3	1.3	2.2	3.5	2.7	1.4	2.2

35. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		2002	2003											
	2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.[p]	Oct.[p]	Nov.[p]	Dec.[p]
Finished goods	138.9	143.3	139.0	140.8	142.3	144.2	142.1	142.0	143.0	143.0	143.7	143.9	145.5	144.1	144.5
Finished consumer goods	139.4	145.2	139.6	141.9	144.0	146.3	143.8	143.7	145.0	145.1	145.9	146.3	147.7	146.5	146.6
Finished consumer foods	140.1	146.0	139.5	142.0	142.3	142.8	144.0	144.6	145.2	144.9	146.3	147.9	151.0	150.2	150.3
Finshed consumer goods excluding foods	138.8	144.6	139.3	141.6	144.4	147.4	143.5	143.0	144.6	144.8	145.4	145.3	146.1	144.7	144.8
Nondurable goods less food	139.8	148.3	140.6	143.8	147.9	151.7	146.9	146.3	148.9	149.2	150.0	150.2	149.2	147.4	147.8
Durable goods	133.0	133.1	132.8	133.2	133.1	134.4	132.5	132.4	131.8	131.7	131.8	131.1	135.5	135.1	134.4
Capital equipment	139.1	139.1	139.1	139.3	139.2	139.9	139.1	139.0	138.9	138.9	139.2	139.1	141.1	140.7	140.4
Intermediate materials, supplies, and components	127.8	133.7	129.4	131.1	133.5	136.2	133.0	132.5	133.5	133.7	134.1	134.1	134.1	134.0	134.5
Materials and components for manufacturing	126.1	129.7	127.2	127.9	129.5	130.1	129.4	129.3	129.6	129.2	129.8	129.6	130.5	130.7	131.0
Materials for food manufacturing	123.2	134.4	126.9	128.9	129.6	129.0	129.6	130.8	134.2	133.3	135.5	137.1	142.0	142.0	140.9
Materials for nondurable manufacturing	129.2	137.2	131.4	133.4	138.1	140.1	137.6	137.0	137.4	136.3	137.8	136.3	137.1	137.4	138.1
Materials for durable manufacturing	124.7	127.9	126.2	126.1	126.8	126.9	126.7	128.8	126.8	127.1	127.5	128.9	129.6	130.5	131.1
Components for manufacturing	126.1	125.9	125.9	125.8	125.8	126.0	126.0	126.1	126.0	125.8	125.8	125.9	125.8	125.7	125.7
Materials and components for construction	151.3	153.6	151.1	151.4	152.1	152.3	152.9	152.9	153.0	153.6	153.7	155.1	155.2	155.6	155.6
Processed fuels and lubricants	96.3	112.6	100.9	106.9	113.6	124.8	110.8	108.0	112.1	113.7	114.5	113.3	111.9	109.7	111.7
Containers	152.1	153.7	153.2	153.4	153.7	153.8	154.0	153.9	154.1	153.8	153.6	153.6	153.2	153.5	153.4
Supplies	138.9	141.5	139.6	140.1	140.7	141.2	141.3	141.5	141.5	141.5	141.2	141.7	141.8	142.6	142.7
Crude materials for further processing	108.1	135.3	118.1	127.3	134.0	152.2	128.0	130.9	136.5	132.6	131.3	135.6	138.3	137.4	139.9
Foodstuffs and feedstuffs	99.5	113.5	100.5	105.6	106.3	105.7	107.0	111.0	110.4	107.6	111.5	118.7	127.5	126.1	124.6
Crude nonfood materials	111.4	148.2	128.2	140.4	151.7	184.4	140.6	142.4	152.8	148.2	142.7	144.5	141.9	141.9	147.4
Special groupings:															
Finished goods, excluding foods	138.3	142.4	138.7	140.3	142.1	144.3	141.5	141.1	142.2	142.7	142.6	143.8	142.8	142.8	142.4
Finished energy goods	88.8	102.0	90.7	95.3	101.7	107.4	100.0	98.9	103.1	103.4	104.7	105.0	103.2	100.3	101.1
Finished goods less energy	147.3	149.0	147.0	147.9	147.9	148.6	148.2	148.3	148.3	148.2	148.7	149.0	151.4	151.0	150.8
Finished consumer goods less energy	150.8	153.1	150.2	151.5	151.6	152.3	152.1	152.3	152.4	152.3	152.8	153.3	155.9	155.5	155.3
Finished goods less food and energy	150.2	150.5	149.9	150.3	151.0	151.0	150.0	150.0	149.8	149.8	149.9	149.7	152.0	151.7	151.4
Finished consumer goods less food and energy	157.6	157.8	157.2	157.7	157.6	158.4	157.4	157.4	157.1	157.1	157.2	156.9	159.2	159.0	158.8
Consumer nondurable goods less food and energy	177.5	177.8	176.7	177.4	177.3	177.7	177.5	177.6	177.7	177.8	177.8	177.8	178.1	178.2	178.2
Intermediate materials less foods and feeds	128.5	134.2	130.0	131.7	134.2	137.0	133.7	133.1	134.0	134.2	134.6	134.5	134.4	134.1	134.7
Intermediate foods and feeds	115.5	125.8	118.8	120.4	121.2	121.0	121.2	122.8	125.1	124.4	125.0	128.0	131.7	134.8	133.9
Intermediate energy goods	95.9	111.9	100.0	105.8	113.2	124.2	110.1	107.1	111.3	113.0	114.3	112.4	111.1	109.0	110.9
Intermediate goods less energy	134.5	137.7	135.5	136.1	137.1	137.6	137.3	137.5	137.6	137.4	137.5	138.0	138.5	138.9	139.0
Intermediate materials less foods and energy	135.8	138.5	136.6	137.1	138.1	138.7	138.4	138.5	138.4	138.3	138.4	138.8	139.0	139.2	139.5
Crude energy materials	102.0	147.4	124.0	140.1	153.9	200.2	138.8	141.4	156.2	148.7	139.7	140.7	135.7	133.6	139.3
Crude materials less energy	108.7	123.3	110.5	115.1	116.9	116.5	117.0	120.0	119.4	118.0	121.7	127.9	135.5	135.5	135.8
Crude nonfood materials less energy	135.7	152.2	139.9	143.0	148.3	148.1	146.7	146.5	146.3	148.8	151.8	155.5	158.8	163.7	169.0

36. Producer Price Indexes for the net output of major industry groups

[December 1984 = 100, unless otherwise indicated]

SIC	Industry	Annual average		2002	2003												
		2002	2003	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.[p]	Oct.[p]	Nov.[p]	Dec.[p]
–	**Total mining industries**	96.6	131.4	113.8	126.0	137.4	169.1	124.5	126.3	137.1	131.6	125.5	126.7	123.2	122.1	127.2
10	Metal mining	73.6	80.8	74.5	78.0.	78.5	76.8	73.9	77.8	80.1	80.6	82.1	83.1	84.0	86.0	89.4
12	Coal mining (12/85 = 100)	93.9	94.3	93.1	93.2	93.4	93.7	94.8	94.6	94.4	94.0	94.1	94.3	95.0	94.8	95.6
13	Oil and gas extraction (12/85 = 100)	107.0	160.3	133.9	152.5	170.2	220.0	150.2	152.7	169.3	160.7	151.1	152.0	147.0	145.1	152.6
14	Mining and quarrying of nonmetallic minerals, except fuels	143.5	146.5	144.2	144.9	145.4	145.9	146.3	146.4	146.6	146.7	146.8	146.9	147.0	147.4	147.2
–	**Total manufacturing industries**	133.7	137.1	134.0	135.7	137.6	138.7	136.3	135.8	136.3	136.4	137.0	137.1	138.3	137.7	137.7
20	Food and kindred products	132.0	137.4	132.6	133.9	134.5	134.8	135.1	135.7	137.1	137.0	137.8	138.8	141.6	141.6	140.9
21	Tobacco manufactures	401.9	377.9	380.3	379.7	379.8	380.9	375.5	376.4	376.1	376.2	376.0	376.8	378.7	379.2	379.6
22	Textile mill products	115.8	115.5	116.1	115.3	115.2	115.1	115.2	115.3	115.4	115.3	116.2	115.5	116.6	116.2	115.2
23	Apparel and other finished products made from fabrics and similar materials	125.1	124.9	124.8	124.7	124.7	124.9	124.9	124.9	124.9	124.8	124.7	124.9	125.0	124.9	124.9
24	Lumber and wood products, except furniture	155.3	160.4	154.2	154.4	155.7	155.3	156.0	156.4	157.2	160.2	161.0	166.8	167.4	168.0	165.7
25	Furniture and fixtures	146.3	147.5	146.8	147.0	147.1	147.2	147.3	147.4	147.5	147.6	147.5	147.6	147.9	147.8	147.8
26	Paper and allied products	143.7	144.8	144.9	144.8	144.9	144.9	145.1	145.3	145.1	144.9	144.9	144.6	144.3	144.6	144.5
27	Printing, publishing, and allied industries	193.0	197.5	194.1	196.4	196.7	196.7	197.0	197.3	197.6	197.6	197.8	197.9	198.2	198.2	198.5
28	Chemicals and allied products	157.3	164.6	159.3	160.9	162.3	165.2	166.7	165.8	165.0	164.5	164.2	164.5	164.9	165.1	165.4
29	Petroleum refining and related products	98.8	122.1	102.4	116.5	138.0	145.9	118.7	111.0	116.0	118.3	124.0	122.1	121.1	115.8	117.4
30	Rubber and miscellaneous plastics products	125.5	128.4	125.8	126.3	127.2	128.1	129.1	129.2	128.8	128.6	128.7	128.6	128.5	128.4	128.8
31	Leather and leather products	141.1	142.8	142.5	142.4	142.4	142.4	142.7	142.2	142.7	142.9	142.8	142.6	143.2	143.7	143.6
32	Stone, clay, glass, and concrete products	137.1	138.0	137.3	137.6	137.8	137.7	138.1	138.0	137.7	137.8	138.0	138.1	137.9	138.4	138.6
33	Primary metal industries	116.2	118.4	118.1	117.9	118.0	118.0	117.8	117.8	117.8	117.7	117.8	118.3	119.0	119.9	121.1
34	Fabricated metal products, except machinery and transportation equipment	131.7	132.9	132.2	132.4	132.5	132.7	132.7	132.7	132.7	132.9	132.9	133.1	133.2	133.1	133.3
35	Machinery, except electrical	117.2	116.0	116.5	116.5	116.2	116.0	116.1	116.0	116.0	117.2	115.9	115.9	116.0	115.8	115.7
36	Electrical and electronic machinery, equipment, and supplies	105.7	103.1	104.3	104.2	103.8	104.0	104.0	104.0	103.6	103.3	102.4	102.3	102.2	102.1	101.9
37	Transportation	137.3	138.4	137.6	138.1	138.3	139.8	137.5	137.5	136.8	136.8	137.1	136.5	141.4	140.9	140.2
38	Measuring and controlling instruments; photographic, medical, and optical goods; watches and clocks	128.5	129.8	128.8	129.4	129.8	129.7	129.9	129.8	129.9	129.8	130.0	129.9	130.2	129.9	129.8
39	Miscellaneous manufacturing industries industries (12/85 = 100)	133.3	134.0	133.8	133.7	134.0	133.8	133.9	133.9	133.9	134.1	133.8	134.2	134.0	134.0	134.2
	Service industries:															
42	Motor freight transportation and warehousing (06/93 = 100)	124.5	127.9	125.9	126.5	126.8	127.3	127.4	127.4	127.4	128.1	128.4	128.7	128.6	128.8	128.8
43	U.S. Postal Service (06/89 = 100)	150.2	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0
44	Water transportation (12/92 = 100)	134.6	146.9	142.2	142.9	140.7	140.9	139.9	147.6	147.6	151.1	151.1	151.7	151.7	149.2	148.9
45	Transportation by air (12/92 = 100)	157.8	162.5	159.8	161.4	160.2	161.8	162.2	162.0	162.3	162.6	163.1	162.9	164.1	163.6	164.0
46	Pipelines, except natural gas (12/92 = 100)	111.9	111.7	111.8	110.6	110.6	111.0	110.6	111.8	111.9	112.0	112.0	112.2	112.1	112.0	112.0

37. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Finished goods											
Total	124.7	125.5	127.9	131.3	131.8	130.7	133.0	138.0	140.7	138.9	143.3
Foods	125.7	126.8	129.0	133.6	134.5	134.3	135.1	137.2	141.3	140.1	146.0
Energy	78.0	77.0	78.1	83.2	83.4	75.1	78.8	94.1	96.8	88.8	102.0
Other	135.8	137.1	140.0	142.0	142.4	143.7	146.1	148.0	150.0	150.2	150.5
Intermediate materials, supplies, and components											
Total	116.2	118.5	124.9	125.7	125.6	123.0	123.2	129.2	129.7	127.8	133.7
Foods	115.6	118.5	119.5	125.3	123.2	123.2	120.8	119.2	124.3	123.3	134.4
Energy	84.6	83.0	84.1	89.8	89.0	80.8	84.3	101.7	104.1	95.9	111.9
Other	123.8	127.1	135.2	134.0	134.2	133.5	133.1	136.6	136.4	135.8	138.5
Crude materials for further processing											
Total	102.4	101.8	102.7	113.8	111.1	96.8	98.2	120.6	121.3	108.1	135.3
Foods	108.4	106.5	105.8	121.5	112.2	103.9	98.7	100.2	106.2	99.5	113.5
Energy	76.7	72.1	69.4	85.0	87.3	68.6	78.5	122.1	122.8	102.0	147.5
Other	94.1	97.0	105.8	105.7	103.5	84.5	91.1	118.0	101.8	101.0	116.8

38. U.S. export price indexes by Standard International Trade Classification

[2000 = 100]

SITC Rev. 3	Industry	2002	2003											
		Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	**Food and live animals**	105.8	105.6	106.1	105.9	105.5	108.0	107.5	107.1	107.6	112.1	112.2	115.2	116.3
01	Meat and meat preparations	90.3	90.4	95.4	96.4	97.9	101.5	102.9	104.6	108.9	117.2	122.9	125.0	121.2
04	Cereals and cereal preparations	126.3	123.0	123.2	122.2	120.0	124.2	118.5	115.4	115.7	124.2	119.4	125.6	131.1
05	Vegetables, fruit, and nuts, prepared fresh or dry	98.3	100.6	97.4	95.1	96.0	96.9	99.6	101.2	99.7	101.4	103.2	102.7	103.1
2	**Crude materials, inedible, except fuels**	98.5	99.8	101.0	102.3	103.6	104.5	103.9	103.9	102.3	106.2	111.1	115.9	116.4
22	Oilseeds and oleaginous fruits	116.2	119.4	116.6	116.6	118.9	127.4	122.7	124.8	109.2	121.1	136.7	150.9	152.5
24	Cork and wood	90.3	90.9	91.1	91.2	91.3	91.0	90.4	90.6	90.9	91.6	92.0	92.4	93.8
25	Pulp and waste paper	85.2	82.6	86.4	88.9	90.4	89.9	90.1	85.5	85.3	88.8	90.8	91.9	91.5
26	Textile fibers and their waste	98.3	100.2	101.6	105.0	106.0	104.2	103.2	106.2	107.0	109.6	121.4	128.5	121.2
28	Metalliferous ores and metal scrap	96.3	99.6	104.6	105.8	107.8	105.8	109.0	112.3	117.8	119.9	121.1	127.0	133.8
3	**Mineral fuels, lubricants, and related products**	99.5	112.0	124.1	130.1	107.5	102.5	107.6	109.8	114.9	108.7	108.2	106.5	110.6
32	Coal, coke, and briquettes	113.7	113.7	113.7	113.9	111.9	112.2	112.1	111.2	111.2	111.6	111.6	111.6	112.9
33	Petroleum, petroleum products, and related materials	92.2	108.1	122.9	130.2	102.8	96.4	102.7	105.9	113.0	104.2	104.1	101.2	106.2
5	**Chemicals and related products, n.e.s.**	96.6	97.9	99.2	100.6	101.4	100.9	100.8	99.6	100.0	100.3	100.7	100.9	101.0
54	Medicinal and pharmaceutical products	101.2	102.1	104.1	104.1	103.9	103.9	104.8	105.8	105.5	105.4	106.0	106.6	106.6
55	Essential oils; polishing and cleaning preparations	97.3	95.4	96.0	96.2	95.3	95.2	97.3	97.5	97.6	98.2	99.0	99.2	99.7
57	Plastics in primary forms	92.9	95.1	97.1	99.5	100.5	97.6	96.6	95.1	94.8	95.4	95.3	95.6	96.7
58	Plastics in nonprimary forms	95.9	97.1	97.5	97.2	98.4	98.5	98.8	98.4	98.4	98.2	98.2	97.0	97.0
59	Chemical materials and products, n.e.s.	98.8	100.6	100.6	100.7	101.5	100.9	101.6	102.0	101.9	101.9	102.4	102.6	102.7
6	**Manufactured goods classified chiefly by materials**	99.0	99.0	99.4	99.4	99.8	99.7	100.0	99.9	100.0	100.2	100.3	100.7	100.7
62	Rubber manufactures, n.e.s.	105.6	107.1	108.8	108.4	108.6	108.5	110.1	110.1	109.5	109.2	109.3	109.8	109.6
64	Paper, paperboard, and articles of paper, pulp, and paperboard	96.8	97.3	97.2	96.7	96.9	97.3	98.3	98.5	98.3	98.3	97.4	97.8	97.4
66	Nonmetallic mineral manufactures, n.e.s.	101.3	100.5	100.4	100.2	100.3	100.3	100.4	100.4	100.2	99.5	99.5	99.7	99.7
68	Nonferrous metals	83.5	82.2	83.3	84.3	82.0	79.4	80.3	79.8	80.9	81.6	81.9	83.4	85.0
7	**Machinery and transport equipment**	98.5	98.6	98.6	98.5	98.5	98.5	97.8	98.0	97.9	97.9	97.9	97.8	97.9
71	Power generating machinery and equipment	105.1	106.5	106.8	106.9	107.1	107.1	107.2	107.4	107.4	107.5	107.9	108.5	108.7
72	Machinery specialized for particular industries	101.7	102.2	102.2	102.2	102.5	102.4	102.6	103.2	103.2	103.1	103.1	103.2	103.3
74	General industrial machines and parts, n.e.s., and machine parts	101.6	102.0	102.3	102.1	102.2	102.2	102.4	102.5	102.5	102.6	102.6	102.8	102.9
75	Computer equipment and office machines	88.6	88.8	89.1	88.6	88.8	88.9	88.1	88.2	88.0	87.8	87.9	88.1	88.6
76	Telecommunications and sound recording and reproducing apparatus and equipment	96.2	95.4	95.4	95.0	94.2	94.1	93.8	93.4	93.4	93.3	93.1	92.7	92.5
77	Electrical machinery and equipment	92.9	92.3	92.1	92.2	92.1	92.0	89.7	89.8	89.8	89.4	88.8	88.6	88.5
78	Road vehicles	101.0	101.2	101.1	100.9	101.1	101.0	101.1	101.3	101.3	101.4	101.5	101.6	101.5
87	**Professional, scientific, and controlling instruments and apparatus**	101.7	101.9	101.9	101.5	101.6	101.9	102.2	102.4	102.3	102.2	102.1	102.3	102.4

39. U.S. import price indexes by Standard International Trade Classification

[2000 = 100]

SITC Rev. 3	Industry	2002 Dec.	2003 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	**Food and live animals**	98.8	100.4	100.0	101.2	101.6	99.8	99.4	100.2	99.5	100.0	100.3	100.1	101.0
01	Meat and meat preparations	106.8	101.7	107.4	108.5	108.8	110.3	102.9	106.6	108.2	112.8	115.8	118.6	122.9
03	Fish and crustaceans, mollusks, and other aquatic invertebrates	82.5	81.1	82.0	81.4	84.3	83.4	81.3	83.5	82.3	82.2	79.9	79.2	79.0
05	Vegetables, fruit, and nuts, prepared fresh or dry	105.6	111.5	104.7	110.7	108.5	103.9	108.9	106.9	105.5	105.0	106.3	108.7	108.6
07	Coffee, tea, cocoa, spices, and manufactures thereof	99.9	104.0	106.7	100.2	100.5	99.1	94.8	95.3	96.6	98.6	95.5	93.0	95.3
1	**Beverages and tobacco**	102.7	103.0	103.3	104.0	104.5	104.6	103.9	104.1	104.0	104.0	104.3	104.4	104.4
11	Beverages	102.4	102.3	102.7	103.0	103.6	103.8	103.7	104.0	103.9	103.9	104.2	104.2	104.3
2	**Crude materials, inedible, except fuels**	94.5	95.2	97.4	98.5	98.4	98.8	99.5	100.7	100.5	106.1	104.7	106.1	108.2
24	Cork and wood	94.0	94.7	96.8	95.0	93.4	94.0	94.4	100.1	99.3	113.0	106.2	103.2	108.0
25	Pulp and waste paper	78.9	77.9	80.3	86.5	92.6	95.3	95.3	93.6	91.9	90.4	90.8	92.6	94.3
28	Metalliferous ores and metal scrap	94.7	95.5	99.1	99.9	99.5	99.3	99.7	100.3	102.9	103.7	104.2	108.5	110.3
29	Crude animal and vegetable materials, n.e.s.	101.4	103.6	102.3	102.6	102.3	103.5	104.9	99.4	96.8	95.7	95.1	94.8	99.6
3	**Mineral fuels, lubricants, and related products**	94.9	109.6	121.2	126.0	101.6	96.0	101.7	106.0	106.5	101.5	101.2	103.0	104.8
33	Petroleum, petroleum products, and related materials	94.2	108.1	119.8	118.1	98.6	92.6	97.6	103.4	105.6	99.4	100.0	102.1	103.8
34	Gas, natural and manufactured	97.0	117.8	129.3	185.9	120.5	119.0	130.1	121.5	108.8	114.4	106.2	105.2	108.1
5	**Chemicals and related products, n.e.s.**	98.2	99.1	99.8	101.1	100.4	99.0	100.1	100.0	99.2	99.2	100.1	101.1	101.4
52	Inorganic chemicals	102.5	104.2	106.5	110.8	107.5	105.8	106.4	105.4	106.0	105.4	108.8	111.8	114.8
53	Dying, tanning, and coloring materials	96.7	96.5	97.5	97.6	97.8	98.0	98.0	98.0	98.3	97.7	97.6	98.0	97.9
54	Medicinal and pharmaceutical products	99.2	101.8	101.5	101.3	101.5	101.2	102.5	103.1	102.5	101.9	102.1	103.1	102.9
55	Essential oils; polishing and cleaning preparations	99.2	97.2	97.9	98.4	99.2	98.9	99.4	99.0	91.8	91.6	91.2	91.6	91.5
57	Plastics in primary forms	94.8	97.3	97.9	99.3	99.5	101.7	106.1	104.3	103.1	102.7	105.4	105.3	105.1
58	Plastics in nonprimary forms	99.6	100.2	100.1	100.4	100.6	100.8	100.8	101.3	101.4	101.4	101.4	101.4	101.6
59	Chemical materials and products, n.e.s.	91.6	92.1	93.1	97.6	96.7	93.2	92.3	93.3	91.9	91.8	92.3	93.2	93.3
6	**Manufactured goods classified chiefly by materials**	93.7	93.2	94.2	94.1	94.1	93.7	94.4	94.9	95.4	95.7	96.4	97.3	97.5
62	Rubber manufactures, n.e.s.	99.3	99.1	99.1	99.0	99.2	99.1	99.2	98.6	98.5	98.5	98.5	98.6	98.7
64	Paper, paperboard, and articles of paper, pulp, and paperboard	93.0	92.6	92.6	93.0	93.6	93.2	93.5	93.2	94.9	94.5	94.7	94.2	93.8
66	Nonmetallic mineral manufactures, n.e.s.	97.7	97.6	97.7	97.6	97.6	97.5	97.9	97.9	97.8	97.8	97.9	98.0	98.0
68	Nonferrous metals	77.3	76.1	79.2	80.0	78.5	75.8	78.1	78.0	79.1	80.7	82.0	85.1	87.4
69	Manufactures of metals, n.e.s.	98.3	97.5	98.0	97.9	97.5	97.6	98.3	98.2	98.4	98.5	98.6	99.1	99.4
7	**Machinery and transport equipment**	96.1	96.0	95.9	95.8	95.8	95.7	95.8	95.7	95.6	95.5	95.3	95.4	95.2
72	Machinery specialized for particular industries	99.2	99.4	100.3	100.7	100.6	100.6	101.4	102.6	102.5	102.2	102.5	103.3	103.4
74	General industrial machines and parts, n.e.s., and machine parts	98.6	98.6	99.4	99.8	100.0	100.0	100.8	100.8	100.4	100.2	100.4	100.9	101.1
75	Computer equipment and office machines	84.2	83.9	83.3	82.7	82.8	82.1	81.8	80.6	80.6	80.5	78.6	78.4	78.1
76	Telecommunications and sound recording and reproducing apparatus and equipment	92.0	91.7	90.4	90.0	89.5	89.4	89.3	88.7	88.8	88.6	87.7	87.7	87.6
77	Electrical machinery and equipment	95.6	95.4	95.7	95.3	95.5	95.2	95.4	96.1	96.0	96.0	96.0	96.0	95.3
78	Road vehicles	100.5	100.4	100.6	100.6	100.6	100.7	100.7	100.7	100.7	100.6	101.3	101.4	101.4
85	Footwear	99.6	99.5	99.6	99.8	99.6	99.7	100.0	99.9	99.8	99.9	100.0	100.1	100.2
88	Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.	98.5	98.8	99.2	99.4	99.6	99.3	100.0	100.1	99.6	99.2	99.3	99.8	99.8

40. U.S. export price indexes by end-use category

[2000 = 100]

Category	2002 Dec.	2003 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
ALL COMMODITIES	98.6	98.9	99.5	99.7	99.6	99.7	99.5	99.4	99.4	99.8	100.1	100.6	100.8
Foods, feeds, and beverages	108.7	108.7	108.3	108.2	108.5	111.8	111.3	110.8	109.4	115.3	117.1	121.4	122.7
Agricultural foods, feeds, and beverages	109.5	109.4	108.8	108.1	108.6	112.1	111.2	111.0	109.5	116.3	118.3	122.8	124.1
Nonagricultural (fish, beverages) food products	102.3	102.8	104.6	110.0	108.0	110.2	113.1	109.3	109.5	106.5	105.7	107.7	108.7
Industrial supplies and materials	96.0	97.3	99.2	100.6	100.1	99.4	100.1	99.6	100.0	100.2	101.1	101.6	102.2
Agricultural industrial supplies and materials	101.9	103.3	103.8	104.8	104.6	103.5	104.4	104.7	105.5	107.3	113.4	119.0	117.2
Fuels and lubricants	91.3	96.2	103.8	108.0	96.3	94.5	97.0	97.0	100.4	97.6	97.7	96.7	98.9
Nonagricultural supplies and materials, excluding fuel and building materials	96.4	97.3	98.8	99.9	100.7	100.2	100.7	100.0	100.1	100.5	101.1	101.5	102.1
Selected building materials	96.2	96.1	96.5	96.4	96.6	96.5	96.3	97.5	98.0	98.4	98.8	99.1	99.4
Capital goods	98.1	98.2	98.4	98.3	98.3	98.3	97.6	97.7	97.7	97.5	97.4	97.5	97.6
Electric and electrical generating equipment	101.9	101.9	101.5	101.6	101.5	101.5	101.6	101.8	101.6	101.7	101.6	101.6	101.5
Nonelectrical machinery	95.4	95.4	95.7	95.6	95.6	95.5	94.5	94.6	94.5	94.3	94.1	94.1	94.3
Automotive vehicles, parts, and engines	101.3	101.5	101.6	101.5	101.6	101.5	101.6	101.8	101.8	101.8	101.9	101.9	101.8
Consumer goods, excluding automotive	99.3	99.1	99.4	99.4	99.3	99.4	99.6	99.6	99.4	99.4	99.8	100.0	100.1
Nondurables, manufactured	98.7	98.2	98.9	98.7	98.5	98.5	98.8	98.8	98.7	98.5	98.0	99.4	99.4
Durables, manufactured	99.6	99.5	99.6	99.7	99.8	99.9	100.1	100.2	99.9	100.1	100.3	100.4	100.5
Agricultural commodities	108.2	108.3	107.9	107.5	107.9	110.6	110.0	109.9	108.8	114.7	117.5	122.1	122.9
Nonagricultural commodities	97.8	98.2	98.8	99.1	99.0	98.8	98.7	98.6	98.7	98.6	98.7	98.9	99.1

41. U.S. import price indexes by end-use category

[2000 = 100]

Category	2002 Dec.	2003 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
ALL COMMODITIES	95.2	96.9	98.5	99.1	96.0	95.3	96.2	96.7	96.7	96.2	96.3	96.8	97.0
Foods, feeds, and beverages	100.2	101.3	101.2	102.6	102.5	101.3	100.7	101.5	101.3	101.8	102.0	102.5	103.2
Agricultural foods, feeds, and beverages	106.0	107.9	107.8	109.6	108.9	107.5	107.1	107.7	107.6	108.3	109.0	109.9	110.9
Nonagricultural (fish, beverages) food products	87.5	86.8	87.4	86.9	88.4	87.7	86.6	88.0	87.4	87.6	86.2	96.0	85.8
Industrial supplies and materials	94.6	101.3	107.4	109.7	97.6	95.3	98.2	100.2	100.5	98.9	99.4	100.7	101.9
Fuels and lubricants	94.7	109.1	120.9	125.2	99.3	94.9	100.3	103.9	104.2	99.4	100.0	101.7	103.7
Petroleum and petroleum products	94.0	107.7	119.9	118.6	96.3	91.5	96.4	101.4	103.2	97.2	98.7	100.8	102.6
Paper and paper base stocks	89.1	88.6	89.2	91.0	93.5	94.1	94.1	93.6	94.7	94.0	94.0	94.0	94.1
Materials associated with nondurable supplies and materials	100.1	101.5	102.4	104.2	103.5	102.5	103.0	102.9	102.3	102.5	103.5	104.8	104.9
Selected building materials	95.0	95.6	96.9	96.3	95.4	96.2	96.7	101.8	102.7	110.3	109.4	108.5	107.7
Unfinished metals associated with durable goods	91.5	90.5	93.3	92.8	91.7	89.9	92.2	92.2	92.9	93.4	92.6	96.2	98.6
Nonmetals associated with durable goods	97.1	96.9	97.4	97.9	97.1	97.3	98.2	97.9	97.3	97.5	97.7	98.2	98.3
Capital goods	93.9	93.9	93.8	93.7	93.8	93.6	93.8	93.8	93.6	93.5	93.0	93.2	93.0
Electric and electrical generating equipment	94.9	95.3	95.5	95.5	95.6	96.1	96.6	96.8	96.6	95.8	96.2	96.4	96.4
Nonelectrical machinery	92.8	92.7	92.6	92.5	92.5	92.2	92.3	92.3	92.1	92.1	91.4	91.6	91.3
Automotive vehicles, parts, and engines	100.5	100.3	100.5	100.5	100.5	100.6	100.6	100.6	100.6	100.5	101.2	101.2	101.2
Consumer goods, excluding automotive	98.0	98.0	97.9	97.9	97.9	97.9	98.1	98.1	97.9	97.9	97.8	98.1	98.1
Nondurables, manufactured	99.7	99.7	99.5	99.7	99.9	99.8	99.8	99.9	99.8	99.7	99.7	100.1	100.1
Durables, manufactured	96.5	96.4	96.4	96.2	96.1	96.2	96.5	96.3	96.2	96.2	96.0	96.2	96.2
Nonmanufactured consumer goods	95.4	95.5	95.5	95.7	95.6	95.6	95.2	95.7	95.6	95.7	95.8	95.9	96.2

42. U.S. international price Indexes for selected categories of services

[2000 = 100]

Category	2001 Dec.	2002 Mar.	June	Sept.	Dec.	2003 Mar.	June	Sept.	Dec.
Air freight (inbound)	95.2	93.9	98.3	100.3	105.9	108.8	109.4	112.5	112.9
Air freight (outbound)	97.9	95.9	98.4	97.3	95.4	97.2	95.4	95.5	94.7
Air passenger fares (U.S. carriers)	103.5	103.3	110.7	114.3	107.9	112.0	119.3	119.7	118.2
Air passenger fares (foreign carriers)	100.8	99.4	110.9	118.5	107.2	111.7	123.2	124.9	116.4
Ocean liner freight (inbound)	93.6	91.7	90.3	93.5	93.3	94.0	116.1	116.2	117.7

43. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	2000	2001				2002				2003			
	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Business													
Output per hour of all persons	116.9	116.8	117.8	118.2	120.3	122.7	123.2	124.7	125.1	126.1	128.2	130.9	131.5
Compensation per hour	136.3	138.1	139.2	140.2	141.4	141.7	142.6	147.9	148.2	145.0	146.9	147.9	148.2
Real compensation per hour	112.0	112.5	112.4	112.9	114.1	114.0	113.7	113.5	113.3	113.4	114.7	114.8	114.8
Unit labor costs	116.5	118.2	118.2	118.6	117.6	115.5	115.7	114.7	114.7	115.1	114.6	112.9	112.7
Unit nonlabor payments	107.9	107.1	109.6	109.4	112.0	115.0	115.8	117.9	119.4	120.0	121.6	125.3	126.6
Implicit price deflator	113.3	114.1	115.0	115.2	115.5	115.3	115.7	115.9	116.5	116.9	117.2	117.6	117.9
Nonfarm business													
Output per hour of all persons	116.4	116.3	117.3	117.8	119.7	122.5	122.8	124.1	124.6	125.6	127.5	130.4	131.3
Compensation per hour	135.6	137.4	138.3	139.3	140.6	141.0	141.9	142.3	142.8	144.1	145.8	147.0	147.5
Real compensation per hour	111.4	111.9	111.7	112.3	113.5	113.4	113.1	112.9	112.7	112.7	113.8	114.1	114.2
Unit labor costs	116.5	118.1	117.9	118.3	117.5	115.1	115.6	114.6	114.6	114.8	114.4	112.7	112.4
Unit nonlabor payments	109.5	108.7	111.2	111.0	113.4	116.9	117.6	119.9	121.4	122.3	123.5	127.2	128.1
Implicit price deflator	113.9	114.6	115.5	115.6	116.0	115.8	116.3	116.6	117.1	117.5	117.7	118.1	118.2
Nonfinancial corporations													
Output per hour of all employees	121.3	121.3	121.9	122.7	124.9	126.3	128.2	129.7	131.0	131.7	134.7	137.5	–
Compensation per hour	134.1	135.0	136.3	137.7	138.9	138.0	139.5	140.5	141.6	142.8	144.7	146.0	–
Real compensation per hour	110.2	109.9	110.1	111.0	112.1	111.0	111.3	111.5	111.8	111.6	113.0	113.4	–
Total unit costs	109.7	110.5	111.3	112.0	111.3	111.0	109.6	109.2	109.0	109.0	107.6	106.6	–
Unit labor costs	110.6	111.3	111.8	112.2	111.2	109.3	108.8	108.3	108.1	108.4	107.4	106.2	–
Unit nonlabor costs	107.1	108.2	109.8	111.3	111.4	111.9	111.5	111.5	111.3	110.7	108.0	107.6	–
Unit profits	97.6	90.9	91.2	87.2	96.4	105.3	112.3	111.8	116.2	114.0	130.7	143.7	–
Unit nonlabor payments	104.6	103.6	104.8	104.9	107.4	110.1	111.7	111.6	112.6	111.6	114.1	117.3	–
Implicit price deflator	108.6	108.7	109.5	109.8	109.9	109.5	109.8	109.4	109.6	109.5	109.6	109.9	–
Manufacturing													
Output per hour of all persons	135.3	134.8	136.2	137.5	140.5	143.8	146.0	148.1	148.4	149.9	150.8	154.4	156.2
Compensation per hour	137.1	138.5	137.6	137.3	139.6	140.9	143.0	144.2	145.4	147.5	149.3	151.1	151.6
Real compensation per hour	112.6	112.8	111.1	110.9	112.6	113.3	114.1	114.4	114.8	115.3	116.6	117.3	117.5
Unit labor costs	101.3	102.7	101.0	100.1	99.4	98.0	97.9	97.4	98.0	98.4	99.0	97.9	97.1

44. Annual indexes of multifactor productivity and related measures, selected years

[1996 = 100]

Item	1980	1990	1991	1992	1993	1994	1995	1997	1998	1999	2000	2001
Private business												
Productivity:												
Output per hour of all persons	75.8	90.2	91.3	94.8	95.4	96.6	97.3	102.2	105.0	107.7	111.0	112.4
Output per unit of capital services	103.3	99.7	96.5	98.0	98.7	100.4	99.8	100.3	99.3	98.2	96.6	92.8
Multifactor productivity	88.8	95.5	94.5	96.7	97.1	98.2	98.4	101.2	102.5	103.4	105.0	103.9
Output	59.4	83.6	82.6	85.7	88.5	92.8	95.8	105.2	110.5	115.7	120.4	120.2
Inputs:												
Labor input	71.9	89.4	88.3	89.3	91.8	95.6	98.0	103.5	106.1	109.0	110.1	109.5
Capital services	57.6	83.8	85.7	87.5	89.7	92.5	96.0	104.9	111.3	117.9	124.5	129.6
Combined units of labor and capital input	67.0	87.5	87.4	88.7	91.1	94.6	97.3	104.0	107.9	110.9	114.7	115.7
Capital per hour of all persons	73.4	90.4	94.6	96.8	96.6	96.2	97.5	101.9	105.8	109.7	114.8	121.1
Private nonfarm business												
Productivity:												
Output per hour of all persons	77.3	90.3	91.4	94.8	95.3	96.5	97.5	102.0	104.7	107.1	110.3	111.6
Output per unit of capital services	107.6	100.4	97.0	98.2	99.0	100.4	100.0	100.0	99.0	97.6	95.9	92.0
Multifactor productivity	91.0	95.8	94.8	96.7	97.2	98.2	98.6	101.0	102.2	102.9	104.4	103.3
Output	59.6	83.5	82.5	85.5	88.4	92.6	95.8	105.1	110.5	115.7	120.2	120.1
Inputs:												
Labor input	70.7	89.2	87.9	89.0	91.8	95.4	97.8	103.6	106.4	109.5	110.6	110.1
Capital services	55.4	83.2	85.1	87.0	89.4	92.2	95.8	105.1	111.7	118.5	125.4	130.5
Combined units of labor and capital input	65.9	87.2	87.0	88.4	91.0	94.5	97.2	104.1	108.1	112.4	115.2	116.3
Capital per hour of all persons	71.8	89.9	94.3	96.5	96.3	96.1	97.6	101.9	105.8	109.7	115.0	121.3
Manufacturing												
Productivity:												
Output per hour of all persons	62.0	82.2	84.1	88.6	90.2	93.0	96.5	103.8	108.9	114.9	118.3	119.7
Output per unit of capital services	97.2	97.5	93.6	95.9	96.9	99.7	100.6	101.4	101.7	101.7	101.0	95.1
Multifactor productivity	81.2	93.3	92.4	94.0	95.1	97.3	99.2	103.4	105.7	108.7	110.3	110.3
Output	64.3	83.2	81.5	85.5	88.3	92.4	96.9	105.6	110.5	114.7	117.4	112.1
Inputs:												
Hours of all persons	103.7	101.1	96.9	96.5	97.8	99.9	100.4	101.7	101.5	100.7	99.2	99.6
Capital services	66.1	85.3	87.1	89.1	91.1	93.2	96.4	104.1	108.7	112.8	116.2	117.9
Energy	86.1	93.1	93.2	93.1	96.6	99.9	102.3	97.5	100.6	102.9	104.3	98.9
Nonenergy materials	63.9	77.5	78.5	83.5	86.1	90.3	93.1	101.9	107.5	107.9	106.9	105.5
Purchased business services	65.8	84.7	84.6	92.0	92.9	96.0	100.4	103.9	103.1	105.4	106.5	97.7
Combined units of all factor inputs	79.2	89.1	88.3	90.9	92.8	95.5	97.7	102.4	104.6	105.5	105.5	101.6

44. Annual indexes of multifactor productivity and related measures, selected years

[1996 = 100]

Item	1980	1990	1991	1992	1993	1994	1995	1997	1998	1999	2000	2001
Private business												
Productivity:												
Output per hour of all persons	75.8	90.2	91.3	94.8	95.4	96.6	97.3	102.2	105.0	107.7	111.0	112.4
Output per unit of capital services	103.3	99.7	96.5	98.0	98.7	100.4	99.8	100.3	99.3	98.2	96.6	92.8
Multifactor productivity	88.8	95.5	94.5	96.7	97.1	98.2	98.4	101.2	102.5	103.4	105.0	103.9
Output	59.4	83.6	82.6	85.7	88.5	92.8	95.8	105.2	110.5	115.7	120.4	120.2
Inputs:												
Labor input	71.9	89.4	88.3	89.3	91.8	95.6	98.0	103.5	106.1	109.0	110.1	109.5
Capital services	57.6	83.8	85.7	87.5	89.7	92.5	96.0	104.9	111.3	117.9	124.5	129.6
Combined units of labor and capital input	67.0	87.5	87.4	88.7	91.1	94.6	97.3	104.0	107.9	110.9	114.7	115.7
Capital per hour of all persons	73.4	90.4	94.6	96.8	96.6	96.2	97.5	101.9	105.8	109.7	114.8	121.1
Private nonfarm business												
Productivity:												
Output per hour of all persons	77.3	90.3	91.4	94.8	95.3	96.5	97.5	102.0	104.7	107.1	110.3	111.6
Output per unit of capital services	107.6	100.4	97.0	98.2	99.0	100.4	100.0	100.0	99.0	97.6	95.9	92.0
Multifactor productivity	91.0	95.8	94.8	96.7	97.2	98.2	98.6	101.0	102.2	102.9	104.4	103.3
Output	59.6	83.5	82.5	85.5	88.4	92.6	95.8	105.1	110.5	115.7	120.2	120.1
Inputs:												
Labor input	70.7	89.2	87.9	89.0	91.8	95.4	97.8	103.6	106.4	109.5	110.6	110.1
Capital services	55.4	83.2	85.1	87.0	89.4	92.2	95.8	105.1	111.7	118.5	125.4	130.5
Combined units of labor and capital input	65.9	87.2	87.0	88.4	91.0	94.5	97.2	104.1	108.1	112.4	115.2	116.3
Capital per hour of all persons	71.8	89.9	94.3	96.5	96.3	96.1	97.6	101.9	105.8	109.7	115.0	121.3
Manufacturing												
Productivity:												
Output per hour of all persons	62.0	82.2	84.1	88.6	90.2	93.0	96.5	103.8	108.9	114.9	118.3	119.7
Output per unit of capital services	97.2	97.5	93.6	95.9	96.9	99.7	100.6	101.4	101.7	101.7	101.0	95.1
Multifactor productivity	81.2	93.3	92.4	94.0	95.1	97.3	99.2	103.4	105.7	108.7	110.3	110.3
Output	64.3	83.2	81.5	85.5	88.3	92.4	96.9	105.6	110.5	114.7	117.4	112.1
Inputs:												
Hours of all persons	103.7	101.1	96.9	96.5	97.8	99.9	100.4	101.7	101.5	100.7	99.2	99.6
Capital services	66.1	85.3	87.1	89.1	91.1	93.2	96.4	104.1	108.7	112.8	116.2	117.9
Energy	86.1	93.1	93.2	93.1	96.6	99.9	102.3	97.5	100.6	102.9	104.3	98.9
Nonenergy materials	63.9	77.5	78.5	83.5	86.1	90.3	93.1	101.9	107.5	107.9	106.9	105.5
Purchased business services	65.8	84.7	84.6	92.0	92.9	96.0	100.4	103.9	103.1	105.4	106.5	97.7
Combined units of all factor inputs	79.2	89.1	88.3	90.9	92.8	95.5	97.7	102.4	104.6	105.5	105.5	101.6

46. Annual indexes of output per hour for selected NAICS industries, 1990-2001

[1997=100]

NAICS	Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	Mining												
21	Mining	86.1	86.9	95.4	96.3	99.6	101.8	101.8	100.0	103.5	111.1	109.2	107.4
211	Oil and gas extraction	78.4	78.8	81.9	85.1	90.3	95.5	98.9	100.0	101.6	107.9	114.5	116.6
212	Mining, except oil and gas	79.3	80.0	86.8	89.9	93.0	94.0	96.0	100.0	104.6	105.9	106.8	109.0
2121	Coal mining	68.1	69.3	75.3	79.9	83.9	88.2	94.9	100.0	106.5	110.3	115.8	114.4
2122	Metal ore mining	79.9	82.7	91.7	102.2	104.1	98.5	95.3	100.0	109.5	112.7	124.4	131.8
2123	Nonmetallic mineral mining and quarrying	92.3	89.5	96.1	93.6	96.9	97.3	97.1	100.0	101.2	101.2	96.2	99.4
	Utilities												
2211	Power generation and supply	71.2	73.8	74.1	78.7	83.0	88.6	95.5	100.0	103.8	104.1	107.0	106.4
2212	Natural gas distribution	71.4	72.7	75.8	79.8	82.2	89.0	96.1	100.0	99.1	103.1	113.4	110.2
	Manufacturing												
3111	Animal food	90.1	89.3	90.2	90.2	87.3	94.0	87.5	100.0	109.4	109.5	109.7	127.2
3112	Grain and oilseed milling	89.0	91.3	91.2	94.0	94.8	99.1	91.4	100.0	107.6	114.1	112.5	117.4
3113	Sugar and confectionery products	91.0	93.8	90.6	92.6	93.9	94.2	98.3	100.0	104.0	107.2	112.1	109.8
3114	Fruit and vegetable preserving and specialty	86.4	89.7	90.7	93.9	95.0	97.2	98.2	100.0	106.8	108.5	109.9	117.2
3115	Dairy products	90.9	92.1	95.5	94.0	95.5	99.0	98.2	100.0	99.2	94.5	96.1	96.3
3116	Animal slaughtering and processing	94.6	97.0	101.6	101.0	97.6	98.7	94.4	100.0	99.9	100.4	101.9	102.8
3117	Seafood product preparation and packaging	117.5	112.0	115.3	113.9	114.1	108.4	116.2	100.0	117.0	130.2	137.6	147.3
3118	Bakeries and tortilla manufacturing	92.6	92.2	95.4	96.0	96.7	99.7	97.8	100.0	103.6	105.5	105.2	106.2
3119	Other food products	92.0	93.6	96.0	102.9	100.3	101.2	103.1	100.0	107.0	108.8	110.3	103.4
3121	Beverages	86.5	90.0	93.7	93.1	97.7	99.6	101.2	100.0	98.6	92.4	90.7	91.8
3122	Tobacco and tobacco products	81.4	77.3	79.6	73.7	89.8	97.5	99.4	100.0	98.1	92.1	98.0	100.0
3131	Fiber, yarn, and thread mills	73.9	74.7	80.1	84.6	87.2	92.0	98.7	100.0	102.2	104.6	102.6	110.5
3132	Fabric mills	75.0	77.7	81.5	85.0	91.9	95.8	98.0	100.0	103.9	109.8	110.2	109.1
3133	Textile and fabric finishing mills	81.7	80.4	83.7	86.0	87.8	84.5	85.0	100.0	100.6	101.7	104.0	109.7
3141	Textile furnishings mills	88.1	88.6	92.8	93.7	90.0	92.5	93.2	100.0	99.9	101.2	106.6	106.9
3149	Other textile product mills	91.1	89.9	92.0	90.2	94.7	95.8	96.3	100.0	97.0	110.5	110.5	105.0
3151	Apparel knitting mills	85.6	88.7	93.5	102.6	104.5	109.5	122.0	100.0	96.6	102.0	110.4	108.2
3152	Cut and sew apparel	70.1	72.0	73.2	76.6	80.4	85.5	90.7	100.0	104.0	118.8	127.8	131.8
3159	Accessories and other apparel	100.9	97.3	98.7	99.0	104.6	112.4	112.6	100.0	110.8	103.3	104.9	114.8
3161	Leather and hide tanning and finishing	60.8	56.6	76.7	83.1	75.9	78.6	91.5	100.0	98.0	101.6	110.0	109.7
3162	Footwear	77.1	74.7	83.1	81.7	90.4	95.6	103.4	100.0	100.9	116.8	124.1	142.7
3169	Other leather products	102.5	100.2	97.0	94.3	80.0	73.2	79.7	100.0	109.2	100.4	107.6	114.1
3211	Sawmills and wood preservation	79.2	81.6	86.1	82.6	85.1	91.0	96.2	100.0	100.8	105.4	106.5	109.0
3212	Plywood and engineered wood products	102.3	107.4	114.7	109.1	105.8	101.8	101.2	100.0	105.6	99.9	100.6	104.8
3219	Other wood products	105.4	104.7	104.2	103.0	99.2	100.3	100.7	100.0	101.6	105.3	104.0	104.7
3221	Pulp, paper, and paperboard mills	88.5	88.1	92.2	92.6	97.4	101.9	97.4	100.0	103.0	111.3	115.6	117.2
3222	Converted paper products	90.4	93.5	93.5	96.3	97.5	97.0	98.2	100.0	102.5	101.5	101.8	100.9
3231	Printing and related support activities	96.7	95.4	101.4	100.2	98.4	98.8	99.6	100.0	100.5	103.5	105.0	105.7
3241	Petroleum and coal products	76.7	75.8	79.1	84.6	85.7	90.2	94.8	100.0	102.2	108.0	113.2	112.2
3251	Basic chemicals	91.5	90.2	89.5	90.0	95.2	92.4	90.1	100.0	102.7	114.8	118.4	111.0
3252	Resin, rubber, and artificial fibers	75.7	74.8	80.7	83.8	93.4	95.9	93.3	100.0	105.4	108.9	108.1	103.8
3253	Agricultural chemicals	84.6	81.0	81.3	85.6	87.4	90.7	92.1	100.0	98.8	87.6	91.4	91.1
3254	Pharmaceuticals and medicines	91.4	92.7	88.1	88.1	92.4	96.3	99.9	100.0	92.9	94.6	93.4	97.3
3255	Paints, coatings, and adhesives	85.1	85.9	87.6	90.9	94.1	92.7	98.3	100.0	99.1	98.8	98.5	102.1
3256	Soap, cleaning compounds, and toiletries	83.2	84.2	83.4	87.0	88.6	93.9	95.7	100.0	96.6	91.2	99.3	102.6
3259	Other chemical products and preparations	76.6	78.0	84.7	90.6	92.6	94.4	94.2	100.0	99.4	109.2	120.0	111.3
3261	Plastics products	84.7	86.3	90.4	91.7	94.4	94.4	97.0	100.0	103.4	109.3	111.3	113.1
3262	Rubber products	83.0	83.9	84.8	90.3	90.2	92.9	94.3	100.0	100.5	101.4	103.8	104.1
3271	Clay products and refractories	89.2	87.4	91.5	91.8	96.6	97.3	102.7	100.0	101.1	103.4	103.5	97.6
3272	Glass and glass products	80.0	79.3	84.5	86.1	87.6	88.7	96.7	100.0	102.6	108.6	109.8	105.2
3273	Cement and concrete products	95.0	93.7	94.9	96.5	95.0	98.2	100.6	100.0	103.4	104.3	100.4	97.1
3274	Lime and gypsum products	84.1	82.7	88.5	90.1	87.8	88.8	92.4	100.0	113.1	102.7	97.0	100.1
3279	Other nonmetallic mineral products	79.8	81.4	90.2	89.3	90.5	91.7	96.5	100.0	98.8	95.5	95.6	96.8
3311	Iron and steel mills and ferroalloy production	69.6	67.2	74.1	81.7	87.2	89.7	94.1	100.0	101.7	106.5	108.5	106.7
3312	Steel products from purchased stee	83.7	86.2	89.6	95.8	100.0	100.2	100.2	100.0	100.2	94.0	96.1	97.0
3313	Alumina and aluminum production	91.9	93.3	96.8	96.0	100.3	96.8	95.9	100.0	101.1	104.3	97.8	96.9
3314	Other nonferrous metal production	95.7	95.8	98.7	101.8	105.1	103.0	105.6	100.0	111.1	108.8	103.1	100.5
3315	Foundries	85.1	84.4	85.7	89.7	91.4	93.1	96.2	100.0	101.5	104.7	103.8	109.4
3321	Forging and stamping	88.6	86.5	91.7	94.6	93.7	94.2	97.6	100.0	103.7	110.9	121.3	121.8
3322	Cutlery and hand tools	85.1	85.4	87.2	91.7	94.4	97.8	104.4	100.0	100.0	107.8	105.8	110.2
3323	Architectural and structural metals	87.8	89.2	92.6	93.4	95.1	93.8	94.2	100.0	101.0	101.8	101.0	100.7
3324	Boilers, tanks, and shipping containers	90.4	92.6	95.3	94.8	100.5	97.8	100.7	100.0	101.3	98.9	97.7	98.2
3325	Hardware	84.4	83.8	86.9	89.6	95.7	97.3	102.6	100.0	101.0	106.5	115.8	114.6
3326	Spring and wire products	85.2	88.4	90.9	95.3	91.5	99.5	102.8	100.0	111.6	112.9	114.6	110.6
3327	Machine shops and threaded products	78.8	79.6	87.2	86.9	91.5	98.8	100.0	100.0	99.3	103.8	107.3	107.4

See note at end of table.

46. Continued—Annual indexes of output per hour for selected NAICS industries, 1990–2001

[1997 = 100]

NAICS	Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
3328	Coating, engraving, and heat treating metals	81.6	77.9	86.7	91.7	96.4	102.6	102.8	100.0	101.5	101.3	105.8	104.7
3329	Other fabricated metal products	86.6	85.9	90.5	92.0	94.9	97.0	98.7	100.0	102.2	100.2	100.7	98.0
3331	Agriculture, construction, and mining machinery	82.9	77.3	79.6	84.1	91.0	95.7	96.0	100.0	104.3	95.1	101.2	99.5
3332	Industrial machinery	80.6	81.1	79.5	84.9	90.0	97.9	98.8	100.0	94.4	105.2	129.7	104.6
3333	Commercial and service industry machinery	91.6	89.8	96.6	101.9	101.2	103.2	106.5	100.0	107.8	111.3	101.6	94.4
3334	HVAC and commercial refrigeration equipment	88.8	88.2	90.8	93.8	97.3	96.6	97.8	100.0	106.6	110.4	108.3	110.8
3335	Metalworking machinery	85.3	82.2	89.3	89.2	93.9	98.9	98.1	100.0	99.0	100.4	106.4	102.0
3336	Turbine and power transmission equipment	85.0	84.4	81.2	84.7	93.2	92.0	97.8	100.0	106.4	113.2	116.9	130.1
3339	Other general purpose machinery	86.0	85.2	85.2	89.9	91.5	94.5	95.0	100.0	103.1	105.6	113.0	109.4
3341	Computer and peripheral equipment	14.3	15.8	20.6	27.9	35.9	51.2	72.6	100.0	138.7	190.3	225.2	237.0
3342	Communications equipment	47.3	49.3	59.3	62.1	70.1	74.6	84.3	100.0	102.7	134.0	165.5	155.2
3343	Audio and video equipment	75.5	82.8	92.1	98.8	108.5	140.0	104.7	100.0	103.1	116.2	123.3	126.3
3344	Semiconductors and electronic components	21.4	24.5	29.6	34.1	43.1	63.4	81.8	100.0	125.3	174.5	233.3	231.6
3345	Electronic instruments	76.0	80.4	83.0	85.8	88.8	96.7	97.6	100.0	101.3	105.0	114.2	116.0
3346	Magnetic media manufacturing and reproduction	86.6	91.2	93.0	96.8	106.1	106.7	103.8	100.0	105.4	106.8	104.0	98.6
3351	Electric lighting equipment	87.2	88.4	93.7	90.7	94.5	92.1	95.4	100.0	103.7	102.4	101.8	105.4
3352	Household appliances	76.5	76.6	82.4	89.0	95.1	92.8	93.3	100.0	105.2	104.4	117.6	122.6
3353	Electrical equipment	73.5	72.7	78.7	85.7	88.9	98.0	100.1	100.0	99.6	98.8	100.6	100.9
3359	Other electrical equipment and components	75.3	74.3	81.7	86.9	89.5	92.1	95.9	100.0	105.6	115.1	120.6	113.7
3361	Motor vehicles	86.0	82.4	91.2	89.8	90.2	88.6	91.0	100.0	113.2	123.2	110.4	108.9
3362	Motor vehicle bodies and trailers	75.9	71.7	88.2	96.3	97.8	97.2	98.5	100.0	102.5	103.2	98.6	99.4
3363	Motor vehicle parts	75.7	74.7	82.6	88.6	91.8	92.4	93.1	100.0	104.8	110.5	112.6	114.7
3364	Aerospace products and parts	87.7	92.0	94.0	98.1	93.7	93.7	98.0	100.0	118.5	118.1	101.0	114.8
3365	Railroad rolling stock	77.2	80.0	81.1	82.3	83.1	82.0	80.9	100.0	102.9	116.0	117.7	124.7
3366	Ship and boat building	99.7	92.7	98.6	101.4	99.0	93.2	94.1	100.0	100.3	112.3	120.1	119.9
3369	Other transportation equipment	62.6	62.1	88.3	99.7	93.3	92.8	99.8	100.0	110.6	113.1	131.0	146.9
3371	Household and institutional furniture	87.7	88.1	92.8	93.7	93.9	97.0	99.4	100.0	102.5	103.5	102.6	106.1
3372	Office furniture and fixtures	80.9	78.8	86.3	88.0	83.4	84.5	85.6	100.0	100.3	98.5	100.2	97.1
3379	Other furniture-related products	88.1	88.6	88.4	90.5	93.6	94.5	96.7	100.0	107.2	102.5	100.1	105.3
3391	Medical equipment and supplies	81.2	83.1	88.1	91.1	90.8	95.0	100.0	100.0	108.9	109.6	114.2	119.0
3399	Other miscellaneous manufacturing	90.2	90.7	90.0	92.3	93.1	96.0	99.6	100.0	102.1	105.3	113.1	110.9
	Wholesale trade												
42	Wholesale trade	78.3	79.5	86.5	89.6	91.4	93.1	95.9	100.0	104.8	111.6	114.7	116.6
423	Durable goods	65.6	66.1	75.0	80.4	84.2	88.5	93.5	100.0	106.3	116.6	121.2	119.7
4231	Motor vehicles and parts	76.6	73.3	82.2	88.0	94.1	93.6	94.9	100.0	104.7	119.8	114.0	114.1
4232	Furniture and furnishings	82.4	87.2	92.0	95.9	93.3	96.8	97.0	100.0	97.5	100.8	105.5	105.4
4233	Lumber and construction supplies	115.0	113.2	119.6	113.9	112.0	103.6	102.9	100.0	102.9	104.9	101.7	108.6
4234	Commercial equipment	32.7	36.1	46.6	54.3	58.4	72.1	85.3	100.0	122.4	150.2	160.6	158.9
4235	Metals and minerals	108.1	109.1	116.0	117.4	114.3	103.8	104.0	100.0	102.4	96.0	99.1	101.9
4236	Electric goods	47.4	48.2	51.9	59.6	68.6	79.6	88.0	100.0	105.9	126.2	151.7	148.1
4237	Hardware and plumbing	96.3	93.3	102.6	99.8	105.8	101.0	100.6	100.0	103.5	107.8	111.1	102.6
4238	Machinery and supplies	76.2	72.0	77.8	82.6	84.1	88.8	93.4	100.0	104.2	101.4	104.1	102.7
4239	Miscellaneous durable goods	91.8	98.7	114.1	114.9	107.3	100.0	101.4	100.0	101.8	112.6	116.7	116.1
424	Nondurable goods	98.2	99.6	103.0	102.8	101.6	99.6	99.2	100.0	102.8	104.1	103.5	106.9
4241	Paper and paper products	81.3	85.7	96.8	97.5	101.7	99.1	96.6	100.0	100.5	105.6	105.5	109.0
4242	Druggists' goods	84.7	89.2	93.9	90.9	94.2	96.4	98.8	100.0	99.6	101.7	96.8	101.2
4243	Apparel and piece goods	104.9	104.2	100.7	98.2	104.2	92.5	99.1	100.0	104.1	103.5	102.6	102.4
4244	Grocery and related products	96.6	98.4	103.8	105.2	103.3	103.0	99.9	100.0	101.9	103.6	105.2	109.4
4245	Farm product raw materials	75.9	80.9	80.9	80.0	77.5	85.7	89.6	100.0	100.4	114.3	119.0	120.1
4246	Chemicals	107.3	106.7	112.6	110.1	110.6	102.2	100.1	100.0	99.3	98.0	95.8	93.7
4247	Petroleum	97.4	107.1	118.3	119.2	115.9	108.7	105.9	100.0	115.0	112.0	108.9	108.4
4248	Alcoholic beverages	109.4	111.2	107.4	105.5	105.9	102.4	104.4	100.0	109.6	110.0	111.0	111.5
4249	Miscellaneous nondurable goods	107.2	98.1	93.8	97.5	94.8	96.1	98.7	100.0	101.7	99.6	106.2	104.2
42511	Business to business electronic markets	69.2	70.7	78.5	83.1	86.8	89.1	94.3	100.0	104.3	123.4	143.3	168.9
42512	Wholesale trade agents and brokers	71.2	74.5	83.5	87.3	89.2	92.9	97.8	100.0	104.9	110.5	116.5	114.2
	Retail trade												
44-45	Retail trade	83.8	84.0	87.5	90.2	93.5	95.0	98.0	100.0	104.3	110.0	114.4	117.4
441	Motor vehicle and parts dealers	90.1	88.8	92.9	94.2	97.1	97.2	98.9	100.0	102.6	106.4	107.4	109.1
4411	Automobile dealers	91.9	90.7	94.6	95.8	97.9	97.1	98.9	100.0	102.6	106.4	106.9	108.0
4412	Other motor vehicle dealers	72.7	75.6	82.6	87.7	92.9	93.0	98.6	100.0	106.0	113.0	108.6	112.4
4413	Auto parts, accessories, and tire stores	87.3	86.3	91.4	92.4	97.0	99.0	98.8	100.0	105.7	110.0	112.0	109.3
442	Furniture and home furnishings stores	81.3	81.7	88.8	88.9	90.8	94.4	99.5	100.0	101.7	109.5	115.5	116.5
4421	Furniture stores	82.1	83.5	88.9	89.0	88.9	92.5	97.8	100.0	102.1	108.2	114.8	119.2
4422	Home furnishings stores	79.9	79.0	88.4	88.5	93.2	96.6	101.7	100.0	101.3	111.2	116.6	113.5
443	Electronics and appliance stores	45.1	48.4	56.1	64.7	77.0	88.8	94.7	100.0	123.8	153.6	180.1	202.7
444	Building material and garden supply stores	82.3	80.7	84.6	88.5	94.2	94.1	97.8	100.0	106.7	112.2	113.1	115.7

See note at end of table.

46. Continued—Annual indexes of output per hour for selected NAICS industries, 1990-2001

[1997=100]

NAICS	Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
4441	Building material and supplies dealers	83.6	81.1	85.2	89.6	95.3	95.1	97.8	100.0	107.6	113.5	113.8	115.2
4442	Lawn and garden equipment and supplies stores	75.6	78.6	81.5	82.6	87.7	87.7	97.6	100.0	101.3	103.7	108.5	119.7
445	Food and beverage stores	108.8	108.3	108.8	106.8	105.3	103.1	100.7	100.0	99.9	103.6	105.1	107.7
4451	Grocery stores	107.9	108.0	108.4	107.0	105.7	103.5	101.0	100.0	100.3	104.3	104.9	107.5
4452	Specialty food stores	141.4	132.3	128.7	121.0	114.1	107.3	98.3	100.0	94.7	99.4	105.3	110.8
4453	Beer, wine and liquor stores	100.1	100.2	101.0	94.4	92.9	96.2	103.1	100.0	105.8	99.8	111.1	110.4
446	Health and personal care stores	92.9	92.3	91.3	92.6	92.3	93.1	95.7	100.0	103.9	106.9	111.5	112.4
447	Gasoline stations	88.5	89.3	92.2	95.9	99.1	101.5	100.3	100.0	105.6	110.6	106.5	110.0
448	Clothing and clothing accessories stores	70.2	71.1	75.9	79.4	83.7	91.6	98.1	100.0	105.4	112.9	120.3	123.7
4481	Clothing stores	69.8	72.2	78.0	80.0	82.5	90.7	97.4	100.0	106.7	113.4	120.9	125.3
4482	Shoe stores	73.7	73.1	78.2	79.2	88.3	93.7	102.4	100.0	97.8	104.9	109.6	115.8
4483	Jewelry, luggage, and leather goods stores	68.6	64.5	65.0	77.1	85.0	94.1	97.3	100.0	107.7	119.2	128.6	124.1
451	Sporting goods, hobby, book, and music stores	81.2	86.1	84.1	84.7	88.4	92.7	95.4	100.0	108.2	114.1	120.8	124.4
4511	Sporting goods and musical instrument stores	79.6	85.6	82.4	83.0	86.8	92.3	93.9	100.0	112.2	119.6	129.2	131.4
4512	Book, periodical, and music stores	84.4	86.8	87.4	88.1	91.4	93.5	98.2	100.0	101.2	104.1	105.7	110.8
452	General merchandise stores	75.3	79.0	83.0	88.5	90.6	92.1	96.9	100.0	105.1	113.0	120.1	124.3
4521	Department stores	84.1	88.3	91.6	95.0	95.1	94.5	98.3	100.0	100.8	104.3	106.5	104.1
4529	Other general merchandise stores	61.5	64.8	69.6	77.9	82.7	87.5	94.5	100.0	113.5	129.6	146.2	162.6
453	Miscellaneous store retailers	68.0	65.4	74.0	80.4	87.8	89.5	95.6	100.0	106.8	107.7	109.2	107.7
4531	Florists	75.2	76.0	85.1	91.4	85.4	83.5	96.1	100.0	101.2	117.3	115.6	121.1
4532	Office supplies, stationery and gift stores	62.0	63.5	71.8	77.9	89.2	90.9	93.4	100.0	111.1	114.6	122.0	136.1
4533	Used merchandise stores	80.8	79.0	87.8	88.6	86.9	89.9	96.9	100.0	111.3	105.9	112.6	103.6
4539	Other miscellaneous store retailers	75.7	65.9	74.5	81.4	90.3	90.6	97.8	100.0	103.6	100.3	97.2	84.4
454	Nonstore retailers	55.3	56.2	62.2	66.5	75.3	80.1	91.5	100.0	113.4	126.6	155.0	161.8
4541	Electronic shopping and mail-order houses	43.5	46.7	50.6	58.3	62.9	71.9	84.4	100.0	118.2	141.5	159.8	177.5
4542	Vending machine operators	97.6	95.8	95.1	92.8	94.1	89.3	96.9	100.0	114.1	119.8	131.2	115.0
4543	Direct selling establishments	83.2	80.0	87.4	87.2	99.9	98.4	105.4	100.0	96.7	92.2	110.0	105.5
	Transportation and warehousing												
481	Air transportation	77.5	78.2	81.4	84.7	90.8	95.3	98.8	100.0	97.6	98.2	98.2	91.9
482111	Line-haul railroads	69.8	75.3	82.3	85.7	88.6	92.0	98.4	100.0	102.1	107.5	115.4	123.1
48412	General freight trucking, long-distance	88.5	92.5	97.5	95.6	98.1	95.4	95.7	100.0	99.1	102.1	105.2	103.3
491	U.S. Postal service	96.1	95.8	96.5	99.0	98.5	98.3	96.7	100.0	101.4	102.4	104.9	106.1
	Information												
5111	Newspaper, book, and directory publishers	97.2	95.8	95.3	94.9	92.8	93.3	92.8	100.0	105.1	109.4	110.3	107.6
5112	Software publishers	41.3	44.2	61.6	68.5	79.1	83.2	93.7	100.0	115.7	115.5	111.1	109.4
51213	Motion picture and video exhibition	113.5	113.0	108.2	107.8	105.8	101.5	100.8	100.0	99.8	102.0	106.5	104.6
5151	Radio and television broadcasting	100.9	101.1	103.2	102.4	106.1	106.3	103.1	100.0	100.6	101.8	103.4	98.2
5152	Cable and other subscription programming	102.1	97.6	99.3	96.8	95.4	98.1	96.2	100.0	100.1	99.4	95.9	91.7
5171	Wired telecommunications carriers	65.5	70.8	76.8	81.7	85.8	90.6	97.5	100.0	106.9	114.6	122.3	124.3
5172	Wireless telecommunications carriers	76.0	73.5	85.6	94.8	97.1	98.3	103.0	100.0	114.2	133.9	138.2	171.6
	Finance and insurance												
52211	Commercial banking	80.7	83.2	83.4	90.2	92.7	95.9	99.1	100.0	98.4	101.5	105.1	102.3
	Real estate and rental and leasing												
532111	Passenger car rental	89.8	97.8	104.4	106.1	107.9	101.1	108.9	100.0	102.1	114.4	113.3	113.4
53212	Truck, trailer and RV rental and leasing	72.2	73.1	70.9	76.2	83.0	91.2	97.1	100.0	104.7	108.8	104.8	102.9
	Professional, scientific, and technical services												
	Advertising agencies	79.8	74.5	86.1	89.5	90.1	88.6	96.5	100.0	94.3	111.2	116.7	118.1
54181	**Accomodation and food services**												
	Traveler accommodations	102.8	100.2	108.7	105.5	108.0	107.2	105.4	100.0	100.3	102.2	107.1	103.2
7211	Food services and drinking places	103.4	102.2	101.6	102.4	101.1	100.9	99.4	100.0	101.3	101.7	104.4	104.9
722	Full-service restaurants	99.7	98.2	97.4	97.8	98.2	96.9	96.5	100.0	100.1	99.4	101.1	101.1
7221	Limited-service eating places	104.0	103.1	102.6	105.7	104.0	105.0	102.5	100.0	102.7	103.5	107.0	109.2
7222	Special food services	107.2	106.8	106.3	103.8	101.1	99.3	97.6	100.0	102.1	106.0	111.7	108.4
7223	Drinking places, alcoholic beverages	125.7	121.2	121.4	112.7	102.6	104.5	102.4	100.0	100.0	99.4	100.3	98.1
7224													
	Other services (except public administration)												
8111	Automotive repair and maintenance	92.8	86.5	90.0	91.2	96.7	102.9	98.9	100.0	105.3	106.6	108.1	109.3
81211	Hair, nail and skin care services	81.6	79.8	85.6	84.3	88.7	92.4	97.1	100.0	102.7	103.7	102.9	107.9
81221	Funeral homes and funeral services	96.1	94.3	104.7	100.4	103.6	100.4	97.9	100.0	103.8	100.5	94.4	93.7
8123	Drycleaning and laundry services	95.5	93.2	94.9	93.8	95.7	98.9	101.5	100.0	105.0	109.5	114.1	120.7
81292	Photofinishing	117.3	115.6	116.2	123.6	124.9	114.7	103.2	100.0	99.4	106.8	107.4	113.6

NOTE: Data reflect the conversion to the North American Industry Classification System (NAICS), replacing the Standard Industrial Classification (SIC) system. NAICS-based data by industry are not comparable to the SIC-based data.

47. Unemployment rates, approximating U.S. concepts, in nine countries, quarterly data seasonally adjusted

Country	Annual average		2001				2002			
	2001	2002	I	II	III	IV	I	II	III	IV
United States	4.8	5.8	4.2	4.5	4.8	5.6	5.6	5.9	5.7	5.9
Canada	6.4	7.0	6.2	6.3	6.5	6.8	7.1	6.9	7.0	6.9
Australia	6.7	6.3	6.5	6.8	6.8	6.8	6.6	6.3	6.2	6.1
Japan[1]	5.1	5.4	4.8	4.9	5.2	5.5	5.3	5.4	5.5	5.5
France[1]	8.5	8.8	8.5	8.4	8.5	8.6	8.7	8.7	8.9	8.9
Germany[1]	8.0	8.4	7.9	8.0	8.0	8.1	8.2	8.4	8.5	8.6
Italy[2]	9.6	9.1	10.0	9.7	9.5	9.4	9.2	9.1	9.1	9.0
Sweden[1]	5.0	5.2	5.1	5.0	5.0	5.1	5.0	5.0	5.2	5.4
United Kingdom[1]	5.1	5.2	5.1	5.0	5.1	5.2	5.1	5.2	5.3	5.1

[1] Preliminary for 2002 for Japan, France, Germany, Sweden, and the United Kingdom.

[2] Quarterly rates are for the first month of the quarter.

NOTE: Quarterly figures for France and Germany 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.

See "Notes on the data" for information on breaks in series. For further qualifications and historical data, see *Comparative Civilian Labor Force Statistics, Ten Countries, 1959-2002* (Bureau of Labor Statistics, Apr. 14, 2003), on the Internet at

http://www.bls.gov/fls/home.htm

Monthly and quarterly unemployment rates, updated monthly, are

48. Annual data: Employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Civilian labor force											
United States	128,105	129,200	131,056	132,304	133,943	136,297	137,673	139,368	142,583	143,734	144,863
Canada	14,177	14,308	14,400	14,517	14,669	14,958	15,237	15,536	15,789	16,027	16,475
Australia	8,557	8,613	8,771	8,995	9,115	9,204	9,339	9,466	9,678	9,817	9,964
Japan	65,040	65,470	65,780	65,990	66,450	67,200	67,240	67,090	66,990	66,870	66,240
France	24,440	24,480	24,670	24,750	25,000	25,130	25,440	25,800	26,050	26,340	–
Germany	39,010	39,100	39,070	38,980	39,140	39,420	39,750	39,800	39,750	39,780	–
Italy	22,910	22,570	22,450	22,460	22,570	22,680	22,960	23,130	23,340	23,540	23,750
Netherlands	6,920	7,020	7,150	7,200	7,390	7,530	7,610	7,830	8,130	8,290	–
Sweden	4,520	4,443	4,418	4,460	4,459	4,418	4,402	4,430	4,489	4,530	4,542
United Kingdom	28,410	28,050	27,990	28,040	28,140	28,270	28,380	28,610	28,780	28,870	–
Participation rate[1]											
United States	66.4	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.1	66.8	66.6
Canada	65.9	65.5	65.2	64.9	64.7	65.0	65.4	65.8	65.9	66.0	66.8
Australia	63.9	63.5	63.9	64.6	64.6	64.3	64.3	64.2	64.7	64.7	64.7
Japan	63.4	63.3	63.1	62.9	63.0	63.2	62.8	62.4	62.0	61.6	60.8
France	55.6	55.4	55.5	55.4	55.6	55.5	55.9	56.3	56.5	56.8	–
Germany	58.2	57.7	57.4	57.1	57.1	57.3	57.7	57.6	57.4	57.2	–
Italy	47.5	47.9	47.3	47.1	47.1	47.2	47.6	47.8	48.1	48.3	48.6
Netherlands	57.5	58.0	58.6	58.7	60.0	60.8	61.0	62.4	64.4	65.4	–
Sweden	65.7	64.5	63.7	64.1	64.0	63.3	62.8	62.8	63.8	63.7	63.6
United Kingdom	63.1	62.5	62.3	62.3	62.3	62.4	62.5	62.7	62.8	62.7	–
Employed											
United States	118,492	120,259	123,060	124,900	126,708	129,558	131,463	133,488	136,891	136,933	136,485
Canada	12,672	12,770	13,027	13,271	13,380	13,705	14,068	14,456	14,827	14,997	15,325
Australia	7,660	7,699	7,942	8,256	8,364	8,444	8,618	8,808	9,068	9,157	9,334
Japan	63,620	63,810	63,860	63,890	64,200	64,900	64,450	63,920	63,790	63,470	62,650
France	22,000	21,710	21,750	21,950	22,040	22,170	22,580	23,070	23,670	24,100	–
Germany	36,390	35,990	35,760	35,780	35,640	35,510	36,060	36,360	36,540	36,590	–
Italy	21,230	20,270	19,940	19,820	19,920	19,990	20,210	20,460	20,840	21,270	21,580
Netherlands	6,550	6,570	6,660	6,730	6,950	7,160	7,310	7,580	7,900	8,090	–
Sweden	4,265	4,028	3,992	4,056	4,019	3,973	4,034	4,117	4,229	4,303	4,308
United Kingdom	25,530	25,120	25,320	25,600	25,850	26,290	26,600	26,890	27,200	27,400	–
Employment-population ratio[2]											
United States	61.5	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.4	63.7	62.7
Canada	58.9	58.5	59.0	59.4	59.1	59.7	60.4	61.3	62.1	61.9	62.4
Australia	57.2	56.8	57.8	59.2	59.3	59.0	59.3	59.8	60.6	60.4	60.6
Japan	62.0	61.7	61.3	60.9	60.9	61.0	60.2	59.4	59.0	58.4	57.5
France	50.1	49.1	49.0	49.1	49.0	49.0	49.6	50.4	51.4	51.9	–
Germany	54.2	53.2	52.6	52.4	52.0	51.6	52.3	52.6	52.7	52.6	–
Italy	44.0	43.0	42.0	41.5	41.6	41.6	41.9	42.3	42.9	43.6	44.1
Netherlands	54.5	54.2	54.6	54.9	56.4	57.8	58.6	60.4	62.6	63.9	–
Sweden	62.0	58.5	57.6	58.3	57.7	56.9	57.6	58.4	60.1	60.5	60.3
United Kingdom	56.7	56.0	56.4	56.9	57.3	58.1	58.6	59.0	59.4	59.5	–
Unemployed											
United States	9,613	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,692	6,801	8,378
Canada	1,505	1,539	1,373	1,246	1,289	1,252	1,169	1,080	962	1,031	1,150
Australia	897	914	829	739	751	760	721	658	611	661	629
Japan	1,420	1,660	1,920	2,100	2,250	2,300	2,790	3,170	3,200	3,400	3,590
France	2,430	2,770	2,920	2,800	2,970	2,960	2,870	2,730	2,380	2,240	–
Germany	2,620	3,110	3,320	3,200	3,510	3,910	3,690	3,440	3,210	3,190	–
Italy	1,680	2,300	2,510	2,640	2,650	2,690	2,750	2,670	2,500	2,270	2,160
Netherlands	370	440	490	480	440	370	300	250	220	200	–
Sweden	255	415	426	404	440	445	368	313	260	227	234
United Kingdom	2,880	2,930	2,670	2,440	2,290	1,980	1,780	1,720	1,580	1,470	–
Unemployment rate											
United States	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0	4.7	5.8
Canada	10.6	10.8	9.5	8.6	8.8	8.4	7.7	7.0	6.1	6.4	7.0
Australia	10.5	10.6	9.4	8.2	8.2	8.3	7.7	7.0	6.3	6.7	6.3
Japan	2.2	2.5	2.9	3.2	3.4	3.4	4.1	4.7	4.8	5.1	5.4
France	9.9	11.3	11.8	11.3	11.9	11.8	11.3	10.6	9.1	8.5	8.8
Germany	6.7	8.0	8.5	8.2	9.0	9.9	9.3	8.6	8.1	8.0	8.4
Italy	7.3	10.2	11.2	11.8	11.7	11.9	12.0	11.5	10.7	9.6	9.1
Netherlands	5.3	6.3	6.9	6.7	6.0	4.9	3.9	3.2	2.7	2.4	–
Sweden	5.6	9.3	9.6	9.1	9.9	10.1	8.4	7.1	5.8	5.0	5.2
United Kingdom	10.1	10.4	9.5	8.7	8.1	7.0	6.3	6.0	5.5	5.1	5.2

[1] Labor force as a percent of the working-age population.

[2] Employment as a percent of the working-age population.

NOTE: See notes on the data for information on breaks in series.

For further qualifications and historical data, see *Comparative Civilian Labor Force Statistics, Ten Countries*, 1959–2001 (Bureau of Labor Statistics, Apr. 14, 2003), on the Internet at **http://www.bls.gov/fls/home.htm**

Dash indicates data are not available.

49. Annual indexes of manufacturing productivity and related measures, 12 countries

[1992 = 100]

Item and country	1960	1970	1980	1990	1991	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Output per hour															
United States	–	–	70.5	96.9	97.9	102.1	107.3	113.8	117.0	121.3	126.5	133.7	142.1	142.7	151.9
Canada	37.8	54.9	72.9	93.4	95.3	105.8	110.8	112.4	109.7	113.5	113.1	116.0	118.4	116.1	117.9
Japan	13.8	37.5	63.2	94.4	99.0	101.7	103.3	111.0	116.1	121.0	121.2	126.7	135.9	133.8	140.7
Belgium	18.0	32.9	65.4	96.8	99.1	102.5	108.4	113.2	117.3	127.0	129.4	128.8	133.2	134.9	143.4
Denmark	29.9	52.7	90.4	99.1	99.4	100.8	–	–	–	–	–	–	–	–	–
France	22.0	43.1	66.8	93.8	97.0	100.6	108.2	113.8	114.5	121.8	127.8	133.0	143.4	149.3	153.3
Germany	29.2	52.0	77.2	99.0	98.3	101.8	109.5	112.3	114.7	120.4	122.0	121.3	126.7	128.4	131.4
Italy	23.6	44.3	74.2	95.8	95.9	101.4	104.9	108.0	108.1	109.9	110.0	109.7	112.7	114.6	113.0
Netherlands	18.5	37.9	68.8	98.5	99.6	101.6	113.1	117.5	119.3	121.4	124.1	127.0	132.7	132.3	133.1
Norway	37.4	58.8	77.5	97.6	98.2	99.6	99.6	100.7	102.5	102.0	99.9	103.6	106.6	108.9	110.9
Sweden	27.3	52.2	73.1	94.6	95.5	107.3	117.8	124.5	129.5	141.0	149.5	162.7	181.0	182.6	196.5
United Kingdom	30.0	43.2	54.3	89.2	93.8	103.9	108.4	106.4	105.6	107.0	108.6	113.4	120.1	123.2	123.7
Output															
United States	–	–	75.8	101.6	98.3	103.5	111.1	118.4	121.3	127.9	133.1	139.5	146.1	137.3	135.9
Canada	33.4	58.9	83.6	106.0	99.0	105.9	114.1	119.6	119.6	127.7	132.8	141.0	148.8	143.9	147.6
Japan	10.7	39.2	60.4	97.1	102.0	96.3	94.9	98.9	103.0	106.5	100.2	101.9	109.2	103.9	102.3
Belgium	30.7	57.6	78.2	101.0	100.7	97.0	101.4	104.2	106.7	114.0	116.5	117.3	122.0	122.3	122.9
Denmark	40.8	68.0	91.4	102.8	101.5	95.6	105.6	111.6	106.7	115.2	115.7	117.7	122.1	127.5	128.0
France	31.0	64.1	88.7	99.1	99.8	95.7	100.3	104.9	104.6	109.7	115.0	118.7	124.1	128.0	128.1
Germany	41.5	70.9	85.3	99.1	102.3	92.4	95.1	95.2	92.5	95.7	97.7	95.7	99.8	100.4	100.0
Italy	23.0	48.1	84.4	99.4	99.3	96.5	102.4	107.2	105.4	108.8	110.7	110.3	113.7	114.6	113.8
Netherlands	31.5	59.1	76.8	99.9	100.4	98.4	104.5	108.2	108.9	111.6	114.9	117.6	122.8	121.7	119.7
Norway	57.4	90.6	104.4	100.9	99.0	101.7	104.6	107.3	110.3	114.2	113.7	113.6	112.8	113.4	112.6
Sweden	45.9	80.7	90.7	110.1	104.1	101.9	117.0	131.9	136.4	146.5	158.3	172.5	191.1	188.2	193.7
United Kingdom	67.3	90.2	87.2	105.4	100.0	101.4	106.1	107.8	108.5	109.9	110.8	111.1	113.4	110.7	106.3
Total hours															
United States	92.1	104.4	107.5	104.8	100.4	101.4	103.6	104.0	103.6	105.4	105.2	104.4	102.8	96.3	89.5
Canada	88.3	107.1	114.6	113.5	103.9	100.1	103.0	106.4	109.0	112.4	117.5	121.5	125.6	123.9	125.2
Japan	77.8	104.4	95.6	102.9	103.1	94.7	91.9	89.1	88.7	88.0	82.7	80.4	80.3	77.7	72.7
Belgium	170.7	174.7	119.7	104.3	101.5	94.7	93.6	92.0	91.0	89.7	90.0	91.0	91.6	90.7	85.7
Denmark	136.5	129.0	101.1	103.7	102.1	94.8	–	–	–	–	–	–	–	–	–
France	140.8	148.5	132.9	105.6	102.9	95.1	92.7	92.2	91.3	90.1	90.0	89.2	86.7	85.8	83.6
Germany	142.3	136.3	110.5	100.1	104.1	90.8	86.8	84.8	80.6	79.5	80.1	78.9	78.8	78.2	76.1
Italy	97.6	108.5	113.8	103.7	103.6	95.2	97.6	99.3	97.5	99.0	100.6	100.5	100.8	100.0	100.7
Netherlands	170.5	156.1	111.7	101.4	100.9	96.8	92.4	92.3	91.2	91.9	92.6	92.6	92.5	91.9	89.9
Norway	153.6	153.9	134.7	103.4	100.8	102.1	105.0	106.6	107.6	112.0	113.7	109.6	105.9	104.1	101.6
Sweden	168.3	154.7	124.0	116.4	109.0	94.9	99.4	105.9	105.3	103.9	105.9	106.0	105.6	103.1	98.6
United Kingdom	224.6	208.8	160.5	118.1	106.6	97.6	97.9	101.2	102.8	102.8	102.0	98.0	94.4	89.8	85.9
Compensation per hour															
United States	14.9	23.7	55.6	90.8	95.6	102.7	105.6	107.9	109.4	111.5	117.4	122.1	131.1	134.3	141.0
Canada	10.0	17.1	47.6	88.3	95.0	102.0	103.7	106.0	107.0	109.3	110.5	112.3	113.9	117.8	123.2
Japan	4.3	16.4	58.5	90.5	96.4	102.8	104.7	108.3	109.1	112.6	115.4	114.8	113.7	114.5	112.7
Belgium	5.4	13.7	52.5	90.1	97.3	104.8	106.1	109.2	111.0	115.2	116.9	118.4	120.5	126.7	135.0
Denmark	4.6	13.3	49.6	92.7	95.9	104.6	–	–	–	–	–	–	–	–	–
France	4.3	10.4	40.9	90.9	96.4	102.6	106.0	110.0	112.1	112.0	112.6	116.4	120.8	126.9	130.9
Germany	8.1	20.7	53.6	89.4	91.5	106.4	111.8	117.6	123.3	125.7	127.6	130.6	137.2	141.4	144.5
Italy	1.8	5.3	30.4	87.6	94.2	105.7	106.8	111.3	119.0	123.0	122.2	124.2	127.8	132.4	135.6
Netherlands	6.4	20.2	64.4	90.9	95.3	103.8	109.0	112.1	114.4	117.2	122.0	126.0	132.0	138.9	146.0
Norway	4.7	11.8	39.0	92.3	97.5	101.5	104.4	109.2	113.6	118.7	125.7	133.0	140.5	148.2	157.2
Sweden	4.1	10.7	37.3	87.8	95.5	97.4	99.8	106.8	115.2	121.0	125.6	130.3	135.3	139.8	145.1
United Kingdom	3.0	6.1	32.1	82.9	93.8	104.6	108.0	109.4	111.4	115.7	122.6	129.7	137.6	143.8	148.6
Unit labor costs: National currency basis															
United States	–	–	78.8	93.7	97.6	100.6	98.5	94.8	93.5	91.9	92.8	91.3	92.3	94.1	92.6
Canada	26.4	31.1	65.2	94.6	99.6	96.4	93.6	94.3	97.5	96.2	97.7	96.8	96.1	101.5	104.6
Japan	31.3	43.8	92.5	95.9	97.4	101.1	101.4	97.6	94.0	93.0	95.2	90.6	83.6	85.6	80.1
Belgium	30.1	41.7	80.3	93.0	98.1	102.3	97.9	96.4	94.7	90.7	90.4	91.9	90.4	93.9	94.1
Denmark	15.4	25.2	54.9	93.5	96.5	103.7	96.2	96.4	103.2	99.4	102.8	103.7	102.5	101.4	101.8
France	19.4	24.0	61.3	96.9	99.3	101.9	97.9	96.7	97.9	91.9	88.1	87.5	84.3	85.0	85.4
Germany	27.8	39.8	69.4	90.3	93.1	104.5	102.0	104.7	107.5	104.5	104.6	107.6	108.3	110.1	110.0
Italy	7.5	11.9	41.0	91.5	98.2	104.3	101.9	103.0	110.0	111.9	111.1	113.2	113.4	115.5	120.1
Netherlands	34.6	53.3	93.7	92.3	95.6	102.1	96.4	95.6	95.0	96.5	98.3	99.1	99.5	105.0	109.7
Norway	12.7	20.1	50.3	94.6	99.2	101.9	104.8	108.4	110.8	116.4	125.7	128.4	131.9	136.1	141.8
Sweden	15.0	20.6	51.0	92.9	100.0	90.8	84.7	85.8	89.0	85.8	84.0	80.1	74.7	76.6	73.8
United Kingdom	9.8	14.1	59.0	92.9	100.1	100.8	99.6	102.8	105.5	108.2	112.8	114.4	114.5	116.7	120.1
Unit labor costs: U.S. dollar basis															
United States	–	–	78.8	93.7	97.6	100.6	98.5	94.8	93.5	91.9	92.8	91.3	92.3	94.1	92.8
Canada	32.9	36.0	67.4	98.0	105.1	90.3	82.8	83.0	86.4	84.0	79.6	78.8	78.2	79.2	80.5
Japan	11.0	15.5	51.8	83.8	91.7	115.4	125.8	131.6	109.5	97.4	92.2	101.0	98.4	89.3	81.1
Belgium	19.4	27.0	88.3	89.5	92.3	95.1	94.2	105.2	98.3	81.4	80.0	78.0	66.5	67.0	70.9
Denmark	13.4	20.2	58.8	91.2	91.0	96.5	91.4	104.0	107.5	90.8	92.6	89.5	76.5	73.4	77.9
France	21.0	23.0	76.8	94.1	93.1	95.2	93.4	102.6	101.3	83.3	79.1	75.2	62.8	61.4	65.1
Germany	10.4	17.1	59.6	87.3	87.5	98.7	98.2	114.2	111.6	94.0	92.9	91.6	79.8	78.7	83.0
Italy	15.0	23.3	59.0	94.1	97.5	81.6	77.9	77.9	87.9	80.9	78.8	76.7	66.6	65.8	72.2
Netherlands	16.1	25.9	82.9	89.1	89.9	96.6	93.2	104.8	100.0	87.0	87.2	84.3	73.3	75.0	82.8
Norway	11.1	17.5	63.3	94.0	95.0	89.2	92.3	106.4	106.6	102.1	103.5	102.2	93.0	94.0	110.3
Sweden	16.9	23.1	70.2	91.3	96.3	67.8	64.0	70.0	77.3	65.4	61.5	56.4	47.5	43.1	44.2
United Kingdom	15.6	19.1	77.7	93.9	100.1	85.6	86.4	91.9	93.2	100.3	105.9	104.7	98.3	95.1	102.1

NOTE: Data for Germany for years before 1991 are for the former West Germany. Data for 1991 onward are for unified Germany. Dash indicates data not available.

50. Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]	1998[4]	1999[4]	2000[4]	2001[4]
	Incidence rates per 100 full-time workers[3]												
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.

50. 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.

51. Fatal occupational injuries by event or exposure, 1997-2002

Event or exposure[1]	Fatalities			
	1997-2001 average	2001[2]	2002	
		Number	Number	Percent
Total	6,036	5,915	5,524	100
Transportation incidents	2,593	2,524	2,381	43
Highway incident	1,421	1,409	1,372	25
Collision between vehicles, mobile equipment	697	727	635	11
Moving in same direction	126	142	155	3
Moving in opposite directions, oncoming	254	257	202	4
Moving in intersection	148	138	145	3
Vehicle struck stationary object or equipment	300	297	326	6
Noncollision incident	369	339	373	7
Jackknifed or overturned—no collision	300	273	312	6
Nonhighway (farm, industrial premises) incident	368	326	322	6
Overturned	202	158	164	3
Aircraft	248	247	192	3
Worker struck by a vehicle	382	383	356	6
Water vehicle	99	90	71	1
Rail vehicle	68	62	64	1
Assaults and violent acts	964	908	840	15
Homicides	709	643	609	11
Shooting	567	509	469	8
Stabbing	64	58	58	1
Other, including bombing	78	76	82	1
Self-inflicted injuries	221	230	199	4
Contact with objects and equipment	995	962	873	16
Struck by object	562	553	506	9
Struck by falling object	352	343	303	5
Struck by flying object	58	60	38	1
Caught in or compressed by equipment or objects	290	266	231	4
Caught in running equipment or machinery	156	144	110	2
Caught in or crushed in collapsing materials	126	122	116	2
Falls	737	810	714	13
Fall to lower level	654	700	634	11
Fall from ladder	111	123	126	2
Fall from roof	155	159	143	3
Fall from scaffold, staging	91	91	87	2
Fall on same level	61	84	63	1
Exposure to harmful substances or environments	529	499	538	10
Contact with electric current	291	285	289	5
Contact with overhead power lines	134	124	122	2
Contact with temperature extremes	41	35	60	1
Exposure to caustic, noxious, or allergenic substances	106	96	98	2
Inhalation of substances	52	49	49	1
Oxygen deficiency	89	83	90	2
Drowning, submersion	71	59	60	1
Fires and explosions	197	188	165	3
Other events or exposures[3]	21	24	13	–

[1] Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

[2] The BLS news release issued Sept. 25, 2002, reported a total of 5,900 fatal work injuries for calendar year 2001. Since then, an additional 15 job-related fatalities were identified, bringing the total job-related fatality count for 2001 to 5,915.

Totals for 2001 exclude fatalities from the September 11 terrorist attacks.

[4] Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include sub-categories not shown separately. Percentages may not add to totals because of rounding. Dash indicates less than 0.5 percent.

Obtaining information from the Bureau of Labor Statistics

Office or Topic	Internet address	E-mail
Bureau of Labor Statistics	http://www.bls.gov	
Information services	http://www.bls.gov/opub/	blsdata_staff@bls.gov
Employment and unemployment		
Employment, hours, and earnings:		
National	http://www.bls.gov/ces/	cesinfo@bls.gov
State and local	http://www.bls.gov/sae/	data_sa@bls.gov
Labor force statistics:		
National	http://www.bls.gov/cps/	cpsinfo@bls.gov
Local	http://www.bls.gov/lau/	lausinfo@bls.gov
UI-covered employment, wages	http://www.bls.gov/cew/	cewinfo@bls.gov
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National Compensation Survey:	http://www.bls.gov/ncs/	ocltinfo@bls.gov
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Multifactor	http://www.bls.gov/mfp/	dprweb@bls.gov
Projections		
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Occupation	http://www.bls.gov/oco/	oohinfo@bls.gov
International	http://www.bls.gov/fls/	flshelp@bls.gov
Regional centers		
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Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Productivity and costs	February 5	4th quarter	March 4	4th quarter			2; 43–46
Employment situation	February 6	January	March 5	February	April 2	March	1; 4–24
U.S. Import and Export Price Indexes	February 13	January	March 11	February	April 7	March	38–42
Producer Price Indexes	February 19	January	March 12	February	April 8	March	2; 35–37
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