November 2004

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REVIEW

U.S. Department of Labor | Bureau of Labor Statistics

Statistics on healthcare benefits

- Gross job gains and losses
- Initial data from JOLTS
- U.S. ocean and coastal economy
- Productivity under NAICS
- Benefit replacement rates

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The November *Review*

Thomas Edison is credited with saying, "Genius is one percent inspiration and ninety-nine percent perspiration." However true that may be of genius, it is entirely accurate in the field of economic statistics. As Joshua C. Pinkston and James R. Spletzer point out, there is nothing easy about creating annual measures of gross gains and losses in employment from the quarterly statistics that the Bureau of Labor Statistics collects; the only secret is to sweat the details. In the end, however, there is a clear increase in economic understanding: "The annual statistics show job gains and losses over a year. The sum of quarterly numbers looks at gains and losses during a year." Each of these is the answer to a different analytical question.

The Job Openings and Labor Turnover Survey (JOLTS) was introduced to readers of this *Review* in our December 2001 issue. Kelly A. Clark, a co-author of that piece, now shares some of the early findings of that program. The basic trends in the data are consistent with the results of other surveys, but provide new insight into the detailed working of the labor market.

Charles S. Colgan uses data from the Quarterly Census of Employment and Wages to describe the "ocean economy"—as defined by sectors and industries that use ocean resources as inputs—and the "coastal economy"—as defined strictly by proximity to the oceans or Great Lakes.

Matthew Russell, Paul Takac, and Lisa Usher provide the latest chapter in the adoption of the North American Industry Classification System (NAICS). The industry productivity data they work with provide a detailed look at trends in output per hour of labor.

John E. Buckley and Robert W. Van Giezen survey the availability of Federal Government statistics on healthcare benefits and the cost of those benefits. Their notes provide a very large number of very valuable links to more detailed information.

Social Security Administration economist James H. Moore, Jr., contributes a report based on a synthetic pension data set created by regression and data matching techniques. One of the calculations uses BLS data on pension plans to estimate the income replacement rate for retirees.

Occupations and poverty

The chance of being among the working poor varies widely by occupation. Workers in occupations requiring higher education and characterized by high earnings, such as managers and professionals, were least likely to be classified as working poor in 2002. Only 2 percent of workers in these occupations who had been in the labor force more than half the year were among the working poor.

On the other hand, persons employed in jobs that usually do not require high levels of education and that are characterized by low earnings were more likely to be among the working poor. For example, 10.3 percent of service workers were classified as working poor in 2002. Service occupations, with 2.2 million working poor, accounted for 29.3 percent of all those classified as the working poor. These data are from the 2003 Annual Social and Economic Supplement to the Current Population Survey. For more information, see *A Profile of the Working Poor, 2002*, BLS Report 976.

Comparing factory productivity and costs

Korea registered the largest gain in manufacturing productivity in 2003 (9 percent). The increase in U.S. manufacturing output per hour in 2003 was the second highest (6.8 percent). Manufacturing productivity also increased in all the compared economies, except for Italy.

As in 2002, U.S. productivity growth in manufacturing in 2003 was substantially above its average growth rate since 1979. Seven of the other economies for which comparisons are available also had 2003 productivity growth that exceeded their annual average from 1979 through 2003.

Among the economies for which 2003 unit cost data are available, manufacturing unit labor costs fell in U.S. dollar terms only in Taiwan. In the United States, unit labor costs in manufacturing rose 1.6 percent in 2003. Unit labor costs are defined as the cost of labor input required to produce one unit of output. They are computed as nominal labor compensation divided by real output.

There were double-digit increases in unit labor costs (on a U.S. dollar basis) in 8 of the 13 economies studied. The widespread increases in unit labor costs in U.S. dollar terms are explained by the depreciation of the dollar, particularly with respect to the euro and other European currencies. The U.S. dollar depreciated against the currencies of all the economies, but the depreciation was slight versus the Taiwan dollar. For more information, see news release, "International Comparisons of Manufacturing Productivity and Unit Labor Cost Trends, 2003," USDL 04-1945.

Women's earnings

Between 1979 and 2003, the earnings gap between women and men narrowed for most age groups. Overall, the women-to-men earnings ratio was 80 percent in 2003, up from 63 percent in 1979. The ratio of women-to-men earnings among 16- to 24-year-olds was 93.3 percent in 2003, compared with 78.5 percent in 1979; that for 25- to 34-year-olds was 87 percent in 2003, compared with 67.4 percent in 1979.

Among 35- to 44-year-olds, women earned 76.2 percent as much as men in 2003 and 58.3 percent in 1979, while among 45- to 54-year-olds, women earned 73 percent as much as men in 2003 and 56.9 percent as much in 1979. For more information, see *Highlights of Women's Earnings in 2003*, BLS Report 978. □

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Annual measures of gross job gains and gross job losses

As a complement to the quarterly gross job flow statistics, annual gross job gains and losses statistics reveal the tremendous amount of churning that underlies the net growth of employment

Joshua C. Pinkston
and
James R. Spletzer

The new Business Employment Dynamics data series from the Bureau of Labor Statistics documents the quarterly gross job gains and losses from 1992 to the present. These data quantify the sizable number of jobs that appear and disappear in the U.S. economy each quarter, adding a new level of understanding that traditional employment statistics cannot provide. For example, these data show that the 2001 recession was characterized by a temporary spike in gross job losses accompanied by a decline in gross job gains that has yet to return to pre-recessionary levels.[1]

This article builds on the quarterly Business Employment Dynamics statistics by presenting annual tabulations of gross job gains and losses. These annual statistics provide information about labor market dynamics in two ways. First, in comparison to the quarterly statistics, the annual statistics highlight the transitory nature of short-run establishment level employment changes. Many quarterly expansions and contractions are temporary, and reverse themselves in other quarters during the year. Furthermore, this article finds that a significant number of establishment openings in the quarterly statistics are continuous establishments that close and re-open during the year. Second, the annual statistics provide a framework for a longer run view of how establishments grow and decline, and thus set the stage for understanding business survival. Particularly, this article explains how establishment openings and closings contribute to employment growth in both the short run and in the longer run.

This article also highlights the importance of understanding the difference between the annual statistics presented in this article versus "annualized" statistics created by summing four quarterly statistics. Although this latter methodology is standard for creating and analyzing net employment growth statistics over different frequencies, the sum of four quarterly gross job flow statistics is not the same as annual gross job flow statistics. These two approaches measure different concepts. The annual gross job flow statistics examine the number of jobs gained and the number of jobs lost *over* the year. The sum of four quarterly gross job flow statistics examine the number of jobs gained and the number of jobs lost *during* the year. Whereas the annual tabulations always have a clear interpretation, this analysis shows that the sum of four quarterly statistics (or the sum of 12 monthly statistics) can sometimes produce results that are difficult to interpret.

The article begins by describing the construction of annual statistics from the Business Employment Dynamics quarterly microdata. The algorithm for creating the annual statistics is more complicated than a simple comparison of two points in time that are 1 year apart. The article then presents the annual gross job gains and gross job loss statistics. The

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analysis focuses on a comparison of how the annual statistics relate to the quarterly statistics, and the value added of the annual statistics relative to the quarterly statistics. The article concludes with a discussion of how annual gross job gains and losses statistics provide a crosswalk between the new BLS quarterly statistics and the annual statistics in much of the existing gross job flows literature.

Sources, definitions, and the algorithm

The quarterly BLS Business Employment Dynamics data series is constructed from microdata originating from the Quarterly Census of Employment and Wages (QCEW), also known as the ES-202 program. All employers subject to State unemployment insurance laws are required to submit quarterly contribution reports detailing their monthly employment and quarterly wages to the State Employment Security Agencies. After the microdata are edited and, if necessary, corrected by the State Labor Market Information staff, the States submit these data and other business identification information to the Bureau of Labor Statistics as part of the Federal-State cooperative QCEW program. The data gathered in the QCEW program are a comprehensive and accurate source of employment and wages, and provide a virtual census (98 percent) of employees on nonfarm payrolls.

The quarterly gross job gains and gross job loss statistics created in the BLS Business Employment Dynamics program are tabulated by linking establishments across quarters, and establishments are then classified as opening, expanding, contracting, closing, or not changing their employment level. The accuracy of the Business Employment Dynamics statistics depends on the quality of the establishment level microdata being reported to the States. Gross job gains are the sum of all employment increases at either opening or expanding establishments; gross job losses are the sum of all employment losses at either closing or contracting establishments. The familiar net change in employment is the difference between the gross jobs gained and the gross jobs lost.[2]

The quarterly Business Employment Dynamics microdata provide the foundation for tabulations of annual gross job gains and losses statistics. Creating the annual statistics is more complicated than comparing two quarters of microdata that are 1 year apart. The difficulties come from trying to follow a specific establishment across several quarters, especially through periods of ownership changes, restructurings, or changes in how multi-establishment firms report their unemployment insurance data to the States. The annual statistics presented in this article are based on an extension of the existing longitudinal linkage algorithm developed by BLS for the quarterly gross job gains and losses data series.

As part of the existing process of linking establishments across consecutive quarters in the Business Employment Dynamics program, BLS and the States identify what are termed breakouts and consolidations. The term "breakout" refers to a single establishment splitting into multiple establishments, and the term "consolidation" refers to multiple establishments merging into a single establishment. Breakouts and consolidations may be actual economic events representing business expansions and contractions, or merely administrative reporting changes due to how an employer with multiple establishments within a State reports its data. Although BLS and the States continuously work with employers to obtain data at the establishment level, some employers with multiple establishments within a State report their total employment and wages in a consolidated manner. Occasionally, an employer reporting consolidated data will disaggregate its data to the worksite level (or, much less frequently, vice-versa).

Establishments involved in breakouts and consolidations need to be treated with care when constructing gross job gains and losses statistics. For example, an employer with multiple establishments in the State that disaggregates its data from a statewide level to a worksite reporting level would initially appear in the microdata to be a closing of an existing large establishment and the opening of several new small establishments. The record linkage system used in the Business Employment Dynamics program strives to identify the relationships between the establishments that are involved in all one-to-many breakouts and many-to-one consolidations. These establishments can then be treated as continuous, rather than as openings and closings, when constructing the quarterly gross job gains and losses statistics.[3]

Breakouts and consolidations cause additional difficulties when users attempt to create annual gross job gains and losses statistics. For example, if one wanted to accurately track establishments from March of one year to March of the following year, information on breakouts and consolidations from all quarters within the year needs to be taken into account in order to understand business survival and thus avoid spuriously defining openings and closings.

The annual gross job gains and losses statistics reported in this article are based upon an algorithm that takes into account information on breakouts and consolidations from all quarters within the year. Previous research shows that an algorithm that uses all information within the year is preferable to a more naïve approach which takes two quarters of microdata that are 1 year apart and links establishments without accounting for breakouts and consolidations that occur within the year. Such a naïve approach, relative to the algorithm used here, increases the annual gross job gains and losses statistics by roughly 7 percent to 9 percent.[4]

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Table 1. Quarterly and annual private-sector gross job gains and job losses, first quarter 1998 through first quarter 2002

[Not seasonally adjusted]

Period	Employment			Gross job gains		Gross job losses	
	Previous quarter/year	Current quarter/year	Change	Expanding establishments	Opening establishments	Contracting establishments	Closing establishments
Quarterly:							
1998: I to 1998: II	102,201,556	105,745,572	3,544,016	7,823,083	2,443,361	5,128,625	1,593,803
1998: II to 1998: III	105,745,572	105,895,205	149,633	6,045,188	1,696,143	6,049,428	1,542,270
1998: III to 1998: IV	105,895,205	106,669,216	774,011	6,872,921	1,600,934	6,108,728	1,591,116
1998: IV to 1999: I	106,669,216	104,637,156	−2,032,060	5,881,407	2,305,245	7,621,358	2,597,354
Annual:							
1998: I to 1999: I	102,201,556	104,637,156	2,435,600	10,311,106	5,946,992	8,515,309	5,307,189
Quarterly:							
1999: I to 1999: II	104,637,156	108,121,039	3,483,883	8,075,511	2,285,719	5,311,276	1,566,071
1999: II to 1999: III	108,121,039	108,182,154	61,115	6,316,593	1,705,902	6,277,917	1,683,463
1999: III to 1999: IV	108,182,154	109,278,661	1,096,507	7,207,652	1,823,796	6,298,406	1,636,535
1999: IV to 2000: I	109,278,661	107,672,227	−1,606,434	6,097,257	2,111,495	7,531,814	2,283,372
Annual:							
1999: I to 2000: I	104,637,156	107,672,227	3,035,071	10,692,723	5,712,036	8,391,177	4,978,511
Quarterly:							
2000: I to 2000: II	107,672,227	111,115,514	3,443,287	8,269,019	2,037,883	5,384,637	1,478,978
2000: II to 2000: III	111,115,514	110,783,450	−332,064	6,284,783	1,631,545	6,582,852	1,665,540
2000: III to 2000: IV	110,783,450	111,182,910	399,460	6,985,872	1,641,856	6,622,454	1,605,814
2000: IV to 2001: I	111,182,910	108,561,077	−2,621,833	5,924,318	1,955,772	8,018,068	2,483,855
Annual:							
2000: I to 2001: I	107,672,227	108,561,077	888,850	10,240,477	5,191,521	9,363,412	5,179,736
Quarterly:							
2001: I to 2001: II	108,561,077	110,734,261	2,173,184	7,671,463	2,063,725	5,936,261	1,625,743
2001: II to 2001: III	110,734,261	109,000,401	−1,733,860	5,519,373	1,521,404	7,023,453	1,751,184
2001: III to 2001: IV	109,000,401	108,173,134	−827,267	6,147,166	1,648,088	7,025,677	1,596,844
2001: IV to 2002: I	108,173,134	105,810,039	−2,363,095	5,512,394	1,993,961	7,560,400	2,309,050
Annual:							
2001: I to 2002: I	108,561,077	105,810,039	−2,751,038	8,752,075	5,201,011	11,148,760	5,555,364

SOURCE: Authors' calculations using microdata from the BLS Business Employment Dynamics program.

This article uses data from the first quarter of 1998 through the first quarter of 2002. The quarterly statistics that we present replicate the official (seasonally unadjusted) statistics from the BLS Business Employment Dynamics program.[5] Employment is defined as the number of workers covered by unemployment insurance and earning wages during the pay period that includes the 12th of the month. The gross job gains and gross job loss statistics use reported employment data in the third month of the quarter as the measure of the establishment's quarterly employment. Thus, employment growth for the second quarter refers to employment growth from March to June. To be consistent with much of the gross job flows literature, many of the annual statistics that this article presents measure employment growth from March of one year to March of the following year.

Annual gross job gains and losses

Based on quarterly and annual tabulations of Business Employment Dynamics statistics, tables 1 through 4 provide the following statistics: table 1 presents the employment levels in the current and previous time periods, the net employment change, and the gross job gains and the gross job losses. Table 2 shows these employment changes as rates rather than levels.[6] The number and flows of establishments underlying the employment statistics in table 1 are presented in table 3, with corresponding rates presented in table 4. None of the statistics in tables 1–4 are seasonally adjusted.

In March 2001, there were 108,561,077 private sector jobs, and 1 year later in March 2002, there were 105,810,039 private sector jobs. (See the bottom row of table 1.) This annual

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decline in employment of 2,751,038 jobs is the sum of the four seasonally unadjusted quarterly changes during the year: an increase of 2,173,184 jobs between the first and second quarters of 2001, and declines of 1,733,860, 827,267, and 2,363,095 jobs, respectively, during the next three quarters. In percentage terms, this annual decline in employment was 2.57 percent. (See table 2.) This annual percentage decline is also the sum of the four seasonally unadjusted quarterly changes (1.98 percent, –1.58 percent, –0.76 percent, and –2.21 percent).

This annual decline in employment is equivalent to stating that fewer jobs were gained than were lost. The bottom row of table 1 shows that for the year ending in March 2002, employment in expanding establishments grew by 8,752,075 jobs, and employment in opening establishments grew by 5,201,011 jobs. The level of gross job gains was 13,953,086 jobs during the year, a rate of 13.02 percent. Employment in contracting establishments declined by 11,148,760 jobs, and closing establishments accounted for the loss of 5,555,364 jobs. The level of gross job losses was 16,704,124 jobs during the year, a rate of 15.58 percent. The difference between the gross job gains and the gross job losses is the net employment decline of 2,751,038 jobs, a rate of –2.57 percent.

An important component of the Business Employment Dynamics data series is the establishment counts underlying the gross job gains and losses. Looking at the annual statistics for March 2001 to March 2002 in tables 3 and 4, one can see that there were 1,633,498 expanding establishments (26.2 percent of all establishments), and 790,237 establishments (12.7 percent) opening during the year. There were 1,735,071 contracting establishments (27.8 percent), and 785,786 establishments (12.6 percent) closing during the year.

Table 2. Quarterly and annual private-sector gross job gains and job losses as a percentage of employment, first quarter 1998 through first quarter 2002

[In percent]

Period	Net change	Gross job gains			Gross job losses		
		Total	Expanding establishments	Opening establishments	Total	Contracting establishments	Closing establishments
Quarterly:							
1998: I to 1998: II	3.41	9.87	7.52	2.35	6.47	4.93	1.53
1998: II to 1998: III	.14	7.32	5.71	1.60	7.17	5.72	1.46
1998: III to 1998: IV	.73	7.97	6.47	1.51	7.24	5.75	1.50
1998: IV to 1999: I	–1.92	7.75	5.57	2.18	9.67	7.21	2.46
Annual:							
1998: I to 1999: I	2.36	15.72	9.97	5.75	13.37	8.23	5.13
Quarterly:							
1999: I to 1999: II	3.27	9.74	7.59	2.15	6.46	4.99	1.47
1999: II to 1999: III	.06	7.42	5.84	1.58	7.36	5.80	1.56
1999: III to 1999: IV	1.01	8.31	6.63	1.68	7.30	5.79	1.51
1999: IV to 2000: I	–1.48	7.57	5.62	1.95	9.05	6.94	2.10
Annual:							
1999: I to 2000: I	2.86	15.45	10.07	5.38	12.59	7.90	4.69
Quarterly:							
2000: I to 2000: II	3.15	9.42	7.56	1.86	6.27	4.92	1.35
2000: II to 2000: III	–.30	7.14	5.66	1.47	7.43	5.93	1.50
2000: III to 2000: IV	.36	7.77	6.29	1.48	7.41	5.97	1.45
2000: IV to 2001: I	–2.39	7.17	5.39	1.78	9.56	7.30	2.26
Annual:							
2000: I to 2001: I	.82	14.27	9.47	4.80	13.45	8.66	4.79
Quarterly:							
2001: I to 2001: II	1.98	8.88	7.00	1.88	6.90	5.41	1.48
2001: II to 2001: III	–1.58	6.41	5.02	1.38	7.99	6.39	1.59
2001: III to 2001: IV	–.76	7.18	5.66	1.52	7.94	6.47	1.47
2001: IV to 2002: I	–2.21	7.02	5.15	1.86	9.22	7.07	2.16
Annual:							
2001: I to 2002: I	–2.57	13.02	8.17	4.85	15.58	10.40	5.18

SOURCE: Authors' calculations using microdata from the BLS Business Employment Dynamics program.

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Table 3. Quarterly and annual establishments, by direction of employment change, first quarter 1998 through first quarter 2002

[Not seasonally adjusted]

Period	Establishments			Establishments gaining jobs		Establishments losing jobs	
	Previous quarter/year	Current quarter/year	Change	Expanding establishments	Opening establishments	Contracting establishments	Closing establishments
Quarterly:							
1998: I to 1998: II	5,954,688	6,100,295	145,607	1,677,630	399,192	1,217,620	253,585
1998: II to 1998: III	6,102,056	6,111,290	9,234	1,416,065	297,214	1,520,449	287,980
1998: III to 1998: IV	6,112,675	6,141,350	28,675	1,514,463	328,150	1,396,232	299,475
1998: IV to 1999: I	6,139,037	6,047,343	-91,694	1,372,314	322,952	1,563,034	414,646
Annual:							
1998: I to 1999: I	5,949,688	6,043,308	93,620	1,747,912	778,826	1,519,889	685,206
Quarterly:							
1999: I to 1999: II	6,061,444	6,154,715	93,271	1,699,870	383,274	1,249,922	290,003
1999: II to 1999: III	6,157,563	6,153,188	-4,375	1,434,037	307,526	1,542,258	311,901
1999: III to 1999: IV	6,155,545	6,225,768	70,223	1,541,212	376,244	1,413,109	306,021
1999: IV to 2000: I	6,224,233	6,142,674	-81,559	1,406,142	345,268	1,595,453	426,827
Annual:							
1999: I to 2000: I	6,055,507	6,135,781	80,274	1,774,943	804,022	1,548,585	723,748
Quarterly:							
2000: I to 2000: II	6,159,683	6,273,531	113,848	1,721,043	391,847	1,292,080	277,999
2000: II to 2000: III	6,275,908	6,271,181	-4,727	1,442,389	314,945	1,580,817	319,672
2000: III to 2000: IV	6,273,940	6,326,260	52,320	1,511,533	365,672	1,477,681	313,352
2000: IV to 2001: I	6,325,421	6,220,660	-104,761	1,386,268	333,506	1,611,652	438,267
Annual:							
2000: I to 2001: I	6,154,016	6,213,658	59,642	1,723,162	809,301	1,645,873	749,659
Quarterly:							
2001: I to 2001: II	6,236,791	6,327,460	90,669	1,668,308	377,140	1,320,988	286,471
2001: II to 2001: III	6,330,657	6,292,660	-37,997	1,357,255	297,385	1,628,835	335,382
2001: III to 2001: IV	6,294,785	6,344,623	49,838	1,426,118	361,787	1,506,839	311,949
2001: IV to 2002: I	6,345,811	6,243,771	-102,040	1,329,571	328,795	1,603,277	430,835
Annual:							
2001: I to 2002: I	6,232,571	6,237,022	4,451	1,633,498	790,237	1,735,071	785,786

SOURCE: Authors' calculations using microdata from the BLS Business Employment Dynamics program.

The statistics from tables 1 and 3 indicate that the average expanding establishment added 5.4 jobs during the year spanning March 2001 to March 2002, and the average contracting establishment lost 6.4 jobs during the year. A similar calculation shows that the average opening establishment starts with 6.6 employees in its first year of positive employment, and the average closing establishment is responsible for the loss of 7.1 employees in its final year with employees.

Annual gross job gains and losses statistics add to the labor market information currently available from BLS. A traditional measure of net employment change shows that employment fell by 2,751,038 jobs during the year measured from March 2001 to March 2002. The annual gross job gains and losses statistics indicate that this net employment loss is the result of 8,752,075 jobs added at 1,633,498 expanding establishments, 5,201,011 jobs added at 790,237 opening establishments, 11,148,760 jobs lost at 1,735,071 contracting establishments, and 5,555,364 jobs lost at 785,786 closing establishments. These annual statistics from the Business Employment Dynamics data show the tremendous amount of churning of jobs and establishments underlying the annual net employment growth.

Annual statistics: uses and interpretations

To show how the annual statistics relate to the quarterly statistics and the value added of the annual statistics relative to the quarterly statistics, the following subsection directly compares the annual and the quarterly statistics without attempting to standardize the two to the same frequency of measurement. The second subsection "annualizes" the

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Table 4. Quarterly and annual establishments, by direction of employment change as a percentage of total establishments, first quarter 1998 through first quarter 2002

[Not seasonally adjusted]

Period	Net change	Establishments gaining jobs			Establishments losing jobs		
		Total	Expanding establishments	Opening establishments	Total	Contracting establishments	Closing establishments
Quarterly:							
1998 : I to 1998: II	2.42	34.46	27.83	6.62	24.41	20.20	4.21
1998: II to 1998: III	.15	28.06	23.19	4.87	29.61	24.90	4.72
1998: III to 1998: IV	.47	30.07	24.72	5.36	27.68	22.79	4.89
1998: IV to 1999: I	−1.50	27.82	22.52	5.30	32.46	25.65	6.81
Annual:							
1998: I to 1999: I	1.56	42.14	29.15	12.99	36.77	25.35	11.43
Quarterly:							
1999: I to 1999: II	1.53	34.10	27.83	6.27	25.21	20.46	4.75
1999: II to 1999: III	−.07	28.29	23.30	5.00	30.12	25.06	5.07
1999: III to 1999: IV	1.13	30.97	24.90	6.08	27.77	22.83	4.94
1999: IV to 2000: I	−1.32	28.32	22.74	5.58	32.70	25.80	6.90
Annual:							
1999: I to 2000: I	1.32	42.31	29.12	13.19	37.28	25.40	11.87
Quarterly:							
2000: I to 2000: II	1.83	33.99	27.68	6.30	25.26	20.78	4.47
2000: II to 2000: III	−.08	28.01	22.99	5.02	30.29	25.20	5.10
2000: III to 2000: IV	.83	29.80	23.99	5.80	28.43	23.45	4.97
2000: IV to 2001: I	−1.67	27.42	22.10	5.32	32.68	25.69	6.99
Annual:							
2000: I to 2001: I	.96	40.95	27.87	13.09	38.74	26.62	12.12
Quarterly:							
2001: I to 2001: II	1.44	32.56	26.56	6.00	25.59	21.03	4.56
2001: II to 2001: III	−.60	26.22	21.50	4.71	31.12	25.81	5.31
2001: III to 2001: IV	.79	28.29	22.57	5.72	28.78	23.84	4.94
2001: IV to 2002: I	−1.62	26.35	21.12	5.22	32.31	25.47	6.84
Annual:							
2001: I to 2002: I	.07	38.87	26.20	12.67	40.43	27.83	12.60

SOURCE: Authors' calculations using microdata from the BLS Business Employment Dynamics program.

quarterly statistics prior to comparison, and the third section carefully examines the relationship between quarterly and annual openings.

A simple comparison of annual statistics and quarterly statistics. The annual gross job flow statistics are higher in magnitude than the gross job flow statistics from any quarter within the year. For example, in table 2, for the March 2001 to March 2002 period, the annual gross job gains rate is 13.02 percent, and the annual gross job loss rate is 15.58 percent. These annual statistics are higher than any of the quarterly statistics within the year: the average quarterly gross job gains rate for the four quarters between March 2001 and March 2002 is 7.37 percent, and the average quarterly gross job loss rate is 8.01 percent.

Additional analysis of the data in tables 1 and 2 reveals that the larger annual statistics correspond to a greater importance of establishment openings and closings. That is, 22.5 percent of quarterly gross job gains are due to establishment openings, whereas 37.3 percent of annual gross job gains are due to establishment openings. Similar computations show that 20.9 percent of quarterly gross job losses are due to establishment closings, whereas 33.2 percent of annual gross job losses are due to establishment closings.

This greater importance of openings and closings in the annual statistics, relative to the quarterly statistics, is due in part to an increased number of establishment openings and closings. Using data from March 2001 to March 2002, the rate of establishment openings increases from 5.41 percent on an average quarterly basis to 12.67 percent on an annual basis, and the rate of establishment closings increases from 5.41 percent on an average quarterly basis to 12.60 percent on an annual basis. (See table 4.) This striking difference does not exist between the quarterly and annual rates of expansions and contractions: the average quarterly expansion

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rate is 22.94 percent, relative to an annual expansion rate of 26.20 percent, and the average quarterly and the annual contraction rates are 24.04 percent and 27.83 percent, respectively.

In addition to an increased number of openings and closings, one might expect the average size of establishment openings and closings to increase as the time horizon is lengthened over which employment growth is measured. First, the composition of establishment openings is different in the quarterly and the annual statistics, because many openings that do not survive several quarters will not be in the annual statistics. The existing literature finds that the smallest establishments are the most likely to die shortly after birth.[7] Second, if employment growth in surviving births is a gradual process as these new establishments learn about their business environment, then quarterly measures of employment growth will understate (relative to annual measures) the amount of gross job gains attributable to openings. Similarly, if closing establishments decrease their size gradually over time, then quarterly measures of gross job losses will understate the jobs lost from these establishments. Calculations using March 2001–March 2002 statistics from tables 1 and 3 show an increasing average size of openings and closings over a longer run horizon: The size of the average opening increases from 5.3 jobs measured quarterly to 6.6 jobs measured annually, and the average size of a closing increases from 5.3 jobs measured quarterly to 7.1 jobs measured annually.

Also, the average size of expansions and contractions is larger in the annual statistics compared with the quarterly statistics. The average expansion has 5.4 employees measured annually versus 4.3 employees measured quarterly, and the average contraction has 6.4 employees measured annually versus 4.5 employees measured quarterly. One explanation is that in the short run, some of the expansions and contractions in the data are transitory fluctuations caused by the hiring process taking some time. In the long run, sustained expansions and contractions will distinguish themselves from these short run transitory employment fluctuations.

Comparing the annual statistics to the sum of four quarterly statistics. The new quarterly Business Employment Dynamics data series has been used by many analysts for many applications. There has been a demand by the user community for annual gross job gains and losses statistics, and some users have "annualized" the quarterly statistics themselves.[8] This section addresses whether it is appropriate to use the sum of the four quarterly gross job flows statistics as an annual gross job flows statistic.

As noted earlier, the sum of the four quarterly net employment changes in table 1 is the annual net employment change. However, the sum of the four quarterly gross job gains is much greater than the annual gross job gains, and the sum of the four quarterly gross job losses is much greater than the annual gross job losses. For example, the sum of jobs created by expanding establishments in each quarter from March 2001 to March 2002 is 24,850,396, whereas the annual tabulation shows that only 8,752,075 jobs were added by expanding establishments.

Caution should be used with regard to distinguishing between annual statistics and the sum of four quarterly statistics. Neither is inherently right or wrong; the two different approaches are simply answers to different questions. The annual statistics show job gains and losses *over* a year. The sum of quarterly numbers look at the gains and losses *during* a year.

The intuition for the difference between these two concepts is straightforward. Many quarterly changes reverse themselves over the course of a year. Many of these reversals are due to lags in hiring for vacant positions (a gross job loss in one quarter followed by a gross job gain in the subsequent quarter), and many are due to seasonality (for example, employment at amusement parks expands in the summer and contracts in the winter). The data indicate that 53 percent of the establishments that expanded in the quarter between March and June of 2001 also expanded over the year from March 2001 to March 2002. The data also indicate that 62 percent of the establishments that expanded over the year had at least one quarter during the year in which they contracted. Only 2 percent of the establishments that expanded over the year expanded in all four quarters during the year.

Summing high frequency statistics, such as quarterly statistics, to examine job gains and losses during a longer period such as a year has two drawbacks. First, this method will result in different answers depending on whether one sums 12 monthly statistics, 4 quarterly statistics, and so on. To illustrate this, assume a user wants to know the gross jobs gained *during* the 2-year period from March 2000 to March 2002. The sum of the two annual statistics from table 2 suggests that 29,385,084 jobs were gained during the 2-year period, whereas the sum of the eight quarterly statistics suggests that 66,808,622 jobs were gained during the 2-year period. If one wanted to truly count every single job that was gained or lost during a year, one would have to sum statistics from time periods that are small enough such that no single gain or loss has time to reverse itself.

A second drawback is that summing quarterly statistics can produce strange results that are difficult to interpret—this is especially true for percentages, which may sum to more than 100 percent. This can easily be seen using statistics from table 4: between 26 percent and 32 percent of establishments gained jobs in any quarter between March 2001 and March 2002, but the sum of the four quarterly

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Table 5. Quarterly and annual opening establishments, second quarter 2001 through first quarter 2002

Period	Number of establishments	Percent of openings	Conditional percent
2001: II openings (n = 377,140):			
Remains open 2001: III	318,561	84.47	...
Remains open 2001: IV	278,575	73.87	...
Remains open 2002: I	232,157	61.56	...
Opening in annual table	232,157	61.56	100.00
Continuous in annual table	0	0.00	0.00
2001: III openings (n = 297,385):			
Remains open 2001: IV	248,040	83.41	...
Remains open 2002: I	219,007	73.64	...
Opening in annual table	170,821	57.44	78.00
Continuous in annual table	48,186	16.20	22.00
2001: IV openings (n = 361,787):			
Remains open 2002: I	247,679	68.46	...
Opening in annual table	175,646	48.55	70.92
Continuous in annual table	72,033	19.91	29.08
2002: I openings (n = 328,795):			
Remains open 2002: I	328,795	100.00	...
Opening in annual table	240,519	73.15	73.15
Continuous in annual table	88,276	26.85	26.85

statistics cannot be interpreted as saying that 113.4 percent of establishments gained jobs during the year.

A closer examination of quarterly and annual openings. A comparison of quarterly openings with annual openings will help illustrate why the sum of quarterly statistics differs from the annual statistic. In table 3, there are 377,140 opening establishments in the second quarter of 2001, 297,385 opening establishments in the third quarter of 2001, 361,787 opening establishments in the fourth quarter of 2001, and 328,795 opening establishments in the first quarter of 2002. The sum of these four quarterly statistics is 1,365,107, which is substantially higher than the 790,237 opening establishments reported in the annual tabulation. There are several reasons for this difference.

The amount of time that opening establishments remain in business is a major factor in understanding the relationship between quarterly openings and annual openings. If an establishment opens in the second quarter of 2001, but closes before the first quarter of 2002, it would not be listed as an opening establishment in the annual table. Statistics in table 5 examine the status of opening establishments over a timeframe longer than one quarter. In the top panel of table 5, there are 377,140 establishments that open in the second quarter of 2001. One quarter later, 84.5 percent of these establishments remain open, 73.9 percent are still open two quarters later, and 61.6 percent are still open three quarters later (in the first quarter of 2002).[9] The second panel of table 5, which tracks the status of establishments that open in the third quarter of 2001, indicates that 73.6 percent of these quarterly openings are still open two quarters later.

Another factor that affects the relationship between quarterly openings and annual openings is the large number of establishments that close and re-open within the year. To understand this explanation, it is helpful to return to the definition of opening and continuous establishments. By definition, an annual opening in the March 2001–March 2002 tabulation either does not exist or has zero employment in the first quarter of 2001, but has positive employment in the first quarter of 2002. An annual continuous establishment, by definition, has positive employment in both the first quarter of 2001 and also in the first quarter of 2002. The continuous establishments in the annual tabulations do not need to have positive employment in all quarters between the first quarter of 2001 and the first quarter of 2002. An annual continuous establishment that has zero employment in some quarter within the year would be classified as a closing in the quarter it went from positive to zero employment, and then classified as an opening in the quarter it went from zero to positive employment. How often does this occur? Table 5 shows that between 22 percent and 29 percent of establishments classified as quarterly openings (in the third, fourth, and first quarters) that remain open in the first quarter of 2002 are classified as continuous establishments in the annual tables. This finding illustrates that a significant number of establishment openings in the quarterly statistics are continuous establishments that close and re-open during the year.

There is one more interesting finding about opening establishments that warrants mention. Table 5 shows that 232,157 establishments that opened in the second quarter of 2001 and remain open in the first quarter of 2002 are classified as annual openings. The corresponding statistics for opening

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establishments are 170,821 in the third quarter of 2001, 175,646 in the fourth quarter of 2001, and 240,519 in the first quarter of 2002. The addition of these four statistics is 819,143, which exceeds the annual opening statistic of 790,237 by 28,906 establishments (or 3.7 percent). The explanation for this difference is that 3.7 percent of establishments that are classified as annual openings have two quarterly openings within the year.

The time series of annual statistics

One of the most interesting conclusions that has come from the new BLS Business Employment Dynamics data series is that the 2001 recession is characterized by a decline in gross job gains accompanied by an increase in gross job losses. The most recent business cycle is also evident in the annual job flow statistics. The annual net employment change in table 2 is more than 2 percent in March 1999 and March 2000, falls to 0.82 percent in March 2001, and is –2.57 percent in March 2002. The business cycle is also evident in the annual gross job gains and losses statistics. The annual rate of gross job gains is essentially similar in 1999 and 2000, and then falls from 15.45 percent in 2000 to 13.02 percent in 2002. The annual rate of gross job losses is roughly steady if not declining during 1999 through 2001, followed by a relatively large increase in 2002. It is difficult to say much more about the 2001 recession, dated by the National Bureau of Economic Research as occurring between March 2001 to November 2001, because there are only four annual statistics in table 2.

However, it is possible to gain further information about the business cycle by computing annual gross job gains and losses for all quarters of the year. Table 6 presents statistics that measure the annual rates of gross job gains and losses from March to March, June to June, September to September, and December to December. The 2001 recession is evident in these statistics: the annual net employment change is more than 2 percent for the first several quarters of 2000, and then falls rapidly throughout 2001. This declining annual net employment growth rate reflects two factors—a declining annual gross job gains rate and a rising annual gross job loss rate. (See chart 1.) This annual time series of gross job gains and losses, computed quarterly, is consistent with the time series pattern of the seasonally adjusted quarterly series from the Business Employment Dynamics program.

The quarterly time series of annual tabulations in table 6 is not seasonally adjusted, and does not appear to show any obvious seasonal effects. This is different than the quarterly statistics in table 1 or table 2, where it is obvious that any time series analysis of quarterly gross job gains and losses requires seasonal adjustment of the data. Thus, the annual statistics can serve as a crude alternative to seasonally adjusted quarterly numbers, and could be especially useful for purposes where it may be infeasible to compute a long enough time series for seasonal adjustment.

Comparisons with existing literature

The first influential studies of gross job gains and losses in the U.S. economy were by Dunne, Roberts, and Samuelson, and Davis, Haltiwanger, and Schuh.[10] Both of these studies focused on data for the manufacturing sector from the Census Bureau; later work by Anderson and Meyer, Foote, and Spletzer used unemployment insurance data from various States to examine how gross job flows in manufacturing may not be representative of other industries.[11]

From the heavily cited work of Davis, Haltiwanger, and Schuh, one of the main conclusions is that the annual rate of gross job gains in manufacturing during the 1973–88 period is 9.1 percent, and the annual rate of gross job losses in manufacturing during the same period is 10.3 percent. These rates are substantially lower than the annual rates presented in table 2: for the entire U.S. economy during the 1999–2002 period, the average annual gross job gains rate is 15.1 percent, and the average annual gross job loss rate is 14.3 percent. Perhaps the most important explanation for this difference is due to the difference in industry sectors; indeed, the quarterly industry statistics recently released by the BLS Business Employment Dynamics program show that the gross job flow rates in manufacturing are lower than those in the economy as a whole.[12]

Annual gross job gains and losses statistics for the manufacturing sector are computed from the Business Employment Dynamics data. For the manufacturing sector, the average annual rate of gross job gains over 4 years (1999–2002) is 9.4 percent and the average annual rate of gross job losses is 12.6 percent. These rates are broadly similar to those of Davis, Haltiwanger, and Schuh. The two crosswalks described in this article—the crosswalk between the manufacturing sector and the U.S. economy as a whole, and the crosswalk between the quarterly and the annual statistics—enables interested users to compare the quarterly statistics from the BLS Business Employment Dynamics program with the annual manufacturing statistics in the existing literature.

THIS ARTICLE presented annual gross job gains and gross job loss statistics that were created using the quarterly microdata from the Business Employment Dynamics program. The annual gross job gains and losses statistics show the tremendous amount of churning that underlies the net growth of employment. Indeed, every year in the U.S. economy, millions of establishments remaining in operation are adding or subtracting from their workforces, creating the turnover of millions of jobs. At the same time, hundreds of thousands of

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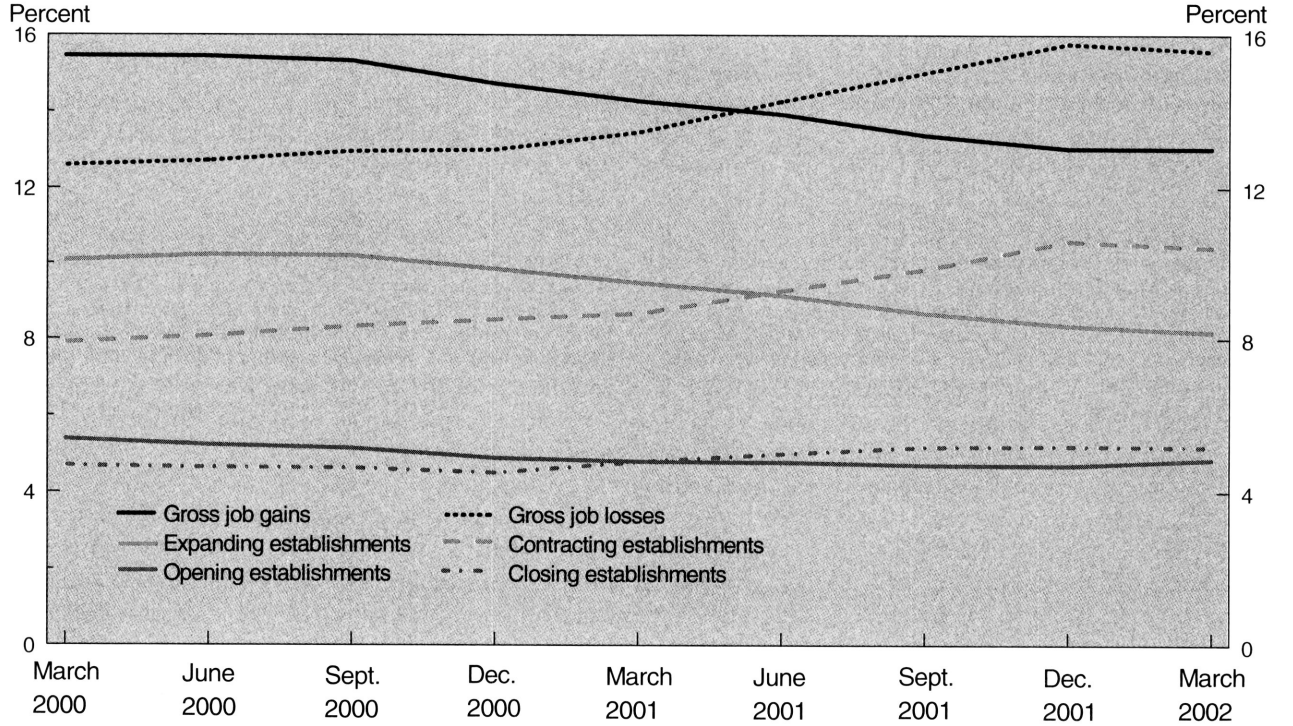
Table 6. Annual private-sector gross job gains and job losses, March 1999 to March 2002

Period	Employment			Gross job gains			Gross job losses		
	Previous year	Current year	Change	Total	Expanding establishments	Opening establishments	Total	Contracting establishments	Closing establishments
1999–2000:									
March to March	104,637,156	107,672,227	3,035,071 (2.86)	16,404,759 (15.45)	10,692,723 (10.07)	5,712,036 (5.38)	13,369,688 (12.59)	8,391,177 (7.90)	4,978,511 (4.69)
June to June	108,121,039	111,115,514	2,994,475 (2.73)	16,921,558 (15.44)	11,193,695 (10.21)	5,727,863 (5.23)	13,927,083 (12.71)	8,846,055 (8.07)	5,081,028 (4.64)
September to September	108,182,154	110,783,450	2,601,296 (2.38)	16,777,558 (15.32)	11,146,415 (10.18)	5,631,143 (5.14)	14,176,262 (12.95)	9,107,405 (8.32)	5,068,857 (4.63)
December to December	109,278,661	111,182,910	1,904,249 (1.73)	16,226,533 (14.72)	10,840,239 (9.83)	5,386,294 (4.89)	14,322,284 (12.99)	9,367,299 (8.50)	4,954,985 (4.50)
2000–2001:									
March to March	107,672,227	108,561,077	888,850 (.82)	15,431,998 (14.27)	10,240,477 (9.47)	5,191,521 (4.80)	14,543,148 (13.45)	9,363,412 (8.66)	5,179,736 (4.79)
June to June	111,115,514	110,734,261	–381,253 (–.34)	15,441,137 (13.92)	10,135,482 (9.14)	5,305,655 (4.78)	15,822,390 (14.26)	10,276,408 (9.26)	5,545,982 (5.00)
September to September	110,783,450	109,000,401	–1,783,049 (–1.62)	14,708,760 (13.38)	9,532,083 (8.67)	5,176,677 (4.71)	16,491,809 (15.01)	10,804,058 (9.83)	5,687,751 (5.18)
December to December	111,182,910	108,173,134	–3,009,776 (–2.74)	14,286,714 (13.03)	9,146,066 (8.34)	5,140,648 (4.69)	17,296,490 (15.77)	11,594,516 (10.57)	5,701,974 (5.20)
2001–2002:									
March to March	108,561,077	105,810,039	–2,751,038 (–2.57)	13,953,086 (13.02)	8,752,075 (8.17)	5,201,011 (4.85)	16,704,124 (15.58)	11,148,760 (10.40)	5,555,364 (5.18)

NOTE: Percentages are in parentheses.

Chart 1. Quarterly time series of annual private-sector gross job gains and losses, March 2000–02



NOTE: The 2001 recession, according to the National Bureau of Economic Research, occurred between March 2001 and November 2001.

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establishments open and close every year, causing the simultaneous gain and loss of millions of jobs. This analysis of the annual gross job flow statistics has highlighted their value as a complement to the quarterly gross job flow statistics released from the BLS Business Employment Dynamics program. □

NOTES

[1] For a complete description and analysis of the new data series, see James R. Spletzer, R. Jason Faberman, Akbar Sadeghi, David M. Talan, and Richard L. Clayton, "Business employment dynamics: new data on gross job gains and losses," *Monthly Labor Review*, April 2004, pp. 29–42. The Business Employment Dynamics Web site is **www.bls.gov/bdm**.

[2] Further details about definitions and the quarterly linkage algorithm can be found in Spletzer and others, "Business employment dynamics," April 2004.

[3] Establishments involved in ownership changes also need to be treated with care when constructing gross job gains and gross job loss statistics. When an establishment changes ownership, it is allowed to change its State specific unemployment insurance number. But this change will likely be identified by a State supplied predecessor or successor number or by the probabilistic weighted match in the BLS record linkage system, and as such, the unique establishment identifier in the BLS longitudinal establishment database remains constant through this period of ownership change.

[4] A detailed description of the algorithm can be found in Joshua C. Pinkston and James R. Spletzer, "Annual Measures of Job Creation and Job Destruction Created from Quarterly Microdata," *American Statistical Association 2002 Proceedings of the Section on Business and Economic Statistics*, pp. 3311–3316. This ASA paper reports that the annual gross job gains rate for California increases from 18.7 percent to 20.0 percent, and the annual gross job loss rate for California increases from 15.4 percent to 16.8 percent, when not using information on breakouts and consolidations within the year.

[5] See Spletzer and others, "Business employment dynamics," April 2004, table 5, page 40.

[6] Percentages are calculated using the average of the current and previous levels as the denominator. This ensures that increases and decreases are treated symmetrically. For example, conventional calculations would describe an increase from 4 employees to 8 as a 100-percent increase, whereas a decrease from 8 to 4 would be a 50-percent decrease. Instead, when using average employment in the denominator, both the increase from 4 to 8 and the decrease from 8 to 4 are changes of 66.67 percent.

[7] See James R. Spletzer, "The Contribution of Establishment Births and Deaths to Employment Growth," *Journal of Business and Economic Statistics*, January 2000, pp. 113–26.

[8] For instance, "in 1999 alone, 33 million jobs were destroyed and 36 million created." See "All Jobs Count," *The Washington Post*, Editorial, March 4, 2004, p. A22. These statistics are the sum of the four quarterly statistics in table 1.

[9] We do not interpret these statistics as survival probabilities, primarily because the statistics in table 5 refer to the opening and closing of establishments, whereas the literature on establishment survival refers to the birth and death of establishments. The statistics in table 5 (84.5 percent, 73.9 percent, and 61.6 percent), are lower than survival statistics in the literature. For example, the quarterly survival statistics in Spletzer, "The Contribution of Establishment Births and Deaths to Employment Growth," January 2000, are 90.5 percent, 84.9 percent, and 80.1 percent.

[10] See Timothy Dunne, Mark J. Roberts, and Larry Samuelson, "Plant Turnover and Gross Employment Flows in the U.S. Manufacturing Sector," *Journal of Labor Economics*, vol. 7, no. 1, 1989, pp 48–71; and Steven J. Davis, John C. Haltiwanger, and Scott Schuh, *Job Creation and Destruction* (Cambridge, MA, MIT Press, 1996).

[11] See Patricia M. Anderson and Bruce D. Meyer, "The Extent and Consequences of Job Turnover," *Brookings Papers on Economic Activity*, 1994, pp. 177–236; Christopher L. Foote, "Trend Employment Growth and the Bunching of Job Creation and Destruction," *Quarterly Journal of Economics*, vol. 113, No. 3, August 1998, pp. 809–34; and Spletzer, "The Contribution of Establishment Births and Deaths to Employment Growth," January 2000.

[12] Another possible explanation for the difference between the statistics in this article and those of Davis and others, *Job Creation and Destruction*, 1996, is different time periods. It is possible that the late 1990s and early 2000s have higher gross job flow rates than the 1970s and 1980s. However, figure 8 of R. Jason Faberman, "Gross Job Flows over the Past Two Business Cycles: Not all 'Recoveries' are Created Equal," BLS Working Paper no. 372, June 2004, shows that the gross job gains and gross job loss rates for the manufacturing sector are arguably lower in the 1990s than in previous decades.

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The Job Openings and Labor Turnover Survey: what initial data show

Early results from these new data series show trends that are in line with other surveys, both private industry and government, and allow for a more complete picture of the labor market

Kelly A. Clark

Data on job openings and labor turnover are useful in understanding the U.S. labor market, the business cycle, and the economy in general. The Bureau of Labor Statistics (BLS) began publishing such estimates in July 2002. These data include a measure of unmet labor demand, which complements the broadest measure of excess labor supply, the unemployment rate, and yields a more complete picture of the labor market. Hires and separations, measures of labor turnover, track labor market movements over the course of the business cycle and allow individual businesses to compare their own turnover rates with the national rates.

This article provides an overview of the estimates from the Job Openings and Labor Turnover Survey (JOLTS).[1] It briefly describes the JOLTS program, highlights what job openings and labor turnover data reveal about the labor market and the economy, and compares and contrasts the JOLTS series with other comparable data series to understand and, in part, validate movements in the JOLTS data. Ongoing and future uses for these valuable new data series are also discussed.

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The JOLTS program

BLS has collected both job openings and turnover information in several different surveys during the past 50 years. However, these surveys were short-lived due to budget cuts, and the scope was limited to certain industries or States. The current JOLTS program began in 1999 as a comprehensive survey of job openings, hires, and separations at a time when new data were needed to allow further analysis into the U.S. labor market and movements in the economy.[2]

JOLTS collects monthly job openings, hires, and separations data from a nationally representative sample of 16,000 private and public business establishments. Job openings are collected as of the last business day of the month, serving as a snapshot of unmet labor demand for the month. Hires and separations are collected for the entire month and measure the flow of labor during the month. Total separations are the sum of three components: quits (or voluntary separations); layoffs and discharges (involuntary separations); and other separations resulting from retirements, deaths, and disability.

The job openings rate is designed to complement the unemployment rate. There are three conditions for an opening to be reported in JOLTS, just as there are three conditions for a person to be considered unemployed. To be considered a job opening, a job must be currently available, work for the job could start within 30 days, and an employer must be actively recruiting to find someone to fill the job. To be considered unemployed, a person must

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be available for work, could start work immediately, and must be actively searching for work.

JOLTS estimates were first released in July 2002, and monthly estimates are available beginning with December 2000. In addition to the national totals, seasonally unadjusted estimates are published for the private and public sectors, for 16 private industry divisions, and for 2 public industry divisions based on the North American Industry Classification System (NAICS). Estimates for four geographic regions also are available. Seasonally adjusted estimates are available for job openings, hires, total separations, and quits at the total nonfarm level as well as for the regions and selected industry sectors.[3] Neither layoffs and discharges nor other separations showed a strong seasonal component, but these data series, as well as the remaining unadjusted industry series, will be re-evaluated periodically to determine if and when seasonal adjustment is possible.

The JOLTS data series were first published as developmental because the estimates from the new program were subject to intense scrutiny and review, and BLS needed time to conduct a thorough methodological review before announcing the series as official BLS labor market statistics. In addition, the entire sample of establishments was not enrolled in the survey until January 2002, and collection methods were refined in March 2002 to help respondents more accurately report separations data.

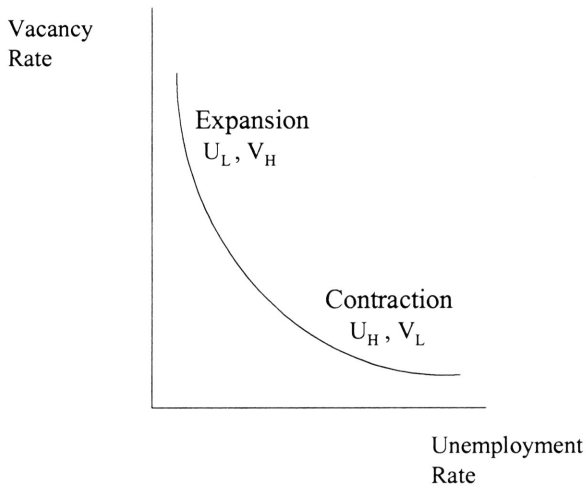
In April 2004, the developmental status was lifted, and seasonally adjusted data series were first released along with monthly press releases, which provided some analysis of the estimates. Also, the production process was altered to allow preliminary, or first closing, estimates to be released; previously, final, or second closing, estimates had been released. Even throughout the period when the series were classified as developmental, the individual series showed movements that were in line with other economic indicators and with the cyclical movement of the economy. Although BLS advises caution when using estimates prior to March 2002, those estimates are useful in evaluating the state of both the labor market and economy in general during the recessionary period and the beginning of the recovery.

Labor demand and the Beveridge curve

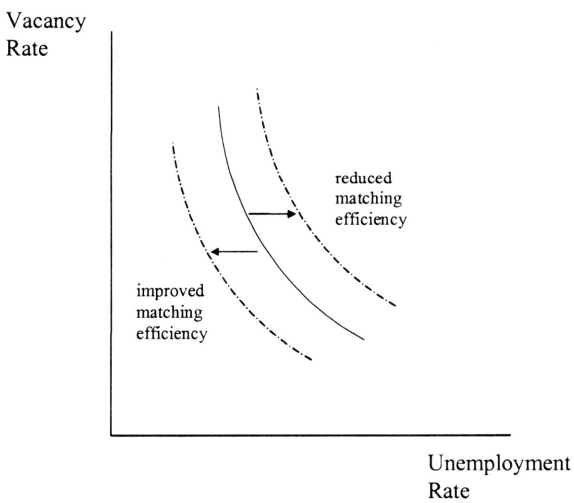
Statistics on job openings are a necessary complement to the BLS unemployment data for a complete picture of the labor market; job openings data represent unmet labor demand and unemployment data represent excess labor supply. The parallel concept of these two data sources allows direct comparisons. In theory, job openings should move in the opposite direction of unemployment over the course of the business cycle. In good economic times, the labor market tends to be tight, with employers searching for employees, but most people who want a job already are employed. Unemployment tends to be low and openings tend to be high. However, when economic conditions worsen, employers are hesitant to post openings for "new" jobs, and the few openings for existing jobs tend to be filled quickly. Unemployment is usually higher due to reduced hiring and increased layoffs in response to weak demand.

The Beveridge curve is the depiction of the relationship between job openings and unemployment over time, shown as an inverse relationship between the two rates, with movements along the curve distinguished from shifts of the curve itself. (See illustrations below.)

Movement along the Beveridge curve



A shift in the Beveridge curve



Movements along the curve are generally related to changes in the business cycle and the cyclical fluctuations of the demand for labor. Shifts of the curve are due to changes

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in the efficiency with which workers match with open jobs. These movements are based on changes in structural and frictional unemployment as the labor force changes and as industry and geographic trends influence the distribution of jobs. As matching efficiency changes, the curve moves closer to or further away from the origin. Even though the two movements are not independent, it is possible to distinguish them when graphing the Beveridge curve over long periods of time.[4]

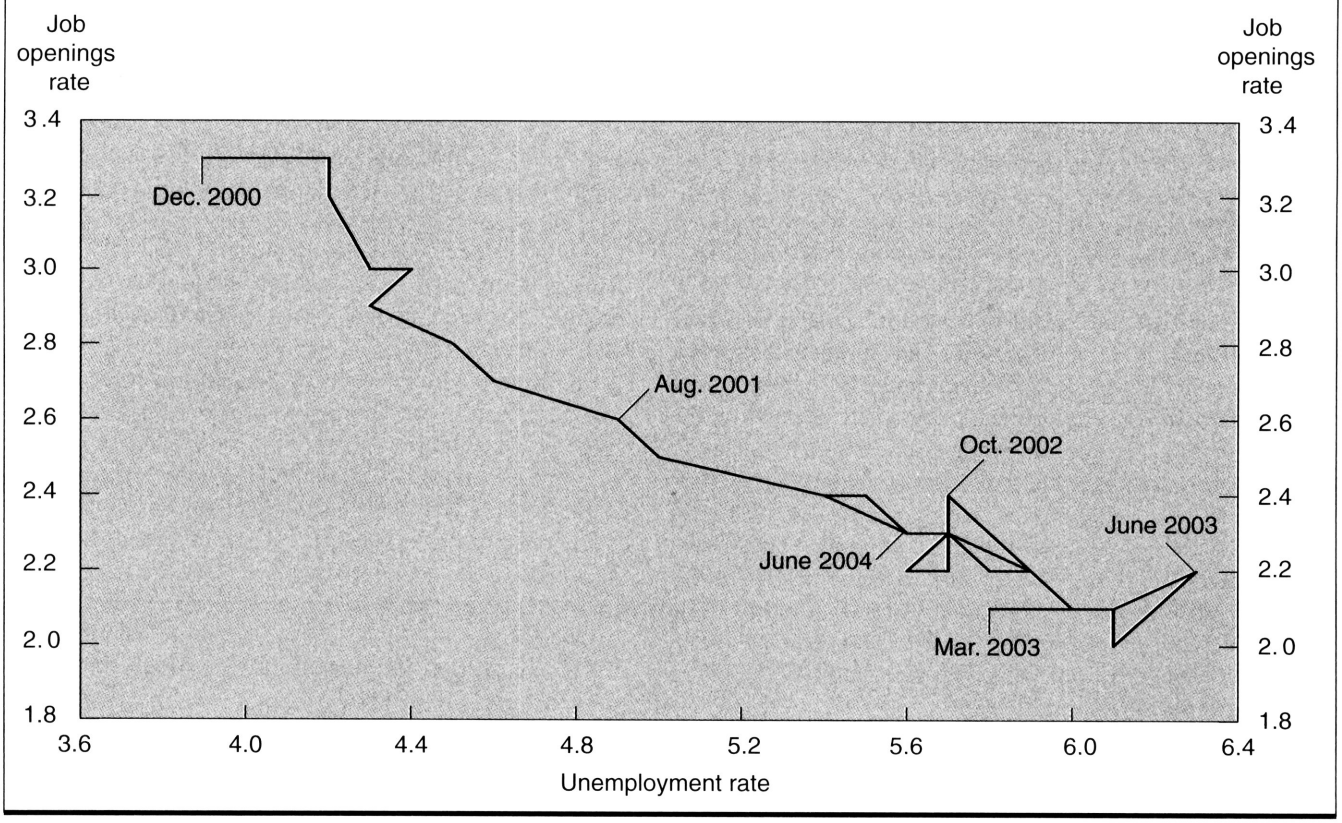
Although the JOLTS job openings series is rather short, a preliminary look at the Beveridge curve shows the expected inverse relationship between the job openings and unemployment rates. (See chart 1.) The correlation between the two series, at –0.80, is negative and significant, as expected. The chart shows that early 2001 was a period of low unemployment and high job openings. As the economy moved into recession, unemployment increased and job openings decreased. In the post-recessionary period, unemployment dropped slightly while job openings increased slightly. It appears as though there have been only movements along the curve (indicating changes in labor demand), rather than significant shifts in the curve (indicating changes in the efficiency with which open jobs match with workers), but a longer time series will be able to better distinguish the movements and yield more insight into the labor market changes during this period.

The short time series also does not allow much analysis of the job openings rate prior to the start of the 2001 recession. Research has predicted job openings lead at business cycle peaks and lag at troughs. When sensing an economic downturn, employers generally first reduce job openings and hires before separating current employees, and as conditions improve, it is less costly to recall workers from layoffs than to begin recruiting and training new employees. The National Bureau of Economic Research (NBER) dated the most recent recession as having started in March 2001, and with the job openings series beginning in December 2000, it is impossible to determine the number of months that the job openings rate dropped before the official start of the recession. However, NBER declared the recession over in November 2001, and it appears that job openings did not rebound strongly in 2002 or 2003, indicating lagging at the business cycle trough. Chart 1 shows that the Beveridge curve may be looping back along itself in 2004, showing that job openings have begun to increase as unemployment has decreased.

Job openings and unemployment levels

When examining the unemployment and job openings esti-

Chart 1. The Beveridge Curve, seasonally adjusted



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mates, it is easy to see that the two series are at different levels, and another way to analyze the data series is to compare the two levels over time. Long before the United States had a representative survey such as JOLTS to collect job openings data, Katharine Abraham suggested that the number of persons unemployed is much larger than the number of job openings.[5] Her research showed the number of unemployed persons was indeed greater than the number of job openings at any given time, but the ratio did shift over time. In the mid-1960s, the ratio of unemployed persons to one job opening was approximately 2.5, which shifted to 4.0 in the early 1970s and then increased to 5.0 in the late 1970s. These ratios can be used in determining the "tightness" of the labor market. The ratio using the JOLTS job openings data ranges from below 2.0 unemployed persons for every job opening throughout the first half of 2001, when the labor market was perceived as being relatively tight, to 3.3 in August 2003, when the labor market was seen as lagging the general economic recovery.

Because of these types of direct comparisons, there already has been talk of a "jobs deficit," or the difference between the number of unemployed persons and the number of job openings.[6] It is important to remember that even with carefully constructed parallel definitions, the reference periods are both snapshots, but different: the week of the 12th for unemployment, compared with the last business day of the month for job openings. Job openings that first become open and are filled at any time before the end of the month are not included in the job openings estimates. In addition, the JOLTS definition of a job opening requires that a job be unfilled to be counted. Experience suggests that some companies post openings and fill jobs while the departing employee is still working, in order to train the new employee, and these openings would not be included in the JOLTS estimate. Another requirement for a job opening to be counted is that work could begin within 30 days. For industries such as education that tend to fill jobs well in advance of when work will actually begin (posting jobs and hiring in the spring for work to begin when school opens in the fall), these openings will not be reflected in the JOLTS estimate. Furthermore, the survey that measures unemployment, the Current Population Survey (CPS), has a different scope than the JOLTS program. The CPS is a household survey that includes agricultural workers, unpaid family workers, domestic workers in private households, and the self-employed, all of whom are not covered by establishment surveys such as JOLTS. It is therefore better to compare the ratio of unemployed to job openings over time rather than focusing on how the levels compare at any one point in time.

In addition, Abraham was careful to note that it is not necessarily optimal for there to be a one-for-one relationship between unemployment and job openings.[7] There are social costs involved with unemployment (for instance, a 10-percent unemployment rate would not be considered optimal, even with a 10-percent job openings rate), and even if there were a one-for-one relationship at a point in time, the people looking for work may not meet the qualifications needed to fill the job openings, or the job openings may not be in the same location as the people looking for work. These frictions in the labor market (the source of frictional unemployment) keep job openings from being filled instantaneously.

Job openings and the Help-Wanted Index

From the beginning, the JOLTS program has tracked each data series against other available series to help analyze the validity of both long-term trends and month-to-month movements. The only other existing national measure of excess labor demand is the Conference Board's Help-Wanted Advertising Index (Help-Wanted Index).[8] With some manipulation, the Help-Wanted Index has been used in Beveridge curve analysis in the past. As a measure of the volume of help-wanted advertising in major newspapers from across the country, this index has been a good indicator when compared with unemployment. The job openings rate and the Help-Wanted Index, have trends that are roughly similar. (See chart 2.) However, the decrease from December 2000 to November 2001 was much sharper for the Help-Wanted Index, which experienced a drop of 42 percent, compared with a drop of 30 percent in the job openings rate. The differences in scope and definition between the Help-Wanted Index and the job openings rate may account for some of this difference. A change in the way employers advertise open positions also may help to explain; for example, if a large number of employers stopped posting advertisements in the newspaper in favor of advertising on one of the many Internet sites, the decline in the Help-Wanted Index would not represent an economic movement. In addition, JOLTS estimates from December 2000 through 2001 had larger measures of error than the 2002 and later estimates.

Employers who place help-wanted advertisements in newspapers may not be representative of the national economy, as ads tend to vary by skill level, education level, and job type. Also, the growth of the Internet's popularity for job postings may have affected the number of newspaper advertisements in the long run. The Conference Board has investigated ways to take account of advertising on the Internet, but has not made any adjustments to the Help-Wanted Index.

The various job search sites on the Internet are new options for employers seeking workers, but no single site is comprehensive enough to be used as an indicator of labor demand. Issues of coverage, scope, the existence of multiple positions per ad, and fees for postings are obstacles in using

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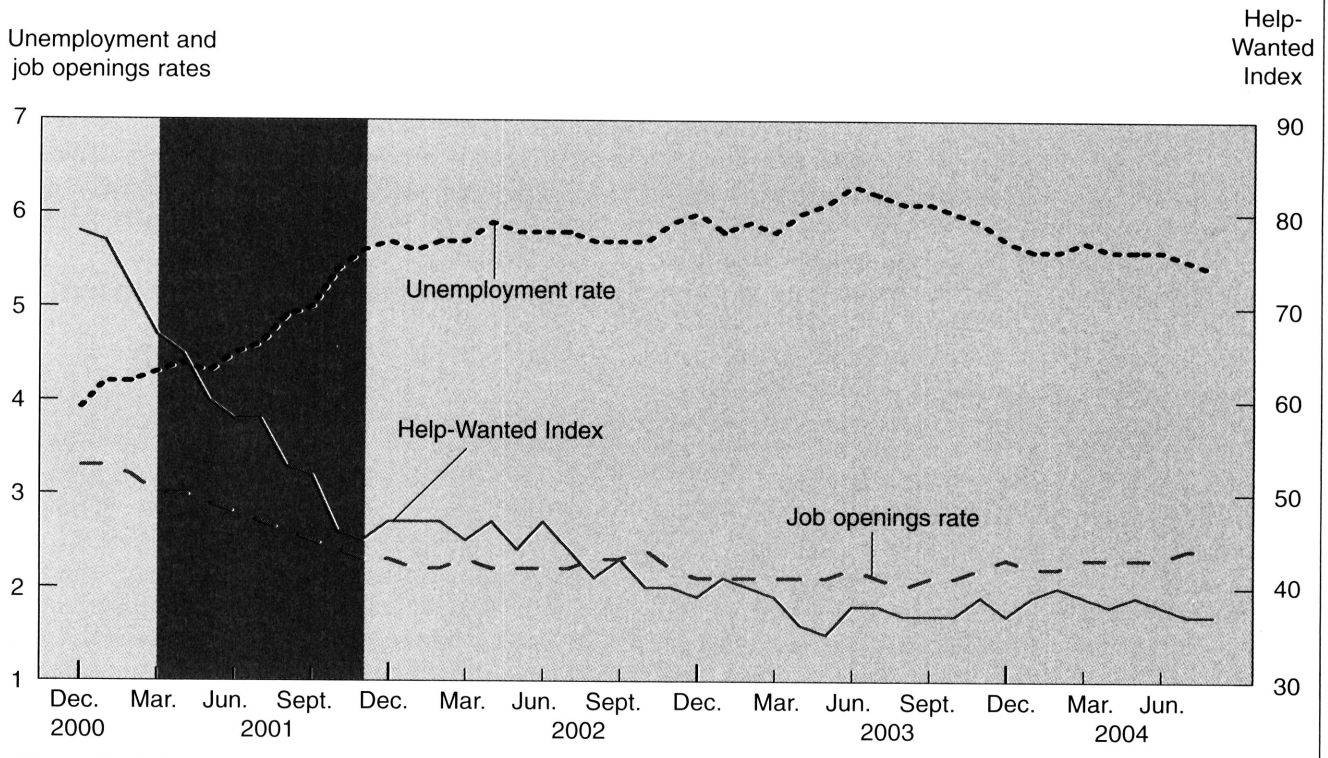
Chart 2. The Help-Wanted Index, unemployment rate, and job openings rate, seasonally adjusted



NOTE: Shaded area denotes recession.

these sites as indicators.

The Help-Wanted Index is not adjusted to account for multiple positions per ad, and there are no limitations on the types of ads placed in newspapers, some of which may be placed to gather resumes for future hiring. Neither JOLTS nor the Help-Wanted Index differentiates between full- or part-time openings, and neither includes occupational information or a measure of "good" jobs versus "bad" jobs or for low-wage versus high-wage positions. As the JOLTS program expands, questions related to these issues may be added to the survey.

Labor turnover and the business cycle

Thus far, the job openings data series has confirmed much of what previous research has suggested. However, some observers have been surprised by what the JOLTS hires and separations data series show, especially the amount of churning in the labor market each month. Net employment changes tend to be small from month to month, but there are millions of hires and millions of separations occurring each month at U.S. businesses. During the past decade, the annual employment change has averaged approximately plus or minus 2.2 million, but nearly 50 million hires and 50 million separations occur during any 12-month period in the past 3 years. These numbers dwarf the annual net employment change and help show the dynamism of the labor market. Information about labor market flows can therefore shed more light on how the economy works.

Hires and separations estimates can be used along with other economic indicators in examining movements in the business cycle. Hires are procyclical, increasing when the economy strengthens and decreasing when the economy weakens. In examining employment and the hires rate, there is a significant correlation between the two series. This indicates that employers tend to control their employment level by altering their hiring patterns, as there are significant costs associated with separations.[9] When economic times are good, employers hire to replace employees who have separated and may hire for newly created jobs. During recessions, employers may hold back on hiring to replace separated workers until business conditions improve, rather than increase separations overall. There is a close trend movement between the unadjusted series of employment and the hires rate and the related movement of the quits rate, the largest part of total separations. (See chart 3.) In fact, the correlations between hires and employment and quits and employment are positive and significant.[10] As quits tend to behave

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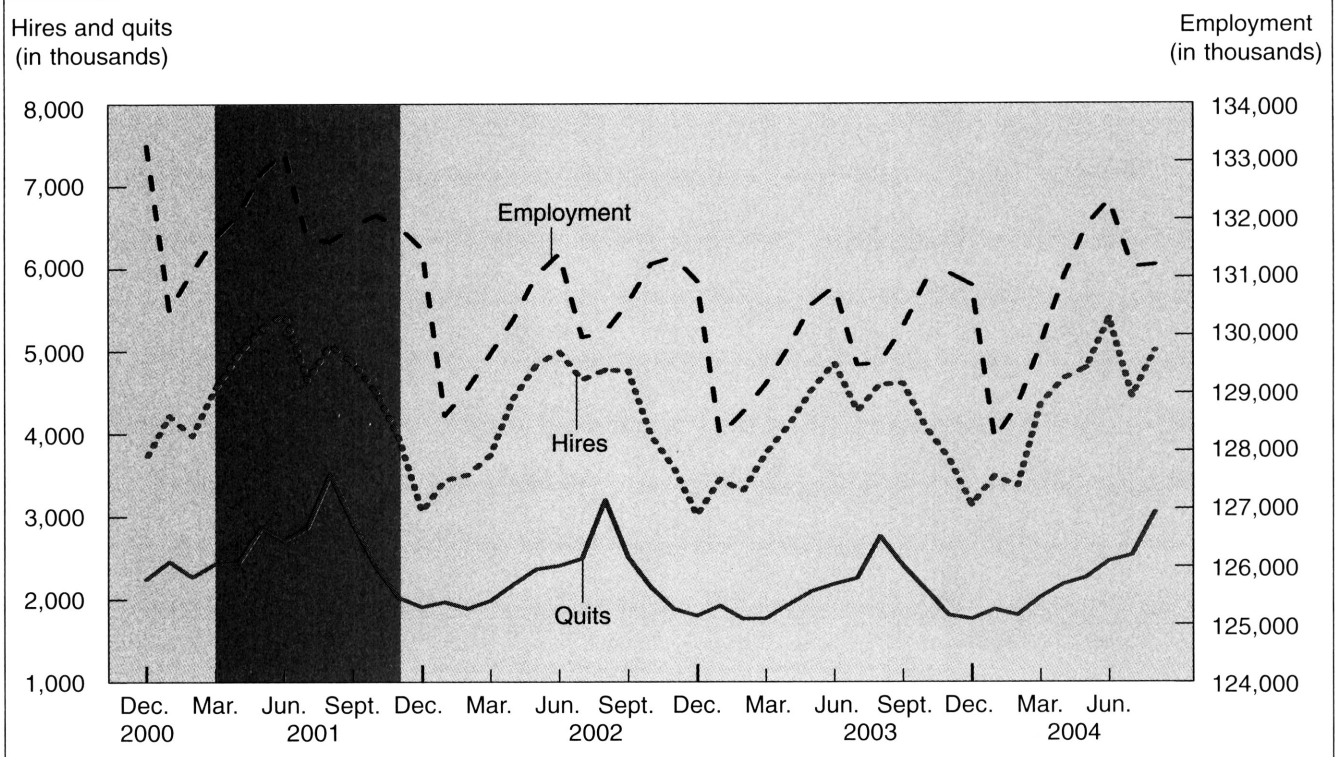
Chart 3. Employment, hires, and quits, not seasonally adjusted



NOTE: Shaded area denotes recession.

procyclically, increasing when the economy is strong (and thus as employment increases), the correlation with employment is positive.

The movement of the separations rate is dominated by quits. In fact, quits have ranged from 51.3 percent of total separations in June 2003 to more than 60 percent in early 2001 and have averaged 54.7 percent over the course of the published data series. This is an important fact in examining how separations data move with the business cycle. Intuitively, separations would seem to be countercyclical; as economic conditions deteriorate, employers lay off workers. However, because of the dominance of quits among the three components of total separations, separations have behaved procyclically. Total separations have decreased during the current recessionary period, largely because of the decrease in quits over that period and despite the uptick in layoffs and discharges. (See chart 4.)

Layoffs and discharges did increase during the recession, especially from June to October 2001, but perhaps not as much as media reports would indicate. Often, companies report a target number of "layoffs," but some companies may actually decrease their workforce through attrition and by decreased hiring during worsening economic conditions. Other companies may lay off workers in their factories overseas before cutting jobs at U.S. plants. In other cases, planned layoffs never materialize.

The other separations rate, which includes retirements, deaths, separations due to disability, and transfers to other locations of an establishment, has remained relatively stable over the course of the published series, fluctuating between 0.2 percent and 0.3 percent. A large proportion of other separations is thought to be retirements, and thus the demographic shift in the composition of the labor force may affect the other separations rate in coming years. As the baby-boom generation moves into retirement years, the result may be an increase in the other separations rate over time.

Turnover estimates and other economic indicators

As stated earlier, quits tend to decrease during recessions because workers' outlook toward finding another job worsens with deteriorating economic conditions.[11] As economic conditions worsened throughout 2001 and 2002, consumer confidence plunged, and fewer people quit their jobs than at the same time the prior year. (See chart 5.) The seasonally adjusted quits series shows a decrease throughout the published series, and the consumer confidence index exhibits the same downward trend as the quits rate over the course of the

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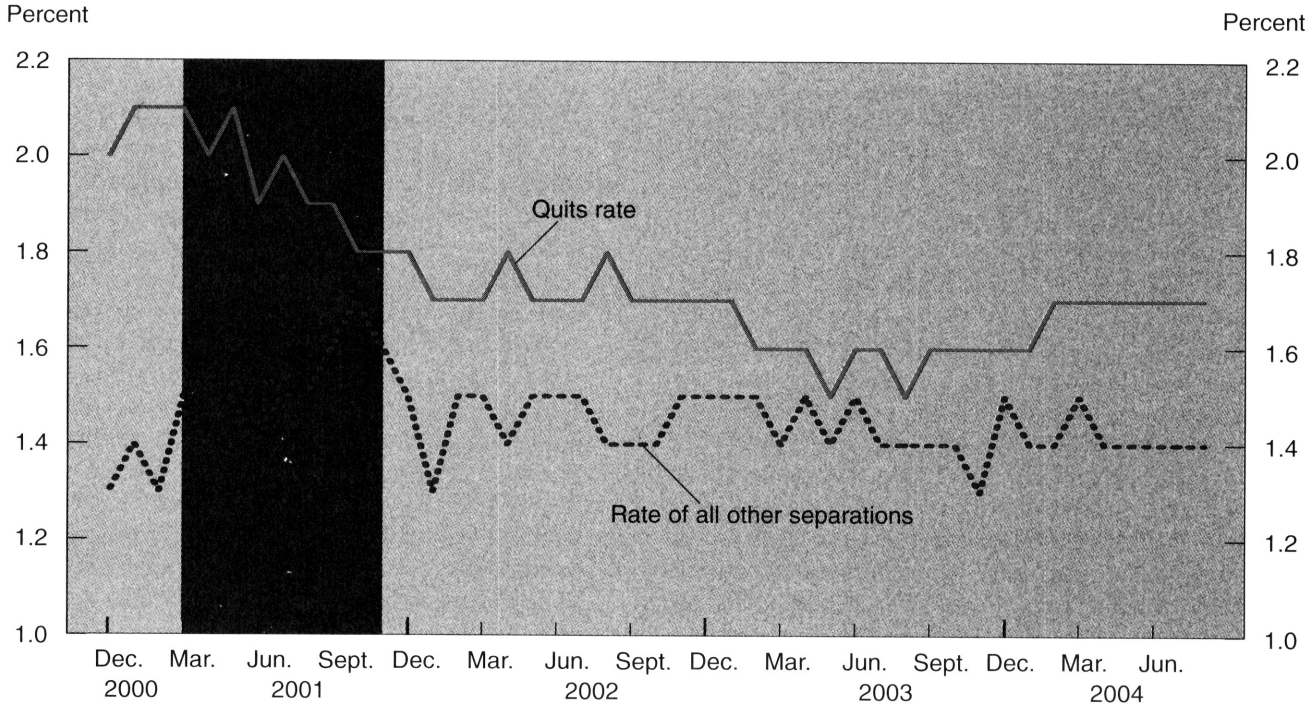
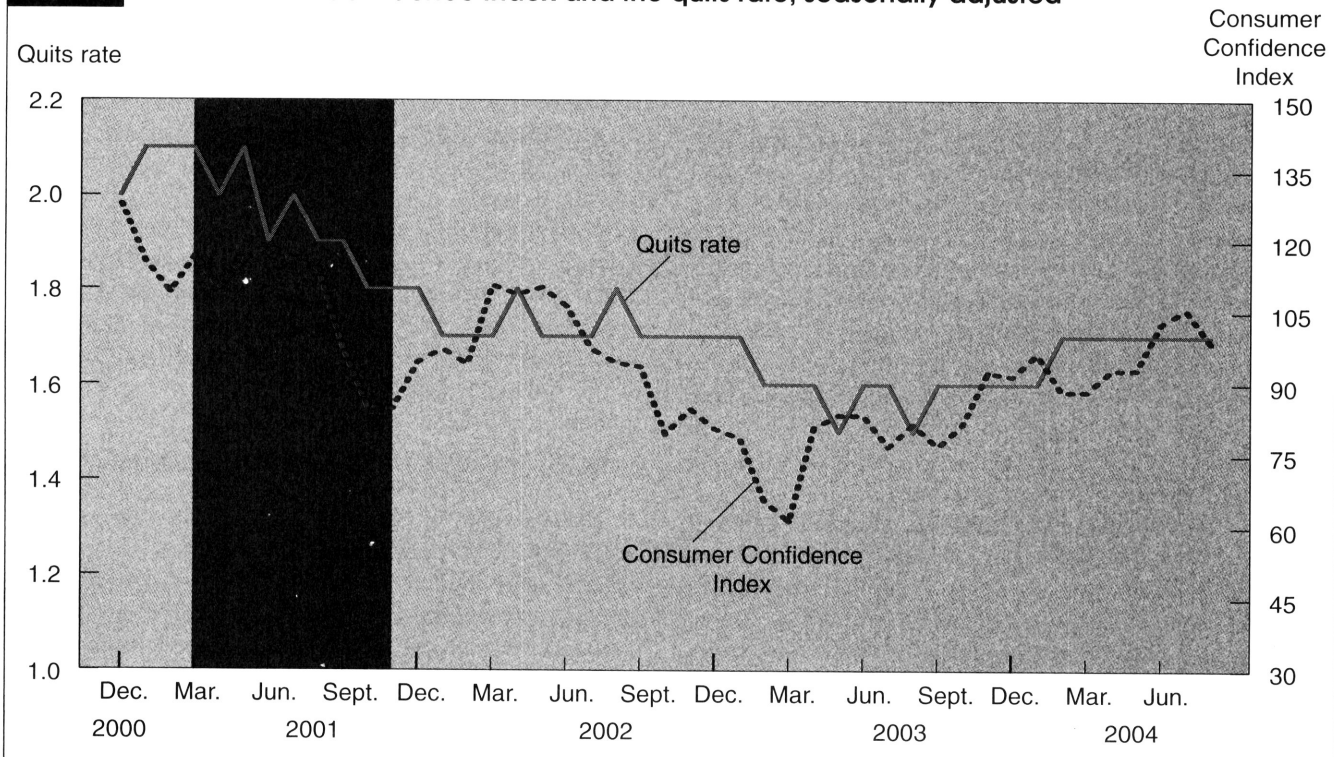
Chart 4. Breakouts of total separations, seasonally adjusted



NOTE: Shaded area denotes recession. The "all other separations" series is derived by subtracting quits from total separations. The layoffs and discharges and other separations series are not seasonally adjusted.

Chart 5. The Consumer Confidence Index and the quits rate, seasonally adjusted



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series. The consumer confidence series shows something of a rebound in late 2003 and early 2004, perhaps signaling that quits may be expected to increase even further in late 2004. The correlation of quits and consumer confidence is 0.80, which is positive and significant.

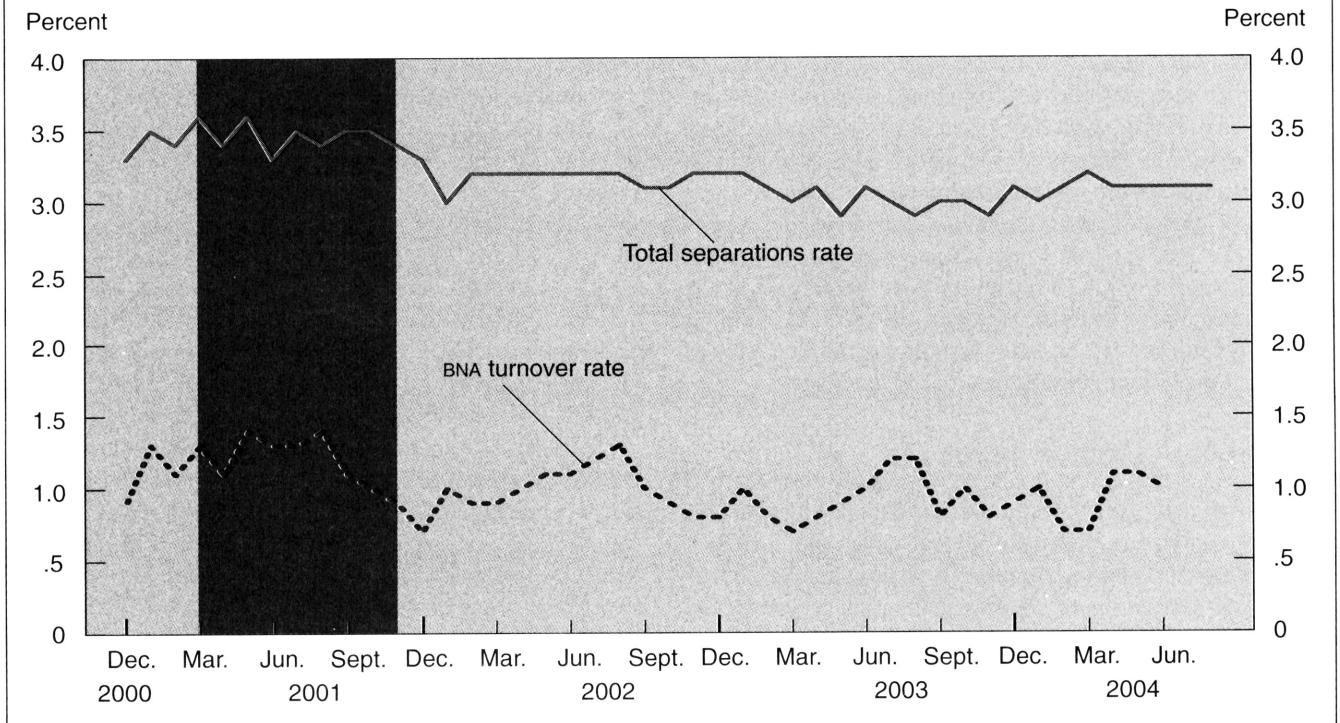
One of the only other data series providing a national turnover rate has been the Bureau of National Affairs (BNA) quarterly Job Absence and Turnover report.[12] This long-running series provides results from approximately 300 U.S. member companies surveyed. The JOLTS total separations data trend with the BNA turnover series, but at a higher level partly because BNA does not include layoffs, job eliminations, or departures of temporary staff, whereas JOLTS includes all types of separation during the reference month. (See chart 6.)

Although the BNA report provides a long time series for turnover estimates, the JOLTS program provides a timely and nationally representative indicator of turnover for both hires and separations. In addition, with a much larger sample size and a more inclusive definition of turnover, the JOLTS statistics are more reliable and useful. With the larger sample size, JOLTS is able to publish more industry detail. However, the BNA report publishes turnover rates by establishment size class, which JOLTS may pursue in the future because turnover rates appear to vary by establishment size.

In mid-2003, BLS once again added to the national statistical framework with data series showing what underlies net employment changes, the Business Employment Dynamics (BED).[13] Quarterly statistics on gross job gains and gross job losses also prove an interesting comparison to hires and separations flows. (See chart 7.) These series track net employment changes at the establishment level. A preliminary analysis has shown JOLTS total private hires and separations, summed for each quarter, have outpaced the gross job gains and gross job losses, which is as expected. The gross job gains and gross job losses are computed by comparing the employment level of the third month of each quarter. JOLTS measures each individual hire and separation that occurs during every month, and thus the data series are, by definition, higher than the gross job gains and losses series. For example, if an establishment's employment level was 10 in the third month of the first quarter and 10 in the third month of the second quarter, there would be no employment change and thus no effect on the gross job gains or losses. However, there may have been three hires and three separations in between those two points, which JOLTS data would reflect.

Along with JOLTS, the Business Employment Dynamics statistics on gross job gains and gross job losses are additional tools to use in labor market analysis. The JOLTS data series will continue to be tracked against all of these data series over time. As with job openings, the JOLTS series of hires and

Chart 6. Bureau of National Affairs (BNA) turnover and total separations rates, seasonally adjusted



NOTE: Shaded area denotes recession.

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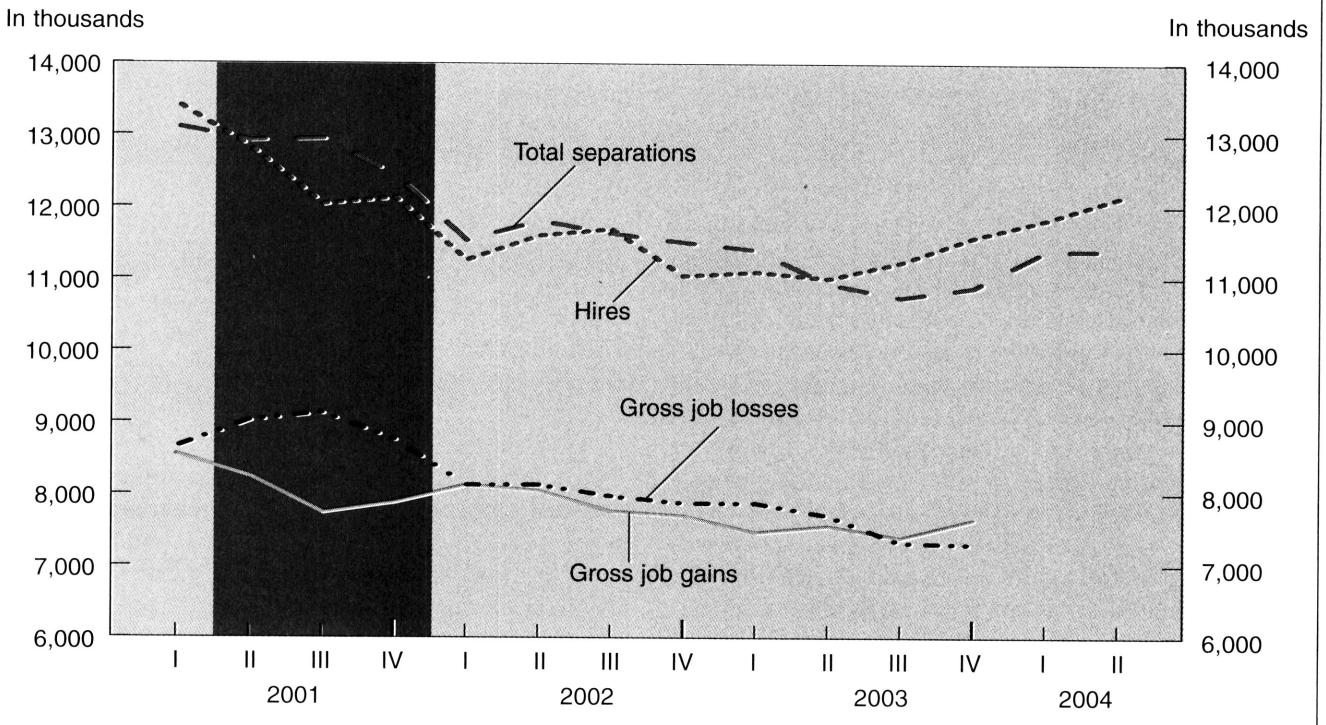
Chart 7. Quarterly Business Employment Dynamics gross job gains and losses and hires and total separations, seasonally adjusted



NOTE: Shaded area denotes recession.

separations are more comprehensive and statistically reliable measures than other series currently available. However, because the data are collected from businesses, it is not possible to track employment flows of individuals. For example, if a person quits, there is no way of telling if they quit to move into another job, become unemployed, or leave the labor force. Surveys that track labor force flows over time, such as the BLS National Longitudinal Survey or the gross flows statistics from the BLS Current Population Survey, are more appropriate for those types of analysis. Combining these indicators with JOLTS statistics allows a more complete picture of the labor market for study and analysis.

Future uses of JOLTS estimates

Although the JOLTS program was designed to provide national economic indicators, there are several things the estimates do not provide. There is a demand for job openings by occupation and establishment size class, duration of vacancies, and openings at the State and metropolitan area level. Some industry or occupational associations have estimates of job openings, and several States are conducting a job vacancy survey, but there is no single comprehensive and statistically reliable source for this type of information. The JOLTS program is currently investigating the feasibility of developing estimates by establishment size class and estimates for the total metropolitan and nonmetropolitan areas.

Another future use for JOLTS estimates concerns analysis of wages. Using data serving as a proxy for job openings, researchers have found that job openings may be a better indicator of wage inflation than is unemployment.[14] This certainly should be an area for research once the JOLTS job openings series develops further. Econometric analysis involving wages (with data from the BLS Current Employment Statistics program), unemployment, and job openings, including other factors, will be required to investigate the strength and validity of the relationships.

The job matching function has been of interest to researchers for several years, and wages also play a role in this analysis. The matching function relates the flow of new matches (hires) to the number of jobseekers (unemployed persons) and job openings. The results of job matching are easily observable from month-to-month changes in the job openings and unemployment data, but how jobseekers and employers with open jobs actually find each other is quite complicated. Factors such as wages, as well as external factors such as demographics, educational structure, and geographic concentration of industries all influence how open jobs and

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jobseekers are matched.[15] As proxies of job openings had been used in previous studies, analysis using the JOLTS job openings data will help further this area of research.

It is apparent that there is a long list of research topics that job openings and turnover data can be used to investigate. Alone or in combination with other national economic indicators, the new JOLTS data series already have yielded valuable information about the U.S. labor market and economy in general. The estimates have shown similar trends as other national economic series, and they will continue to be tracked over time as a validation exercise and as a research and analysis tool. □

Notes

[1] Job openings and labor turnover data, along with a brief analysis, are released monthly in a press release, on the Internet at: **http://www.bls.gov/jlt/**. Selected data also appear in the Current Labor Statistics department of this publication each month.

[2] For additional information about the development of the program, see Kelly Clark and Rosemary Hyson, "New tools for labor market analysis: the Job Openings and Labor Turnover Survey," *Monthly Labor Review*, December 2001, pp. 32–37.

[3] Natural resources and mining, information, financial activities, and other services did not show strong seasonal patterns when seasonal adjustment diagnostics were first evaluated.

[4] See Katharine G. Abraham, "Help-Wanted Advertising, Job Vacancies, and Unemployment," *Brookings Papers on Economic Activity*, no. 1, June 1987, pp. 207–48; and Hoyt Bleakley and Jeffrey C. Fuhrer, "Shifts in the Beveridge Curve, Job Matching, and Labor Market Dynamics," *New England Economic Review*, September/October 1997, pp. 3–19.

[5] See Katharine G. Abraham, "Structural/Frictional vs. Deficient Demand Unemployment: Some New Evidence," *American Economic Review*, 1983, vol. 73(4), pp. 708–24.

[6] See *Economic Snapshots*, The Economic Policy Institute, Oct. 2, 2002.

[7] See Abraham, "Structural/Frictional," p. 708–24.

[8] For additional information about the Help-Wanted Advertising Index, see The Conference Board's website at **www.conference-board.org**

[9] See Daniel S. Hamermesh, Wolter H.J. Hassink, and Jan C. van Ours, "Job Turnover and Labor Turnover: A Taxonomy of Employment Dynamics," *Annales D'Economie et de Statistique*, no. 41/42, 1996, pp. 21–40, for their work concerning Dutch establishments; and John M. Abowd, Patrick Corbel, and Francis Kramarz, "The Entry and Exit of Workers and the Growth of Employment: An Analysis of French Establishments," *The Review of Economics and Statistics*, 81(2), May 1999, pp. 170–87, for their work concerning French establishments.

[10] The correlation coefficient for hires and employment is 0.51 and for quits and employment is 0.44; both are significant at the 95 percent confidence level.

[11] See Hoyt Bleakley, Ann E. Ferris, and Jeffrey C. Fuhrer, "New Data on Worker Flows During Business Cycles," *New England Economic Review*, July/August 1999, pp. 49–76 and Patricia M. Anderson and Bruce D. Meyer, "The Extent and Consequences of Job Turnover," *Brookings Papers: Microeconomics*, 1994, pp. 177–248.

[12] For additional information about the Job Absence and Turnover Report, please see the Bureau of National Affairs' website at **www.bna.com**

[13] For additional information about the business employment dynamics, see James R. Spletzer, R. Jason Faberman, Akbar Sadeghi, David M. Talan, and Richard L. Clayton, "Business employment dynamics: new data on gross job gains and losses," *Monthly Labor Review*, April 2004, pp. 29–42.

[14] See Katharine G. Abraham and James L. Medoff, "Unemployment, Unsatisfied Demand for Labor, and Compensation Growth in the United States, 1956–1980," National Bureau of Economic Research Working Paper Series, no. 781, October 1981.

[15] See Barbara Petrongolo and Christopher A. Pissarides, "Looking into the Black Box: A Survey of the Matching Function," *Journal of Economic Literature*, June 2001, pp. 390–431.

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Employment and wages for the U.S. ocean and coastal economy

Quarterly Census of Employment and Wages data provide new industrial and geographic views of the U.S. coastal and ocean economy over the 1990–2001 period

Charles S. Colgan

Although national trends in employment have shown a marked shift away from manufacturing and natural resource extraction over the past 40 years, interest in the economic use of major natural resources remains a matter of substantial concern. This has long been the case with agriculture, where the farm/nonfarm distinction is a staple of employment statistics. It is increasingly true of other resources, including those of the oceans and Great Lakes. A substantial debate about how to manage those resources is about to be engaged, driven in large part by two recent major reports, one from a private foundation and the other from a commission chartered by Congress.[1]

The analysis of major natural-resource-oriented economic sectors is relatively straight-forward in most cases. Agriculture is well documented; it and minerals both have their own divisions within the Standard Industrial Classification (SIC) system and the North American Industry Classification System (NAICS). Forest products are well defined in SIC 24, 25, and 26, and in several NAICS codes. Moreover, each of these resource industries is usually clearly defined geographically, with well-recognized agricultural, forest products, and mining regions. The analysis of the ocean economy, however, has none of these advantages.

The ocean economy consists of activities measured in a number of industries, though none, with the exception of ship and boat building, is a measured major industry or sector level. In the SIC codes, all are at the three- or four-digit level, and in the NAICS codes, most are at the six-digit level. The span of industries includes primary production, manufacturing, transportation, retail, and services. Moreover, while the ocean economy is concentrated in the 30 coastal States (including the Great Lakes states), it is found throughout the United States. Seafood stores are found in Nebraska, and North Sails builds the sails for the America's Cup class boats at a sail loft in Nevada. Even within the coastal States, the ocean economy can be found in the largest cities and smallest towns, making it geographically specific, but across a wide range of regional economies.

This article summarizes the results of a preliminary analysis of the coastal and ocean economy of the United States over the 1990–2001 period. The analysis was conducted as part of the National Ocean Economics Project (NOEP), which is funded by the National Oceanic and Atmospheric Administration (NOAA) to develop nationally consistent estimates of both the market-based and nonmarket-based economic values associated with the coasts and oceans. Employment and wage estimates are shown for the United States and the coastal States using the Quarterly Census of Employment and Wages (QCEW) employment series compiled from the BLS Longitudinal Database. A comparison of the ocean economy measured by SIC and NAICS classifications is provided.

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Conclusions and suggestions for further research are presented regarding the use of QCEW data for the measurement of sectors involving complex multi-industry and geographic attributes.

Defining the ocean and coastal economy

In this article, the term "oceans" includes the Atlantic and Pacific Oceans, the Gulf of Mexico, the Great Lakes, and all States bordering these bodies of water. Federal ocean and coastal policies and programs are defined to include the Great Lakes region, so the creation of ocean-related economic data requires that the Great Lakes be included.

There have been several earlier attempts to define an ocean economy, primarily by developing estimates for an ocean-related portion of the gross domestic product (GDP).[2] The earliest of these efforts occurred in the 1970s, when the U.S. Department of Commerce's Bureau of Economic Analysis identified the key dimensions for defining the ocean economy: industry and geography. Existing data must be organized using these two criteria while staying within the rules of confidentiality.

A major issue with the level of industrial aggregation in published statistics is that confidentiality protections limit the availability of data for many of the three- and four-digit industries required for analysis of the ocean economy. In order to deal with these issues, establishment-level data must be grouped into new industrial and sectoral definitions, which can also be more descriptive of the ocean. (See exhibit 1.)

Data for the ocean economy need to be referenced to both SIC and NAICS. (See exhibit 2.) Employment and wage data for the ocean economy are measured on a SIC basis for 1990 and 2000. For 2001, data are measured on both a SIC and NAICS basis for comparison purposes.

Regardless of their location, some industries, such as ship building and seafood processing, are clearly connected to the oceans; others, including all of those in the tourism and recreation sector, are ocean related only if they are located near the shores of the oceans or Great Lakes. Fixing the geographic location of establishments in these industries is thus particularly important. Previous studies have relied primarily on location in shore-bordering counties to define an establishment as ocean related, but counties present some obvious difficulties from the perspective of defining an ocean economy. Counties come in very different sizes, from the relatively compact counties of States like Alabama and Mississippi to the sprawling areas of Los Angeles County or the boroughs of Alaska. Many county boundaries were fixed two or more centuries ago for administrative and political purposes, which may bear little relationship to modern concepts of ecosystem-based regions.

Thus, the problem is to find a level of geography that is considerably closer to the shoreline than county boundaries, but is also available on establishment records for identification purposes. Ideally, this could be done by choosing an appropriate distance boundary (for example, 5 kilometers) from the shoreline, and then selecting all establishments with street addresses within that distance. The selection of appropriate addresses is a straightforward task using modern Geographic Information Systems (GIS) software; however, establishment data in the QCEW series are not yet coded properly to permit this type of analysis.

An alternative is to use the zip code of the establishment as the defining geography. Again using GIS analysis, zip codes can also be identified by their intersection with appropriate shoreline locations, and they appear on almost all establishment records.[3] Additionally, they meet the requirement of being considerably more compact than counties, particularly in large urban settings. Zip codes are increasingly used in the presentation of a variety of socio-economic data. For example, the Census Bureau publishes both population and housing data and employment data in zip code geographies. With the use of zip codes, the ocean economy can be defined by reference to industries whose production processes and products directly involve the use of ocean resources, or to industries that indirectly use ocean inputs by virtue of their physical location in a shore-adjacent zip code.

There are disadvantages to using zip codes. They are fixed by the U.S. Postal Service (USPS) for their administrative convenience, and thus can have some rather odd shapes depending on the particular needs of the USPS. Unlike county boundaries, which are highly stable over time, zip code boundaries change from time to time, with new zip codes added as popu-

Exhibit 1. Ocean economy sectors and industries

Construction	*Amusement and recreation services not elsewhere classified*
Marine construction	*Boat dealers*
Living resources	*Eating and drinking places*
Fish harvesting	*Hotels and motels*
Aquaculture	*Marinas*
Seafood processing	*Recreational vehicle parks and campgrounds*
Minerals	*Sporting goods*
Limestone, sand, and gravel	
Oil and gas exploration	**Transportation**
Oil and gas production	Deep sea freight transportation
Ship and boat building	Marine passenger transportation
Boat building	Marine transportation services
Ship building	Search and navigation equipment
Tourism and recreation	*Warehousing*
Zoos and aquaria	

NOTE: Industries listed in *italics* are defined as ocean only when an establishment is located in a zip code adjacent to the Atlantic or Pacific Oceans, the Gulf of Mexico, or the Great Lakes.

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Exhibit 2. Ocean economy sectors and industries by SIC and NAICS codes

Sector and industry	NAICS code	NAICS industry (1997 NAICS)	SIC code	SIC industry (1987 SIC)
Construction				
Marine related construction	237120	Oil and gas pipeline and related structures	1629	Heavy construction, not elsewhere classified
	237990	Other heavy and civil engineering construction		
Living resources				
Fish hatcheries and aquaculture	112511	Finfish farming and fish hatcheries	0273	Animal aquaculture
	112512	Shellfish farming	0921	Fish hatcheries and preserves
Fishing	114111	Finfish fishing	0912	Finfish fishing
	114112	Shellfish fishing	0913	Shellfish fishing
Seafood processing	311711	Seafood canning	2077	Animal and marine fats and oils
	311712	Fresh and frozen seafood processing	2091	Canned and cured fish and seafoods
			2092	Fresh and frozen fish and seafoods
Minerals				
Limestone, sand, and gravel	212321	Construction sand and gravel mining	1422	Crushed and broken limestone
	212322	Industrial sand mining	1442	Construction sand and gravel
Oil and gas exploration and production	211111	Crude petroleum and natural gas extraction	1446	Industrial sand
	213111	Drilling oil and gas wells	1311	Crude petroleum and natural gas
	213112	Support activites for oil and gas operations	1321	Natural gas liquids
	541360	Geophysical exploration and mapping services	1381	Drilling oil and gas wells
			1382	Oil and gas field exploration services
			1389	Oil and gas field services, not elsewhere classified
Ship and boat building				
Boat building and repair	336612	Boat building and repair	3732	Boat building and repair
Ship building and repair	336611	Ship building and repair	3731	Ship building and repair
Tourism and recreation				
Boat dealers	441222	Boat dealers	5551	Boat dealers
Eating and drinking places	722110	Full service restaurants	5812	Eating places
	722211	Limited service eating places		
	722212	Cafeterias		
	722213	Snack and nonalcoholic beverage bars		
Hotels and lodging places	721110	Hotels (except casino hotels) and motels	7011	Hotels and motels
	721191	Bed and breakfast inns		
Marinas	713930	Marinas	4493	Marinas
Recreational vehicles, parks, and campsites	721211	RV parks and recreational camps	7033	Recreational vehicles, parks, and campsites
Scenic water tours	487210	Scenic and sightseeing transportation, water		
Sporting goods	339920	Sporting and athletic goods manufacturing	3949	Sporting and athletic goods manufacturing, not elsewhere classified
Amusement and recreation services	487990	Scenic and sightseeing transportation, other	7999	Amusement and recreation services, not elsewhere classified
	611620	Sports and recreation instruction		
	532292	Recreation goods rental		
	713990	Amusement and recreation services, not elsewhere classified		
Zoos and aquaria	712130	Zoos and botanical gardens	8422	Zoos and aquaria
	712190	Nature parks and other similar institutions		
Transportation				
Deep sea freight	483111	Deep sea freight transportation	4412	Deep sea foreign transportation of freight
	483113	Coastal and Great Lakes freight transportation	4424	Deep sea domestic transportation of freight
			4449	Water transportation of freight, not elsewhere classified
Marine passenger transportation	483112	Deep sea passenger transportation	4481	Deep sea transportation of passengers except by ferry
	483114	Coastal and Great Lakes passenger transportation	4482	Ferries
			4489	Water transportation of passengers, not elsewhere classified
Marine transportation services	488310	Port and harbor operations	4491	Marine cargo handling
	488320	Marine cargo handling	4492	Towing and tugboat services
	488330	Navigational services to shipping	4499	Water transportation services, not elsewhere classified
	488390	Other support activities for water transportation		
Search and navigation equipment	334511	Search, detection, navigation, guidance, aeronautical and nautical system, and instrument manufacturing	3812	Search, detection, navigation, guidance, aeronautical and nautical system, and instrument manufacturing
Warehousing	493110	General warehousing and storage	4225	General warehousing and storage
	493120	Refrigerated warehousing and storage	4222	Refrigerated warehousing and storage
	493130	Farm product warehousing and storage	4221	Farm product warehousing and storage

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lation and economic growth occurs. This implies the need for continual monitoring of the zip code administration process to assure use of appropriately dated codes.

Employment and wages

In total in 1990, the ocean sector employed 1.9 million people in wage and salary employment and grew to 2.3 million in 2000. Two sectors are excluded from the analysis at this time — government and scientific research — because of data limitations.[4] (See table 1.) This growth in employment of 355,000 over the period, or 18.5 percent, was significant, and actually slightly exceeded the national growth rate of 18.2 percent for wage and salary jobs. Total wages and salaries measured in current dollars grew by 46.3 percent, substantially lagging behind the national growth of 76.2 percent.

The average wages in the ocean sector rose from $19,784 to $24,442 per year in nominal dollars. (See table 2.) This growth rate of 23.5 percent also lagged significantly behind the U.S. nominal growth rate in average wages of 48.6 percent. While three of the five ocean economy sectors pay average wages above the national average wage, the overall average wage in the ocean economy lagged the U.S. average wage by more than $3,500 in 1990 and by more than $10,000 in 2000.

Table 1. Private ocean economy (SIC basis), 1990 and 2000

Ocean economy sector	Establishments	Employment	Wages (millions of current dollars)
1990			
Total	91,203	1,924,014	$38,064
Construction	2,144	30,198	937
Living resources	5,098	71,819	1,540
Minerals	1,829	45,099	1,860
Ship and boat building	3,192	230,097	6,564
Tourism and recreation	71,958	1,182,809	13,447
Transportation	6,982	363,992	13,716
2000			
Total	116,736	2,279,006	$55,704
Construction	2,064	31,835	1,364
Living resources	4,580	62,184	1,838
Minerals	1,984	40,097	2,432
Ship and boat building	3,684	176,098	6,952
Tourism and recreation	95,850	1,672,156	27,292
Transportation	8,572	296,634	15,826
	Establishments	**Employment**	**Nominal wages (millions)**
Change 1990–2000			
Total	25,533	354,993	$17,640
Construction	–80	1,638	427
Living resources	–518	–9,636	298
Minerals	155	–5,002	572
Ship and boat building	492	–53,999	388
Tourism and recreation	23,892	489,346	13,845
Transportation	1,590	–67,357	2,110
Percent change 1990–2000			
Total	28.00	18.50	46.30
Construction	–3.70	5.40	45.60
Living resources	–10.20	–13.40	19.30
Minerals	8.50	–11.10	30.80
Ship and boat building	15.40	–23.50	5.90
Tourism and recreation	33.20	41.40	103.00
Transportation	22.80	–18.50	15.40

SOURCES: Bureau of Labor Statistics, Bureau of Economic Analysis, and National Ocean Economics Project.

One major trend explains the observed changes in the ocean economy and its relationship to the U.S. economy: the dominance in both size and growth of the tourism and recreation sector. The tourism and recreation sector was the only ocean economy sector to show any significant employment growth over the 1990–2000 period. Aside from a small increase in jobs in the marine construction industry, which is heavily influenced by cyclical factors and the choice of endpoints, the ocean economy lost 136,000 jobs in the nontourism and recreation sectors. There are a number of reasons for these job losses, but three predominate:

- Post-cold-war shifts away from the military, which greatly affected ship building and search and navigation equipment manufacturing.
- Productivity increases in the marine transportation and oil and gas exploration and production industries, in which capital investments resulted in a significantly reduced demand for labor.
- Declines in U.S. fisheries from overfishing pressures.[5]

These large job losses were more than offset, however, by an increase of 438,000 jobs in tourism and recreation, an increase of more than 40 percent during the decade. The leading States in employment growth in tourism and recreation were along the Gulf of Mexico, including Louisiana, Mississippi, and Alabama, with more than 150 percent growth in each State.[6] It should be noted that this estimate of the growth of ocean tourism and recreation employment is an underestimate of actual growth because it excludes self-employment.

However, ocean tourism and recreation employment growth does not pay the same level of wages as the other sectors. Average annual wages are less than half of the U.S.

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Table 2. Average annual wages, 1990 and 2000

Ocean economy sector	1990	2000	Percent change, 1990–2000
Total	$19,784	$24,442	23.5
Construction	31,029	42,846	38.1
Living resources	21,443	29,557	37.8
Minerals	41,243	60,653	47.1
Ship and boat building	28,527	39,478	38.4
Tourism and recreation	11,369	16,321	43.6
Transportation	37,682	53,352	41.6
Average U.S. wages	23,322	34,647	48.6

average wage, and are only two-thirds of the average ocean economy annual wage. The dominance of tourism and recreation employment in the ocean economy employment picture accounts for the lower overall wages in the ocean economy compared with the United States as a whole. Of the other ocean economy sectors, only the living resources sector pays below the U.S. average wage.

The average *annual* wage figures shown here do not represent an accurate measure of actual compensation because of the highly seasonal nature of work in the ocean tourism and recreation industry. All States except Florida show peak employment in tourism and recreation in July and August (Florida peaks in March), and on average in 2000, employment was 10 percent in the summer higher than the annual average. In some States, such as Maine, the differential was as high as 35 percent. This high level of seasonal employment naturally results in low annual average salaries. Even taking seasonality into account, the wages and salaries in the tourism and recreation sector are below average and account for the combination of rapid overall employment growth, but much slower overall wage growth.

When measuring the ocean sectors and industries for 2001 under the SIC and NAICS definitions, the ocean economy is smaller by about 400,000 jobs under NAICS. (See table 3.) The principal differences arise in ship and boat building and oil and gas exploration and production, primarily due to the separation of establishments between production-related and service-related functions.

The ocean economy under NAICS is somewhat smaller for several reasons. First, there is increased precision in the industrial definitions of the ocean economy, as illustrated in two areas: hotels and general warehousing. Under NAICS, hotels attached to casinos are now included in their own classification. Although there is significant employment in casinos located near the shore (the largest such area is Atlantic City, NJ), it was decided to exclude these hotels from the ocean sector. Under general warehousing, warehouses in the near shore area are included in the transportation sector as these are usually tied to the movement of freight by water. This classification under SIC also included mini-warehouses and self-storage facilities that were largely unconnected with marine freight; under NAICS, these facilities can be excluded from the analysis.

NAICS also classifies establishments based on the principal functions of the establishments rather than the firm or parent organization. Thus, in the manufacturing sector, for example, establishments involved in production are classified in manufacturing, and establishments in administration are in services; this reduces the size of manufacturing sectors, and increases the size of service sectors. The manufacturing sectors, such as ship and boat building, are measured under the NAICS-based ocean economy, but administrative establishments in the NAICS professional and business services sector are not included in the ocean economy.

The coastal economy

There is a distinction to be drawn between the ocean and the coastal economy. The former is defined by its use of ocean resources as direct or indirect inputs; the latter is defined purely by geography as the sum of economic activity taking place within the coastal region. However, the term "coastal" is ambiguous. It certainly encompasses the shoreline itself, but how far inland the "coast" extends depends on the purposes for which a definition is being offered. The term "coast" is used variously to describe the actual land-water boundary, the area adjacent to the land-water boundary, the areas surrounding estuaries, the land to the head of tide on some rivers, the land "within a day's drive" of the shore, or all the land within the watersheds of rivers. By the latter definition, almost the entire land area of the United States, excluding only the Great Basin, could be considered coastal.

Defining the coast necessitates a compromise among political, administrative, and natural boundaries. The approach taken defines the coast as having three tiers:

- Near shore region — This is defined by zip codes adjacent to the shores of the oceans, Great Lakes, and major bays. The selection of these zip codes is discussed in greater detail in the section below on the ocean economy.
- Coastal zone counties — Coastal zone counties are any county that includes in whole or part the area under the jurisdiction of the Coastal Zone Management Act (CZMA) of 1972, as defined for that purpose by each State participating in the program. Four States include the entire State in the coastal zone (Rhode Island, Delaware, Florida, and Hawaii). Nine States (Washington, Alaska, Texas, Louisiana, Georgia, South Carolina, North Carolina, Virginia, and Maryland) define their coastal zones using county or county-equivalent boundaries. Other States use various combinations of political (such as town boundaries) and geographic features (adjacency to tidal waters) to define their coastal zones

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Table 3. Comparison of ocean economy sectors and industries measured by SIC and NAICS, 2000

Sector and industry	Establishments		Employment		Wages (millions)	
	SIC	NAICS	SIC	NAICS	SIC	NAICS
Total ocean economy	118,451	102,305	2,208,861	1,866,355	$59,165.5	$43,165.9
Construction						
Total	1,919	1,702	30,992	24,304	1,421.9	1,149.6
Marine related construction	1,919	1,702	30,992	24,304	1,421.9	1,149.6
Living resources						
Total	4,177	4,009	60,492	53,573	1,754.5	1,455.1
Fish hatcheries and aquaculture	601	658	4,756	5,044	117.4	123.1
Fishing	2,304	2,290	6,175	5,779	240.8	221.2
Seafood processing	1,272	1,061	49,562	42,751	1,396.2	1,110.7
Minerals						
Total	6,404	1,217	111,839	24,493	10,450.0	1,612.4
Limestone, sand, and gravel	280	276	4,883	4,744	218.4	212.4
Oil and gas exploration and production	6,124	941	106,957	19,749	10,231.6	1,399.9
Ship and boat building						
Total	3,759	1,942	168,146	154,504	6,987.8	6,522.3
Boat building and repair	2,954	1,303	51,886	43,284	1,592.0	1,329.5
Ship building and repair	805	639	116,260	111,220	5,395.8	5,192.7
Tourism and recreation						
Total	93,189	87,818	1,602,614	1,415,635	26,831.1	22,284.0
Amusement and recreation services	6,578	4,747	114,175	44,399	2,648.4	874.8
Boat dealers	2,032	2,029	15,395	15,390	498.9	498.4
Eating and drinking places	70,825	65,990	1,084,479	1,012,925	14,824.7	13,421.9
Hotels and lodging places	10,599	10,520	353,472	299,624	7,853.6	6,240.7
Marinas	1,947	1,944	13,944	13,869	386.8	385.4
Recreational vehicles, parks, and campsites	643	642	4,762	4,747	84.7	83.9
Sporting goods	402	417	8,472	8,363	350.4	342.0
Zoos and aquaria	163	162	7,914	8,194	183.6	262.1
Scenic tours	–	1,367	–	8,124	.0	174.8
Transportation						
Total	9,003	5,617	234,778	193,847	11,720.3	10,142.6
Deep sea freight	935	625	33,756	20,313	2,055.0	1,348.3
Marine passenger transportation	997	212	25,715	13,155	886.5	559.5
Marine transportation services	3,638	3,205	95,005	91,217	4,470.4	4,235.8
Search and navigation equipment	174	165	34,564	34,453	2,869.8	2,861.0
Warehousing	3,259	1,410	45,738	34,709	1,438.6	1,137.9

NOTE: Data exclude Massachusetts, which does not permit access to their establishment level data. Dash indicates data not available.

for purposes of the CZMA. All counties that, in such circumstances, include territory defined as the coastal zone are included in this category. Coastal zone counties were identified using GIS. Data showing the boundaries of each State's coastal zone were obtained from NOAA's Office of Coastal Resource Management and overlaid on Census Bureau county boundary data to determine the intersection. In the case of Illinois, which does not participate in the CZMA program, Cook County was included to provide for nationally consistent totals.

- Coastal watershed counties — These are defined by the U.S. Geological Survey (USGS) as the coastal zone counties plus counties that include the headwaters of coastal rivers. This definition excludes major continental river systems such as the Mississippi-Missouri-Ohio system. [7]

When analyzing employment growth over the 1990–2000 period in these three tiers of the coastal economy plus the coastal States, population growth is included for comparison because it is traditionally the principle variable employed when discussing socio-economic change within the coastal region.[8] (See table 4.)

Table 4 shows that employment growth was faster than population growth in the country as a whole, but the differential was larger in the coastal areas, however defined. The difference was largest in the near shore area, where employment growth was more than three times faster than population growth. In fact, while the near shore areas showed the slowest population growth, they showed the fastest employment growth.

This is an important finding, because most of the discussion about socio-economic change in coastal areas focuses

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exclusively on population growth. The addition of employment growth to the picture of economic growth in the coast shifts attention away from the effects of population growth alone to the effects of economic growth as a whole.

Another important characteristic of the coastal economy, as distinct from the ocean economy, is that it is a high value economy. (See table 5.) Not surprisingly, the near shore area is the densest in terms of employment and establishments. However, it also pays the highest wages per acre, in fact more than twice the U.S. average wage per acre, and 80 percent higher than the total wages per acre in the coastal States. This makes the near shore region one of the most valuable economic regions per acre in the United States.

THIS USE OF QCEW DATA provides two different views of the national economy that have not been available before. One is industrial, based on the ocean economy and its resources. While estimates of the ocean economy have been available previously, the use of the QCEW data provides both a more complete picture of the ocean economy by extending the measurement to employment and wages, and also allows State and even sub-State views of employment and wages in this sector. The data reveal a natural resource economy in the midst of substantial changes, which amplify larger trends in the economy. The measurement of the ocean economy under both SIC and NAICS also demonstrates the increased precision available under NAICS, as well as some of the drawbacks of all economic taxonomies.

The other new view is geographic, showing both the rapid growth and the economic importance, which has not been visible heretofore, of the near shore area. This use of the QCEW data demonstrates clearly what will undoubtedly be a growing trend in the use of labor statistics over the next decade: the integration of economic data into new geographic datasets required as Geographic Information Systems technologies become more widespread. This will present those involved with the collection and distribution of economic data with new challenges to provide meaningful data while still meeting the strict standards of confidentiality required of all federal statistics programs. □

Table 4. Population and employment change in coastal regions, 1990–2000

[Percent]

Regions	Population	Wage and salary employment
United States	13.2	20.8
Coastal States	12.3	31.3
Coastal watershed counties	11.2	23.7
Coastal zone counties	11.5	22.8
Near shore	10.9	35.1

Table 5. Economic activity per acre in coastal regions, 2000

Regions	Establishments	Employment	Wages (millions)
Total United States	–	14.4	$0.53
Total coastal States	1.25	19.4	.70
Coastal watershed counties	1.70	26.9	1.03
Coastal zone counties	1.69	26.0	.99
Near shore	2.51	34.3	1.26

NOTE: Acreage data are from the Census Bureau and reflect acres of land, excluding water bodies and wetlands. Dash indicates data not available.

Notes

[1] See *America's Living Oceans: Charting a Course for Sea Change* (Washington, Pew Oceans Commission, May 2003) and *An Ocean Blueprint for the 21st Century: Report of the U.S. Commission on Ocean Policy* (U.S. Commission on Ocean Policy, September 2004), on the Internet at **www.oceancommission.gov**

[2] See *Gross Product Originating from Ocean-Related Activities* (Bureau of Economic Analysis, 1974); G. Pontecorvo and others, "Contribution of the Ocean Sector to the U.S. Economy," *Science* 208, May 30, 1980, pp. 1000–06; and *Gross Product Originating from Ocean Related Activities*: 1972 (Bureau of Economic Analysis, 1972).

[3] Three addresses appear on each QCEW record: a physical address, a mailing address (often a post office box), and an unemployment insurance address, which is used when another party (for example, a corporate headquarters or payroll service) files the required employment reports. While a physical address is required, it is not always present on the record filed by employers. In such cases, the mailing address is used, and if that is absent, the unemployment insurance address.

[4] The problem with both sectors is that ocean-related activities are embedded within larger organizations and the specific ocean-related components cannot easily be separated from those organizations. At the federal level, it is relatively easy to identify the Navy, Coast Guard, or NOAA, but other agencies are much more difficult. Both the Environmental Protection Agency and Army Corps of Engineers have substantial programs that are ocean and coastal related, and the standard budget reporting does not permit these to be easily identified. The problem is greatly magnified at the State and local government levels. Most scientific research on the ocean takes place within universities, which do not necessarily separate ocean from nonocean research in their reporting. Development of specific employment and related data for this sector will require a significant investment in research in individual programs.

[5] The QCEW data series does not contain data for employment in the fisheries harvesting sector, because firms in this sector are excluded by law from the unemployment insurance system. Such firms operate on a "lay," or share of catch payment system, rather than traditional wages.

[6] Mississippi's high rate of growth owed much to the establishment of a number of casinos in the coastal region over the 1990s. As noted in the discussion on the distinction between the SIC and NAICS codes, the SIC definition of hotels included casinos, while the NAICS definition permits casino hotels to be separated from other hotels. The high rate of growth in Mississippi ocean tourism and recreation is thus somewhat ambiguous.

[7] There are 412 coastal zone counties and 669 counties. Lists of these counties are on the Internet at **www.oceaneconomics.org**

[8] Data exclude Massachusetts, which does not permit access to their establishment level data.

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Industry productivity trends under the North American Industry Classification system

The NAICS classification system presents a more consistent framework and a conceptual improvement for productivity measurement; while performance varied by industry, NAICS-based productivity measures show strong overall productivity growth during the 1990s and again after 2001—especially in manufacturing, trade, and in the newly defined information sector

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Paul Takac,
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The Bureau of Labor Statistics has recently completed converting its industry labor productivity measures to the North American Industry Classification System (NAICS).[1] The conversion mirrors efforts of the entire U.S. statistical system to more closely reflect the Nation's changing economy by better identifying service industries and new and emerging industries. This article describes the conversion effects on the industry productivity data, focusing on industry structure and data availability, and the resulting trends in industry labor productivity and related measures.

NAICS replaces the existing Standard Industrial Classification (SIC) system that had been in use since the 1930s.[2] While the SIC system was revised periodically over the years to reflect changes in the economy's industrial composition, its structure remained the same as first established in the 1930s. The focus remained on the goods-producing industries, particularly those in the manufacturing sector, which was prominent when the SIC was first introduced. The most recent major revision to the SIC occurred in 1987, and rapid changes since then in both the U.S. and world economies necessitated additional changes by the mid 1990s. The adoption of the North American Free Trade Agreement in 1994 highlighted the need for cooperation between the United States, Canada, and Mexico. The NAICS classification system was developed as a cooperative effort by the statistical agencies of these countries during the mid 1990s. The goal was to provide an improved industry classification system that would offer common industry definitions based on a unified economic concept for the three countries—and which would give special attention to service industries and to new, emerging, and advanced-technology industries.

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Industry productivity measures

The Bureau of Labor Statistics has been measuring productivity for more than 100 years. A study of 60 manufacturing industries was published in 1898, and various other studies were conducted over the following years. Today's industry productivity program began in 1941, after Congress authorized the Bureau to undertake continuing studies of labor productivity. In 1959, BLS began producing labor productivity measures for the total private economy and major sectors on an annual basis; quarterly measures of these series were introduced in 1968.[3]

Labor productivity indexes measure the changes in the amount of goods or services produced relative to the labor hours used in producing that output. The indexes are calculated by dividing an index of output for an industry by an index of hours for that industry. Labor productivity measures reflect the joint effects of many influences—including changes in technology; capital investment; the use of purchased energy, materials, and services; the organization of production; capacity utilization; managerial skill; and the characteristics and effort of the workforce.

The conversion of the industry productivity measures to conform to the NAICS classification

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system is one in a series of recent improvements to the Bureau's industry productivity measurement efforts that began in the 1990s. In 1998, industry coverage was expanded to include labor productivity measures for all three- and four-digit SIC manufacturing industries. Compensation and unit labor cost measures for three-digit SIC industries were developed and published in 1999. In 2000, multifactor productivity measures were published for all three-digit SIC manufacturing industries. Industry labor productivity and cost measures were extended to cover all three- and four-digit SIC retail trade industries in 2001, and in 2002 for all three-digit SIC wholesale trade industries. During this time, the adoption of superlative, chain-weighted indexes for calculating output was accompanied by other changes aimed at streamlining and standardizing the industry labor productivity series.[4]

The transition to NAICS caused a discontinuation of the historical SIC-based data used for measuring industry productivity. In order to maintain consistent, continuous series for measuring industry productivity trends, the historical SIC-based industry measures were converted to a NAICS basis back to 1987. Converting industry productivity and cost measures to NAICS involved the separate conversion of output, employment, hours, and compensation for each industry.[5] Some NAICS industries are the same as their SIC counterparts, so that no special adjustments to data had to be made to convert the output measures.[6] For some other industries, the addition or removal of one or more products was all that was needed to convert the output measures to a NAICS basis. For other industries, however, constructing NAICS output series required greater data adjustments. In most cases where a NAICS industry was not a direct match to a corresponding SIC industry, the NAICS output series were derived by applying a constant conversion or "bridge" ratio to the entire historical series (see Appendix for details). These historical NAICS estimates thus are based on the assumption of fixed historical relationships between the SIC and NAICS series. Such an assumption may not be appropriate, particularly for new, emerging industries.[7] Revisions to current estimates based on ongoing research may be incorporated in future updates as more and better information becomes available.

NAICS reclassification

NAICS represents a completely new system for classifying industries.[8] NAICS uses a six-digit code that is hierarchical like the SIC code, but is unrelated to the SIC code. In the six-digit NAICS code, the first two digits identify the sector; the third digit designates the subsector; the fourth designates the industry group; the fifth designates the international industry; and the sixth digit designates the national industry. (When the U.S. industry is the same as the five-digit NAICS industry, the industry has a zero as the sixth digit.) The six-digit codes provide greater flexibility than the SIC, allowing for international comparability of industries at the five-digit level while still permitting individual countries to identify unique six-digit national industries.

There are fundamental differences between the NAICS and SIC systems, and some of the differences have important implications for the measurement of industry productivity. For example, NAICS represents a systematic restructuring of the industry economic classification system. NAICS creates a consistent system that classifies establishments based on similarities in their production processes. This approach considers the way an establishment uses its production technology to produce its final output. The SIC was less unified in its approach: SIC industry classifications were sometimes based on supply-side factors such as the nature of the production processes, while at other times were based on demand-side or market-based factors such as the nature or uses of the final products. Because productivity measures attempt to capture changes in the efficiency with which industries use their inputs to create final goods or services, the NAICS system of grouping together establishments with similar production processes represents an important improvement over the SIC classification system.

NAICS also differs from the SIC in its treatment of auxiliaries. NAICS classifies auxiliary units involved in management or support activities such as transportation, warehousing, accounting, payroll, or general management services into specialized industries rather than including them in the manufacturing, trade, or service industries they support, as in the SIC. This change also has an impact on the industry productivity measures. Under NAICS, the hours of workers employed in a headquarters office or a warehouse facility of a manufacturing firm, for example, are no longer counted as hours of the manufacturing industry. This reduces the overall number of workers in the manufacturing industry and increases the concentration of workers directly involved in the manufacturing process. As a result, the trend in labor hours (and therefore the trend in labor productivity) may be different for the manufacturing industry under NAICS, even if the output of the industry is classified the same as the SIC industry. As employment and hours of auxiliary establishments are reclassified into management and support industries under NAICS, the *levels* of employment and hours will be lower in the industries where they used to be classified. However, the effect on the *trends* in industry hours depends on how the growth in employment and hours of these auxiliary workers compares to that of the workers in the industries where they were previously classified.

In addition to this different industry structure, the NAICS system differs from the SIC system in its increased industry

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detail, as well as its greater focus on service industries and emerging and high-tech industries. This shift in focus toward the service sector, which reflects the declining importance of manufacturing and the growing importance of services in the national economy, also has implications for productivity measurement. While NAICS adds industry detail, the increased detail does not translate into an immediate increase in industries for which productivity measures are available—for several reasons. Much of the industry detail that was added under NAICS is in service industries where productivity measurement is currently not feasible. For many of these industries, reliable data for measuring output or labor input have not been collected. For some industries, lack of data is further complicated by conceptual issues regarding the proper measurement of output.[9] For other industries, data have recently begun to be collected but are available for only a few years. Furthermore, in some sectors such as manufacturing, where data availability for detailed industries was excellent under the SIC, the conversion to NAICS has reduced the number of industries for which reliable source data are available. Data have been discontinued for some detailed industries under NAICS, or are available only for combinations of industries. This decline in the availability of historical industry data limits the number of NAICS industries for which labor productivity measures can be calculated. Within manufacturing, for example, data limitations reduced the number of detailed industries to 132 five-digit NAICS industries and 148 additional six-digit NAICS industries—down from 458 four-digit SIC industries.[10] Manufacturing also was affected by a reduction in detail at the four-digit NAICS "industry group" level. Although the Bureau continues to publish labor productivity measures for all manufacturing industry groups, the number of these groups dropped from 140 three-digit SIC groups to 86 four-digit groups (the comparable level of detail) under NAICS.

The industry productivity database

The industry productivity database includes productivity and related measures for more than 480 unique industries at the six-, five-, four-, three-, and in a few cases, two-digit NAICS level. Labor productivity and related measures are currently available from 1987 to 2001, 2002, or 2003, depending on the industry.[11] These labor productivity measures account for nearly 58 percent of the four-digit NAICS industries in the nonfarm business sector of the economy and cover about 56 percent of employment.[12] Industry productivity measures cover 100 percent of employment in the mining, manufacturing, wholesale trade and retail trade sectors, and nearly 100 percent in the accommodation and food services sector.[13] Productivity measures are also available for selected industries in utilities, transportation and warehousing, information, finance and insurance, real estate and rental and leasing, professional and technical services, accommodation and food services, and other services. As shown in table 1, employment coverage of the industry productivity measures varies for these other sectors.

The conversion to NAICS resulted in the emergence of several newly defined industries and sectors and the reorganization of some industries between sectors. For example, a new information sector was created under NAICS, bringing together industries involved in producing and distributing information and cultural products—industries that, under SIC, had been spread across the manufacturing, communications and utilities, and services sectors. The manufacturing sector lost several publishing industries that were reclassified into the information sector, and also lost the logging industry, which was transferred into the agriculture, forestry, fishing, and hunting sector under NAICS. The conversion to NAICS also resulted in the creation of a new accommodation and food services sector, as eating and drinking establishments were reclassified out of retail trade and grouped with hotels and other lodging places. In addition, under NAICS the criteria for defining wholesale and retail trade industries changed: whereas the SIC system focused on the class of customer, NAICS considers the method of selling. As a result, establishments were reclassified from wholesale to retail trade and vice-versa. These various changes are reflected in the NAICS industry productivity measures.

Because of the structural changes in industry classification that accompanied the conversion to NAICS, measures of NAICS industry employment, hours, output, compensation and

Table 1. Employment coverage of BLS industry labor productivity measures by sector, 2001

NAICS sector	Sector title	Employment coverage (percent)
	Private nonfarm business sector	56
	Goods-producing	71
21	Mining	100
23	Construction	0
31–33	Manufacturing	100
	Service-producing	51
22	Utilities	92
42	Wholesale Trade	100
44–45	Retail Trade	100
48–49	Transportation and warehousing	46
51	Information	71
52–53	Finance, insurance, and real estate	21
72	Accommodation and food services	100
54–56, 61–62, 71, 81	Other services	10

NOTE: Data for the nonfarm business sector exclude general government, owner-occupied housing, and nonprofit organizations.

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productivity are not always comparable to their SIC counterparts. Differences are apparent even at the major sector level (two-digit NAICS). Table 2 shows employment in selected major industry groups for which BLS has complete or near complete coverage of industry productivity measures. Both the manufacturing and the wholesale trade sectors as defined under NAICS are smaller than under the SIC. In both of those sectors, employment in establishments and industries that moved out of the sector exceeded that which moved in. This reduction is partly due to the reclassification of auxiliary establishments. For example, a large number of manufacturing employees were reorganized into new auxiliary NAICS industries outside the manufacturing sector. In addition, employment levels changed as entire industries were reclassified into different sectors. The reclassification of several publishing industries into the new information sector under NAICS caused a noticeable reduction in manufacturing employment. Excluding the reclassification of auxiliary establishments, about 80 percent of the workers that were moved out of manufacturing in 2000 were reclassified into the new information sector. A noticeable net redistribution of employment also occurred between the wholesale and retail trade sectors, as the employment in establishments reclassified from wholesale trade to retail trade under NAICS exceeded that from retail trade to wholesale trade.

With the conversion to NAICS, productivity measures were developed for several new industries and industry groups. In manufacturing, for example, output per hour and related series are available for a new NAICS industry group, computer and electronic products manufacturing (NAICS 334). This group brings together establishments that produce such high-tech products as computers, semiconductors, and communication equipment, as well as measuring, analyzing, and controlling instruments. Under the SIC, these firms had been primarily distributed among three different two-digit SIC groups. Labor productivity measures are also newly available for semiconductor machinery manufacturing (NAICS 333295) and printed circuit assembly manufacturing (334418). In wholesale trade, labor productivity measures have been developed for a new industry group, wholesale electronic markets and agents and brokers (NAICS 425), as well as for the two industries that compose that group: business to business electronic markets (NAICS 42511) and wholesale trade agents and brokers (NAICS 42512). In retail trade, labor productivity measures are available for a redefined industry group, health and personal care stores (NAICS 446), which includes a new NAICS industry: cosmetics, beauty supply, and perfume stores (NAICS 44612). Labor productivity measures are also newly available for electronic shopping and mail order houses (NAICS 4541). Within the information sector, productivity measures are available for a variety of publishing, broadcasting, and telecommunications industries. Under NAICS, the cable television industry has been divided into separate industries—cable programming (NAICS 5152) and cable distribution (NAICS 5175)—and labor productivity measures are available for both industries. Productivity measures are also available for a redefined industry group, publishing industries (NAICS 511), that includes the software publishing industry as well as industries involved in the more traditional publishing of books, periodicals, and databases.

Productivity trends in major sectors

Productivity often exhibits predictable patterns over the course of the business cycle, rising during expansions and declining during recessions. This occurs as businesses

Table 2. Employment in selected major industries in 2000, NAICS and SIC

NAICS sector	2000 employment (000s)	Percent of private nonfarm business	SIC sector	2000 employment (000s)	Percent of private nonfarm business
Private nonfarm business	59200.8	100.0	Private nonfarm business	60954.8	100.0
Manufacturing (NAICS 31–33)	17262.9	29.2	Manufacturing (SIC 20–39)	18394.4	30.2
Wholesale trade (NAICS 42)	5933.2	10.0	Wholesale trade (SIC 50–51)	7024.0	11.5
Retail trade (NAICS 44–45)			Retail trade (SIC 52–59)		
Retail trade excluding eating and drinking places	15279.8	25.8	Retail trade excluding eating and drinking places (SIC 52–57, 59)	15193.1	24.9
			Eating and drinking places (SIC 58)	8113.7	13.3
Accommodation and food services (NAICS 72)	10026.5	16.9	Hotels (SIC 701)	1845.3	3.0

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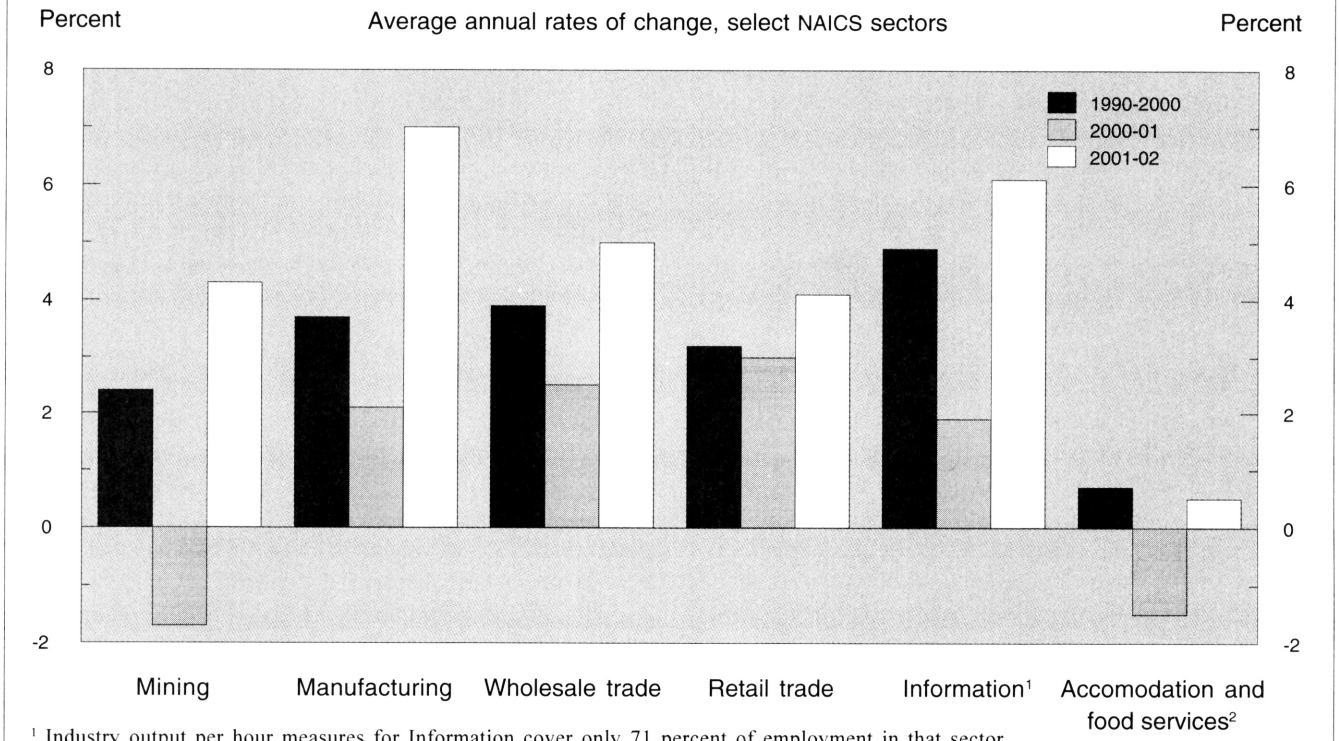
adjust their use of inputs to changes in the demand for their goods and services. At the beginning of an expansion, for example, employment increases often lag behind output increases, while at the beginning of a recession reductions in output cause employers to cut back on employment and hours, but also with a lag. To minimize the cyclical effects on productivity trends, it is appropriate to analyze productivity changes over the course of a full cycle. The decade of the 1990s represents such a period. Economic activity in the United States peaked in July 1990 and again in March 2001. This article reviews the NAICS industry productivity performance between 1990 and 2000. Analyzing productivity trends between these years, when the economy was at similar peak stages of the business cycle, reduces the effect of cyclical factors such as differences in capacity utilization on productivity change. The effect on industry productivity of the recession that began in 2001 is discussed later in the article.

Chart 1 shows labor productivity change in major industry sectors for which BLS has complete coverage or covers a high percentage of the industry. Led by the information sector, labor productivity growth was strong over the 1990–2000 period in most of these sectors, compared with the private nonfarm business sector as a whole, where labor productivity grew at an annual average of 2.0 percent. Manufacturing, wholesale trade, and retail trade also showed strong growth, while productivity grew slowly in the accommodation and food services industries. Productivity growth typically slows in recession years, and in the recession year of 2001 output per hour growth slowed considerably in all of these sectors, and actually declined in mining and accommodation and food services. Productivity growth is typically unusually strong as an economic recovery begins. For most of the sectors considered here, productivity not only sped up after 2001, but exceeded the growth over the 1990–2000 period. The exception was the accommodation and food services sector—although output per hour in that sector rose 0.5 percent in 2002, the growth that year was less than the average 0.7 percent growth from 1990 to 2000.

Chart 2 divides the 1990–2000 period in half and depicts the productivity growth rate for private nonfarm business and other major sectors in each of the subperiods. The chart shows that, of the sectors that have full or near-full employment coverage, almost all experienced a productivity speedup from 1995 to 2000. Retail trade in particular showed a large increase in the productivity growth rate in

Chart 1. Output per hour, 1990–2002



[1] Industry output per hour measures for Information cover only 71 percent of employment in that sector.
[2] Accomodation and food services measures cover 99.5 percent of sector employment.

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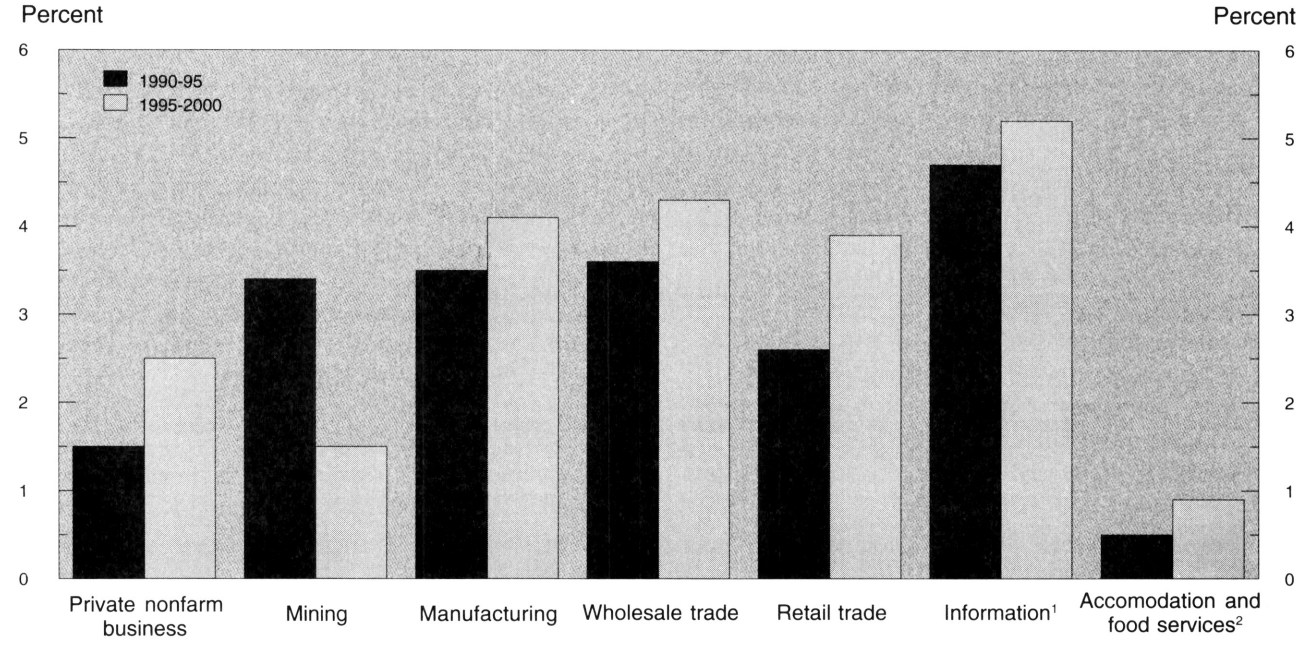
Chart 2. Average annual rate of change in labor productivity, 1990–95 and 1995–2000



[1] Industry output per hour measures for Information cover only 71 percent of employment in that sector.
[2] Accomodation and food services measures cover 99.5 percent of sector employment.

the second half of the decade. Mining was the only sector that experienced a falloff of productivity growth in the latter half of the 1990s. The average annual rate of change in mining productivity fell from 3.4 percent in 1990–95 to 1.5 percent in 1995–2000.

The changes in industry composition under NAICS result in some differences in sector productivity trends when compared with the comparable SIC sectors. Table 3 shows labor productivity change over the 1990–2000 period for several sectors as defined under both classification systems. Productivity growth rates were the same or very close for private non-farm business and for manufacturing, but differed somewhat for wholesale and retail trade. In both the wholesale and retail trade sectors, output per hour grew more rapidly under the NAICS system than under the SIC system. The reclassification of some auxiliary establishments out of the sectors, including those involved in warehousing, may be one reason for the increase in productivity growth for both retail and wholesale trade under NAICS. The eating and drinking places sector, so classified under the SIC system, was moved out of retail trade and combined with the accommodation industries under NAICS to form the accommodation and food services sector—and thus productivity trends are not comparable between those NAICS and SIC categories.

Industry productivity and cost trends

1990–2000. Labor productivity increased from 1990 to 2000 in most of the detailed industries published by BLS.[14] Output per hour rose in 156 of the 169 industries analyzed in this article, representing 92 percent of the industries and employment covered. Output increased in 89 percent of the industries, while hours increased in 63 percent of the industries. The wide-ranging, but generally positive, industry productivity performance during the period is reflected in chart 3. The chart shows the distribution of average annual productivity growth rates for the 1990–2000 period for all the published industries (all four-digit NAICS industries together with additional published industries for which component four-digit series have not been computed). The chart reflects a strong central tendency despite a wide range of productivity performance. Roughly two-thirds of the industries experienced average annual rates of change in labor productivity that ranged from 0.0 percent per year to an increase of 3.9 percent per year.

Although labor productivity trends for individual industries were largely positive during the 1990s, there was some variation by industry and by sector. Of the NAICS industries for which measures are available, productivity performance ranged from an average annual decline of 1.8 percent per year in drinking places, alcoholic beverages (NAICS 7224) to an

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Table 3. NAICS vs. SIC labor productivity trends in selected major sectors, 1990–2000

[Average annual rates of change]

NAICS sector	Output per hour 1990–2000	SIC sector	Output per hour 1990–2000
Private nonfarm business	2.0	Private nonfarm business	2.0
Manufacturing (NAICS 31–33)	3.7	Manufacturing (SIC 20–39)	3.8
Wholesale Trade (NAICS 42)	3.9	Wholesale trade (SIC 50–51)	3.4
Retail Trade		Retail trade	2.4
Retail trade excluding eating and drinking places (NAICS 44–45)	3.2	Retail trade excluding eating and drinking places (SIC 52–57, 59)	2.9
		Eating and drinking places (SIC 58)	.3
Accommodation and food services (NAICS 72)	.7	Hotels (SIC 701)	1.7
Information (NAICS 51)	4.9	Information	–

NOTE: Dash indicates data not available.

average annual increase of 31.7 percent per year in computer and peripheral equipment manufacturing (NAICS 3341).

As seen in chart 3, the majority of industries experienced labor productivity growth that averaged between 1 and 5 percent per year. Table 4 lists the eight industries with the highest productivity growth rates over the 1990–2000 period. Each of the industries in that table experienced growth in output per hour of more than 12 percent per year, on average. Only three of the eight industries are manufacturing industries, but two of those experienced the fastest labor productivity growth of all the measured industries. Output per hour grew 31.7 percent per year, on average, in computer and peripheral equipment manufacturing and 27.0 percent per year in semiconductor and other electronic component manufacturing (NAICS 3344). The list of industries with the most rapid productivity growth reflects the importance of the high-tech sector on the U.S. economy during the 1990s, and includes industries that were major users or distributors of high-tech equipment as well as the industries producing those goods. After computer and semiconductor manufacturing, productivity grew most rapidly for professional and commercial equipment wholesalers (this industry includes establishments engaged in the distribution of such products as computers and other equipment); electronics and appliance stores; electronic shopping and mail-order houses; software publishers; communications equipment manufacturing; and electric goods wholesalers. After these eight industries, the next 14 fastest growing industries experienced average annual rates of change in labor productivity ranging from 5.0 percent per year for both audio and video equipment manufacturing (NAICS 3343) and line-haul

Table 4. Industries with the highest productivity growth rates between 1990 and 2000

NAICS code	Title	2001 Employment (000's)	Average annual percent change, 1990–2000			
			Output/Hour	Output	Hour	ULC
3341	Computer and peripheral equipment manufacturing	286	31.7	29.0	–2.1	–21.5
3344	Semiconductor and other electronic component manufacturing	645	27.0	29.3	1.9	–18.3
4234	Professional and commercial equipment and supplies merchant wholesalers	710	16.2	18.3	1.8	–9.2
443	Electronics and appliance stores	593	14.5	17.5	2.6	–8.0
4541	Electronic shopping and mail-order houses	263	13.9	21.0	6.3	–6.7
5112	Software publishers	269	13.8	25.9	10.7	–3.6
3342	Communications equipment manufacturing	234	13.4	14.0	0.6	–6.8
4236	Electrical and electronic goods merchant wholesalers	414	12.4	14.3	1.6	–6.1

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Chart 3. Distribution of average annual rates of change for output per hour, 1990–2000

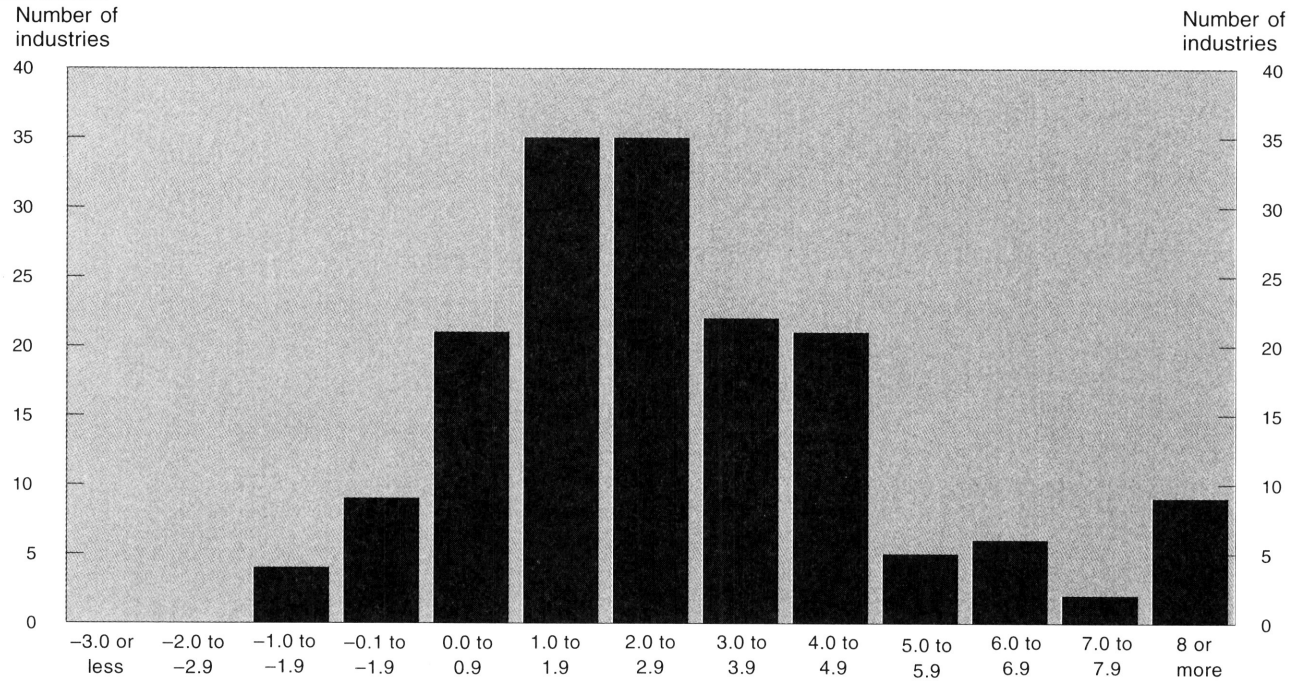

Chart 4. Distribution of average annual rates of change for output per hour, 2000–01

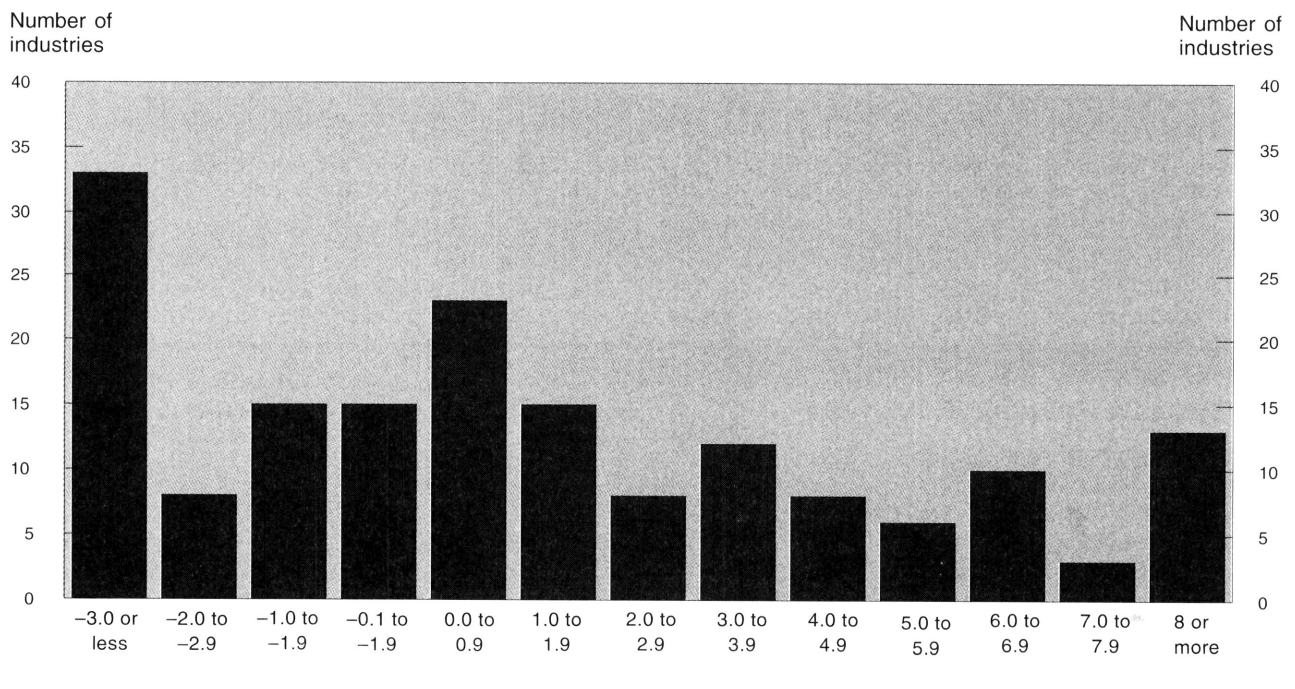

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Table 5. Largest industries by 2001 employment size

NAICS code	Title	2001 employment (000's)	Average annual percent change, 1990–2000			
			Output/hour	Output	Hours	ULC
7221	Full-service restaurants	4020	0.2	2.4	2.2	3.4
7222	Limited-service eating places	3616	.2	2.4	2.2	3.4
4451	Grocery stores	2618	–.2	.2	.4	3.0
7211	Traveler accommodation	1832	2.6	4.2	1.5	1.4
4521	Department stores	1769	2.4	4.3	1.9	.7
4411	Automobile dealers	1273	1.5	3.2	1.7	2.9
52211	Commercial banking	1258	2.6	1.8	–.8	3.7
8111	Automotive repair and maintenance	1134	1.6	3.2	1.6	1.8
4529	Other general merchandise stores	1091	9.0	9.8	.7	–5.6
56172	Janitorial services	1072	3.4	4.5	1.0	–0.1
4441	Building material and supplies dealers	1027	3.4	5.8	2.3	.2
446	Health and personal care stores	1014	1.8	3.6	1.8	2.3
4481	Clothing stores	1000	5.8	5.4	–.4	–1.5
447	Gasoline stations	946	2.3	1.7	–.6	.9
491	Postal service	873	.9	1.9	1.0	2.1
48412	General freight trucking, long-distance	849	1.8	4.8	3.0	.3

railroads (NAICS 482111) to 9.0 percent per year for other general merchandise stores (NAICS 4529).

The overall upward trend in productivity during the 1990s was reflected in the productivity performance of the largest industries. Table 5 presents the average annual rate of change in output per hour and related indexes for industries with more than 800,000 employees in 2001, in order of employment size. Together, these 16 industries account for nearly 42 percent of the employment covered by the industry labor productivity measures. Output increased in each of these large industries between 1990 and 2000, and productivity increased in all but one. Productivity declined in grocery stores (NAICS 4451) despite rising output, as labor hours increased more rapidly.

Unit labor costs represent the cost of producing one unit of output. The measure is calculated by dividing an index of labor compensation by an index of real output, or by dividing an index of compensation per hour by an index of output per hour (labor productivity). The latter ratio reveals an inverse relationship between labor productivity and unit labor costs: when labor productivity increases, it offsets increases in hourly compensation so that unit labor costs rise less rapidly than compensation. If labor productivity declines or rises more slowly than hourly compensation, unit labor costs will increase, but if output per hour increases faster than hourly compensation, unit labor costs will fall. From 1990 to 2000, labor compensation increased in about 95 percent of the industries examined in this article.[15] However, unit labor costs increased in only about 70 percent of the industries, as labor productivity increased more rapidly than hourly compensation in a number of industries. Unit labor costs declined in each of the eight industries with the fastest growing productivity rates. In contrast, all of the industries with declining productivity over the period recorded increases in unit labor costs.

The recession of 2001 and beyond. The performance of industry output, hours, and labor productivity after 2000 contrasts with the positive performance of the previous decade. Output per hour grew in only about 57 percent of the industries in 2001, compared to more than 92 percent of industries with productivity growth from 1990 to 2000. Output declined in 2001 in nearly 70 percent of the industries examined here, while hours declined in 77 percent. In 2001, a greater proportion of the industries experiencing productivity growth did so by reducing hours rather than by increasing output. Whereas output grew in more than 90 percent of the industries that increased their productivity from 1990 to 2000, output increased in only 44 percent of the industries where productivity rose in 2001. Instead, declining hours were the major impetus for productivity growth in 2001, with more than 81 percent of industries reducing hours in that year, compared with only about 40 percent of industries where productivity grew from 1990 to 2000.

The reaction of labor productivity to the downturn in the economy that began in 2001 is also apparent in comparing the distribution of industry productivity growth rates in 2001 (see chart 4) to the distribution of average annual productivity growth rates for 1990–2000 (see chart 3). During the 1990s, nearly 60 percent of the industries examined here experienced labor productivity growth of 2 percent per year or more, and none showed productivity declines of –2.0 percent or more. Chart 4, which reflects the cyclical effects of the beginning of

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the recession, shows a decidedly less positive productivity picture. Productivity grew 2.0 percent or better in only about 36 percent of industries in 2001, while productivity declined by –2.0 percent or more in 24 percent of industries in that year.

While industry productivity data are not yet available through 2002 for detailed manufacturing industries, labor productivity for the manufacturing sector as a whole grew rapidly in 2002. Data for other industries suggest that productivity improvements were widespread. Output per hour increased for almost 79 percent of the mining, trade, and service-providing industries for which output per hour measures are available. The improvement in labor productivity was accompanied by increases in industry output as well as continuing reductions in hours. Although output rose in more than 55 percent of the industries measured in 2002, hours declined in nearly 70 percent of the industries.

Conclusion

THE CONVERSION TO NAICS HAS IMPACTED the industry productivity measures in a number of ways. The NAICS classification system is a more consistent framework and a conceptual improvement for productivity measurement. At the same time, the conversion has reduced the number of industries and industry groups for which productivity measures are calculated in certain sectors, such as manufacturing. In addition, the assumption of a fixed relationship between NAICS and SIC industries that underlies the conversion for many industries may not be appropriate, particularly for new and emerging industries. Nonetheless, a comparison of productivity trends for several major sectors where BLS maintains extensive coverage of productivity measures shows similar productivity trends throughout the 1990s as compared to comparable SIC sectors. Like the SIC-based data, the NAICS productivity measures also continue to show a productivity speedup in the latter half of the 1990s, compared to the first half. Recognizing current data limitations, improvements to current estimates based on ongoing research will be incorporated in future updates as more and better information becomes available, and efforts to expand industry productivity coverage to new industries will continue. Meanwhile, NAICS provides an improved road map for classifying industries. By more accurately reflecting the current structure of the economy and underlying similarities in production processes, NAICS enhances our understanding of current productivity developments. □

Notes

[1] Productivity and cost measures for 180 mainly four-digit NAICS industries were first released on September 18, 2003. Since that time the Bureau has revised and updated the measures for many industries and added measures for more than 300 additional industries at the six-, five-, three-, and two-digit NAICS level.

[2] Executive Office of the President (1998), *North American Industry Classification System, United States, 2002*, Washington, DC, U.S. Office of Management and Budget. Copies of the manual can be obtained from the National Technical Information Service (NTIS) on the Internet at **www.ntis.gov/products/bestsellers/naics.asp**. For more information about the NAICS structure, see the Bureau of the Census on the Internet at **http://www.census.gov/epcd/www/naics.html**.

[3] Joseph P. Goldberg and William T. Moye, *The First Hundred Years of the Bureau of Labor Statistics*, Bulletin 2235 (Bureau of Labor Statistics, September 1985), pp. 169, 203, and 249.

[4] For example, output measures based on the deflated value of output were adopted for most industries (made possible by the expansion in coverage of producer price indexes during the 1980s and 1990s). Previously, a large number of industries were based on physical quantity of output. The expansion of the Bureau's industry productivity series was also accompanied by a decision to use BLS employment and hours data from the Current Employment Statistics survey for measuring labor input for all manufacturing industries, rather than using Census data for some industries as had been done in the past.

[5] Industry employment and hours data from the BLS Current Employment Statistics (CES) survey were converted to a NAICS basis by the Bureau's Office of Employment and Unemployment Statistics with the release of May 2003 data in June 2003. CES industry employment and hours data were converted to NAICS back to 1990 for most industries, and to earlier years for some industries. The Office of Productivity and Technology extrapolated these estimates back to 1987 for many industries.

[6] Slightly less than half of the six-digit NAICS industries included in the industry productivity database are industries that are direct matches to comparable SIC industries. More than half of the mining and wholesale trade industries, and almost half of the manufacturing industries, were direct matches to the SIC industries. For other sectors, less than half the industries covered were direct matches.

[7] Recent work by researchers at the Bureau of the Census and the Federal Reserve Board has attempted to assign historical records of individual manufacturing establishments from each of the quinquennial Censuses of Manufactures for 1963 through 1992 to NAICS industries. These recoded data are used to calculate new conversion ratios that reflect the changing relationship between SIC and NAICS shipments in those years. Kimberly Bayard and Shawn Klimek, "Creating a Historical Bridge for Manufacturing between the Standard Industrial Classification System and the North American Industry Classification System." Paper presented at the Annual Meeting of the American Statistical Association, San Francisco, August 2003.

[8] Executive Office of the President (1998), *North American Industry Classification System...*

[9] Mark Sherwood, "Problems in Measuring Service Industry Output," *Monthly Labor Review*, March 1994, pp. 11–19

[10] Some industry detail has been collapsed or discontinued under NAICS in the BLS Current Employment Statistics data. In addition, some six-digit manufacturing industry detail will be collapsed in the 2003 Annual Survey of Manufactures data from the Bureau of the Census.

[11] Productivity measures are available through 2001 for detailed manufacturing industries, although measures for total manufacturing and for durable and non-durable manufacturing are available for later years. Productivity series are available through 2003 for wholesale trade, retail trade, and food service and drinking places industries. For all other industries covered, productivity measures are available through 2002.

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[12] Percentages represent the proportion of paid employees in the sector that are in the industries covered by the productivity indexes, as measured in the BLS Current Employment Statistics establishment survey. The percentage of proprietors and unpaid family workers covered by the productivity measures is not explicitly included in the ratios of employment coverage, but assumed to be the same as for paid employees.

[13] Industries with labor productivity measures in the accommodation and food services sector represent 99.5 percent of employment in the sector.

[14] This article focuses on published industries at the mainly three- and four-digit NAICS level. Indexes and rates of change in output per hour, output per worker, output, hours, all workers, labor compensation, and unit labor costs for these industries are available from the BLS Productivity and Costs Web site on the Internet at **http://www.bls.gov/lpc/home.htm**. Comparable productivity and cost measures for NAICS five- and six-digit industries, as well as underlying data on the number of employees, total industry hours, and the value of net production for published and unpublished industries are available upon request by sending E-mail to dipsweb@bls.gov, or by calling the Division of Industry Productivity Studies (202-691-5618). SIC-based industry data also are available on the BLS Web site or by request. Historical productivity and related series for three- and four-digit SIC industries through 2000 will continue to be maintained, but will no longer be updated.

[15] Five of the eight industries with declines in labor compensation were in textile manufacturing.

Appendix: Methods and data underlying the series

Labor productivity is calculated as output per employee hour or output per hour of all persons working in the industry. The indexes of output per hour are computed by dividing an index of output by an index of aggregate hours. Industry output is measured as "sectoral output," the total value of goods and services leaving the industry. Depending on the industry, hours can refer to hours of employees or hours of all workers. "All workers" include self-employed and unpaid family workers as well as employees. For industries where there are few self-employed and unpaid family workers, such as manufacturing industries, output per employee hour is measured. NAICS-based output and labor input series are created at the most detailed industry level possible; measures for more aggregate industries are aggregated from the detailed industry series.

Tornqvist indexes. Wherever possible, a Tornqvist formula is used to aggregate the various products or services produced in an industry in order to derive an output measure for the industry. The Tornqvist formula aggregates the growth rates of the various products or services between two periods with weights based on the products' shares in industry value of production. The weight for each product equals its average value share in the two periods. The Tornqvist formula yields the ratio of output in a given year to that in the previous year. Ratios for successive years are chained together to form an output index.

The quantities of products used in the output index are measured either with deflated values of production or with actual physical quantities. For most industries in manufacturing, communications, wholesale and retail trade, and services, output indexes are derived from detailed data on the value of industry output or sales, adjusted for price change (that is, the deflated value of production). Tornqvist aggregations of these deflated values are then calculated to derive output indexes. For industries in utilities, and for many mining and transportation industries, physical quantity output indexes are derived as Tornqvist aggregations of quantities of component products. The Tornqvist aggregation method is used in calculating the output index for most industries; one notable exception is commercial banking, in which the annual changes in different outputs are combined using employment weights that are changed every 5 years.

Annual output indexes based on deflated values of production. Annual deflated value measures of real output are estimated by dividing current dollar value of production or revenues by appropriate price indexes. For most manufacturing industries, current dollar industry production (calculated as shipments adjusted for inventory change, intra-industry transfers, and resales) is distributed to product classes based on shares of wherever-made product class shipments. These values are deflated by appropriate price deflators (mostly BLS producer price indexes). The resulting estimates of constant dollar production by product class are Tornqvist aggregated to create industry output indexes for each six-digit NAICS industry.

Similarly, current dollar retail trade industry sales are distributed to individual merchandise lines based on their relative value shares, and then deflated with appropriate price deflators (mainly BLS consumer price indexes). The resulting constant dollar values by merchandise line are aggregated into a single industry output measure according to the Tornqvist formula.

For wholesale trade industries also, current dollar sales are deflated with appropriate price indexes. For each wholesale trade industry, total sales by *merchant wholesalers* and by *manufacturers sales and branch offices (MSBOs)* are deflated with aggregate price indexes constructed by weighting together different producer price indexes (and in the case of *merchant wholesalers*, also some import price indexes). Once deflated, the annual sales of the two types of wholesalers are aggregated according to the Tornqvist formula. A similar procedure is used to develop and separately deflate sales of business-to-business electronic markets and wholesale trade agents and brokers, and then to aggregate the constant dollar values into an index for the electronic markets and agents and brokers industry group.

For some industries in information and services, detailed categories of revenues are available and are deflated with BLS producer price indexes and then aggregated to the industry level using the Tornqvist index formula. For other information and services industries, and for some mining and transportation industries, where less detail is available, data on the value of total industry revenues for each year are divided by industry-level producer price indexes or consumer price indexes to derive measures of changes in the industry's real output.

Annual output indexes based on physical quantities of production. For utilities and for many mining and transportation industries, industry output reflects estimates of the physical quantity of production. Physical quantity indexes are, in all possible cases, Tornqvist aggregations of the quantities of component products, using the finest level of detail available. Examples of such products include tons of coal, BTUs of electricity, or revenue passenger miles and freight ton miles.

Indexes of labor input. The indexes of industry labor input used as the denominator in the productivity formula are developed mainly from basic data compiled by BLS. Data on employment and average weekly hours are used to construct measures of total hours for different categories of workers. Data from the Current Employment Statistics Survey (a monthly establishment survey in which 390,000 representative establishments report employment, hours, and earnings data to BLS and

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supportive State agencies) are supplemented with data from the Current Population Survey (a monthly survey of approximately 60,000 households conducted by the Bureau of the Census for BLS).

Industry hours represent all employee hours or all worker hours. For manufacturing and mining industries, estimated hours of production workers and nonproduction workers are combined. For the trade, transportation, and service industries where self-employed are important, estimates of the hours of partners, proprietors, and unpaid family workers are added to estimated hours of supervisory and nonsupervisory workers. Employee hours for different types of workers are treated as homogenous and are directly aggregated. The indexes of hours are developed by dividing the aggregate hours for each year by the base-period aggregate.

Unit labor costs. Unit labor cost indexes reflect the cost of labor input required to produce one unit of output. Unit labor costs are calculated as the ratio of current dollar labor compensation to real or constant dollar output. The indexes of unit labor costs for each industry are computed by dividing an index of current dollar compensation by an index of constant dollar output.

Compensation is a measure of the employer's cost for securing the services of labor. It is defined as payroll plus supplemental payments. Payroll includes salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind. Supplemental payments are divided into legally required expenditures and payments for voluntary programs. The legally required expenditures include employers' contributions to Social Security, unemployment insurance taxes, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation, such as the employer portion of private health insurance and pension plans.

For manufacturing industries, annual compensation data are derived from the Annual Survey of Manufactures and the Census of Manufactures produced by the U.S. Bureau of the Census. For industries outside of manufacturing, annual wage and salary data from the BLS Quarterly Census of Employment and Wages (QCEW) program are used. Because these data exclude supplemental payments, they are adjusted with ratios of compensation to payroll from the quinquennial census data, or (for utilities) from the Bureau of Economic Analysis (BEA), U.S. Department of Commerce. For a few industries, compensation data are obtained from other sources: for railroad transportation, for example, labor compensation comes from the Surface Transportation Board; for air transportation, labor compensation comes from the Office of Airline Information of the U.S. Department of Transportation, and for the Postal Service, labor compensation comes from the U.S. Postal Service.

Conversion to NAICS

The conversion of industry productivity measures to the NAICS system required the separate conversion of output and labor input measures. The timing of this conversion was guided by the availability of historical BLS NAICS-based employment and hours estimates, as well as the necessary data for converting historical output series to NAICS. Both output and labor input measures were converted to NAICS at the most detailed industry level possible.

Output. Industry output indexes are prepared from basic data published by various public and private agencies, using the greatest level of detail available. Data from the Bureau of the Census, U.S. Department of Commerce, are used extensively in developing output series for manufacturing, trade, information, and service-providing industries, as well as in developing compensation and unit labor cost series for manufacturing industries. The 1997 Economic Census conducted by the Census Bureau was the first major U.S. statistical program to implement NAICS, and data from the 1997 Census were used extensively in the NAICS conversion of the industry output measures. The 1997 Economic Census questionnaires were designed to permit the classification of establishments according to both NAICS and SIC. As a result, the Census Bureau tabulated and published 1997 industry data on both a NAICS and SIC basis for some variables. These dual-coded data were used to calculate conversion ratios relating NAICS industry values to SIC industry values. The conversion ratios were used primarily in converting output for manufacturing and trade industries, and for converting compensation for manufacturing industries. Conversion ratios were applied to SIC-based historical industry sales—or in the case of manufacturing industries, to values of shipments, inventories and labor compensation—to obtain estimates for NAICS-based industries for 1987 to 1996. For retail trade and merchant wholesalers, the Census Bureau provided data on a NAICS basis back to 1992, so additional estimates for NAICS-based industries were only necessary for 1987–91. Data were then aggregated according to NAICS industry definitions. The NAICS industry data estimated in this way were used in constructing the deflated value indexes for each industry.

For manufacturing industries, product shipment categories are used to distribute industry production prior to aggregation with the Tornqvist formula. Where NAICS product classes were not direct matches with SIC product classes, historical SIC-based product class shipments were converted to NAICS using conversion ratios developed by BLS. These conversion ratios were estimated using an SIC-to-NAICS product concordance developed by the Census Bureau, together with recent-year SIC and NAICS product shipments values.

Price indexes. For the majority of industries, output indexes are developed from data on the value of industry output adjusted for price change. This is done by dividing the annual value of the detailed product or service by an appropriate price index, often a BLS producer price index. For many industries, the NAICS-based revenue or shipment values are equivalent on an SIC and NAICS basis. In these cases, the SIC-based producer price series was used. Where NAICS industry or product data prior to 1997 were estimated, NAICS-based price series had to be estimated. In these cases, NAICS-based deflators were constructed as Tornqvist-weighted indexes of the component SIC-based PPIs. For service or trade industries where consumer price indexes (CPIs) are used to deflate revenues, the product CPIs are not coded by industry and therefore did not need to be converted.

Labor hours. The BLS Current Employment Statistics (CES) survey is the primary source of data used in estimating labor hours for each industry. The CES survey provides NAICS industry employment and average weekly hours data for production and nonsupervisory workers, and employment data for all employees, back to 1990 for all industries maintained by that program. NAICS data for years prior to 1990 were available for some industries. Where NAICS industry employment and hours data were not available prior to 1990, the series were estimated back to 1987 by the industry productivity staff using methods and conversion ratios similar to those used by the CES program. Industry labor productivity measures were calculated only for industries for which the CES program maintains employment and hours series.

Compensation. Compensation data used in calculating unit labor costs for manufacturing industries come from the Annual Survey of Manufactures and the Census of Manufactures of the U.S. Bureau of the Census. NAICS estimates for manufacturing industries for years prior to 1997 were calculated using conversion ratios similar to those described in the Output section above. Compensation data for non-manufacturing industries are based on wage data from the Bureau of Labor Statistics, together with fringe ratios from the Bureau of the Census. Compensation data for nonmanufacturing industries were converted using methods similar to those used in converting BLS employment and hours data.

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Federal statistics on healthcare benefits and cost trends: an overview

Federal Government statistical agencies provide a variety of healthcare information on diverse aspects of the Nation's healthcare picture

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There are various Federal statistical surveys that attempt to shed light on a major national topic—healthcare availability and costs. Federal agencies—such as the Bureau of Labor Statistics, the Bureau of the Census, the Bureau of Economic Analysis, the National Center for Health Statistics, and the Centers for Medicare and Medicaid Services—collect, analyze, and publish data that address different aspects of the healthcare picture. Some statistical programs such as those conducted by the Bureau of Labor Statistics have as their primary mission the dissemination of statistics. Other agencies, such as the Centers for Medicare and Medicaid Services, publish data in conjunction with their primary mission to provide services and enforce regulations. This article summarizes major Federal healthcare statistical surveys and identifies selected benefit provisions, including incidence of coverage and employer and employee costs. Two types of surveys are examined separately—surveys of establishments (employers) and household surveys. In addition, Federal accounting structures that provide a measurement of aggregate medical costs are reviewed.

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Establishment surveys

The two major establishment-type surveys are the Bureau of Labor Statistics' National Compensation Survey (NCS) and the Medical Expenditure Panel Survey Insurance Component (MEPS-IC) conducted by the Agency for Healthcare Research and Quality. Both establishment surveys are conducted annually. Data for the NCS are collected by personal visit initially and updated by mail and telephone; the MEPS's data are collected primarily by mail. Both survey types obtain some detailed provisions from benefit plan documents rather than directly from respondents. Tables 1 through 4 present examples of selected published data from the NCS[1] and the MEPS-IC.[2]

While both establishment surveys collect health insurance data, the focus of each is considerably different. (Note that the NCS reference to "medical care" is comparable to the MEPS' "health care" term.) The NCS is designed to get broad estimates of several types of employee compensation, including wages and salaries, overtime pay, sick leave, vacation benefits, health and retirement benefits, and so forth. The following is a sample of the medical insurance details available from the NCS:

- Incidence of coverage of selected medical services
- Amount of plan deductibles
- Coinsurance rates
- Out-of-pocket expense provisions
- Mental health and substance abuse treatment provisions
- Types of prescription drug coverage
- Brand name drug provisions
- Type of medical plan and financial intermediary
- Cost containment provisions
- Dollar plan maximums
- Employee share of total premiums and average monthly contributions (see table 2)

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The MEPS is designed specifically for in-depth analysis of healthcare benefits.[3] It provides, for example, cost of premiums and employees' contributions by private-sector (nongovernment) data, by industry groupings, and by such characteristics as ownership type and age of firm. (See table 4.) The following is a sample of some other health insurance details available from the MEPS:

- Private-sector data by firm size and selected characteristics
- Private-sector data by firm size and State
- Public-sector data by government type, government size, and census division
- National totals for enrollees and cost of health insurance coverage for the private and public sectors
- Private-sector data by proportion of employees who are full time or low wage and State
- Private-sector data by average wage quartiles and State.

Within each of these categories, tables are subsequently grouped by:

- Establishment-level tables
- Employee-level tables
- Premiums, employee contributions, and enrollment tables for single coverage plans
- Premiums, employee contributions, and enrollment tables for family coverage plans
- Premiums, employee contributions, and enrollment tables for employee-plus-one coverage plans.

Table 1. Percent of workers participating in healthcare benefits, by selected characteristics, private industry, National Compensation Survey, March 2004

Characteristic	Medical care	Dental care	Vision care
All employees	53	37	22
Worker characteristics			
White-collar occupations	59	43	25
Blue-collar occupations	60	40	25
Service occupations	24	16	11
Full-time employees	66	46	27
Part-time employees	11	8	6
Union	81	68	50
Nonunion	50	33	19
Average wage:			
Less than $15 per hour	40	26	15
$15 per hour or higher	71	53	33
Establishment characteristics			
Goods-producing	69	49	30
Service-producing	48	33	20
1-99 workers	43	24	14
100 workers or more	64	52	32
Geographic areas			
Metropolitan areas	54	38	23
Nonmetropolitan areas	48	31	18
New England	49	38	17
Middle Atlantic	53	38	24
East North Central	54	39	22
West North Central	51	32	17
South Atlantic	52	35	19
East South Central	52	36	25
West South Central	54	33	20
Mountain	51	38	23
Pacific	55	41	30

SOURCE: Bureau of Labor Statistics, National Compensation Survey.

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Household surveys

There are three major Federal household surveys that collect data on healthcare benefits:

- The Current Population Survey (CPS)
- The Survey of Income and Program Participation (SIPP)
- The Medical Expenditure Panel Survey Household Component (MEPS-HC).

The Current Population Survey is a monthly household survey jointly conducted by the Bureau of Labor Statistics and the Bureau of the Census. Data are collected by personal and telephone interviews. The CPS[4] is the primary source of information on the labor force characteristics of the U.S. population. Supplemental questions are often added to the regular CPS questionnaire to produce estimates on a variety of topics, including health and employee benefits. Table 5 presents selected demographic information related to health insurance coverage.

The Survey of Income and Program Participation[5] is conducted by the Bureau of the Census and provides information on the source and amount of income, labor force information,

Table 2. Percent of medical insurance participants required to contribute and percentage and amount of premiums paid by employees, by selected characteristics, private industry, National Compensation Survey, March 2004

Characteristic	Single coverage			Family coverage		
	Employee contribution required (percent)	Employee share of premium (percent)	Average monthly contribution	Employee contribution required (percent)	Employee share of premium (percent	Average monthly contribution
All employees	76	18	$67.57	89	31	$264.59
Worker characteristics						
White-collar occupations	78	19	69.07	91	32	271.60
Blue-collar occupations	70	16	63.15	84	28	242.81
Service occupations	81	21	72.40	91	35	294.58
Full-time employees	76	18	67.05	89	31	263.65
Part-time employees	71	21	78.61	83	33	284.66
Union	57	11	56.53	67	17	195.12
Nonunion	79	20	68.98	93	33	273.51
Average wage:						
Less than $15 per hour	79	20	70.27	92	34	275.81
$15 per hour or higher	73	17	65.22	86	28	255.05
Establishment characteristics						
Goods-producing	74	16	59.89	85	26	221.25
Service-producing	77	19	70.63	90	33	281.44
1–99 workers	67	18	74.02	87	36	307.78
100 workers or more	83	18	63.33	90	27	231.23
Geographic areas						
Metropolitan areas	76	18	67.56	89	30	262.99
Nonmetropolitan areas	76	18	67.62	90	32	274.02
New England	84	20	69.37	91	26	224.98
Middle Atlantic	73	17	67.43	84	27	246.61
East North Central	76	18	67.73	84	27	252.62
West North Central	77	18	66.60	86	30	258.23
South Atlantic	79	21	72.02	95	35	293.72
East South Central	79	19	64.16	94	33	247.83
West South Central	81	19	66.49	97	36	288.84
Mountain	79	18	64.04	89	32	269.86
Pacific	65	16	65.19	85	31	260.51

[1] The average is presented for all covered workers in plans stating a flat monthly cost and excludes workers without the plan provision.

NOTE: Average contributions in this table are limited to participants who are required to contribute to medical insurance costs. The employee share of premium category includes workers who do not have to make a contribution as well as employees who do have to contribute. The employee contributions referred to in table 4 include employees who do not contribute to medical insurance premiums as well as those who do. Dashes indicate data did not meet publication criteria.

SOURCE: Bureau of Labor Statistics, National Compensation Survey.

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program participation and eligibility data, and general demographic characteristics to measure the effectiveness of existing Federal, State, and local programs. Data are collected by personal interviews with telephone follow-ups. Data are used to estimate future costs and coverage for government programs, such as food stamps, and to provide improved statistics on the distribution of income in the country. The survey design is a continuous series of national panels, with a sample of household interviews lasting about 2 1/2 to 4 years. Table 6 presents selected published data from the SIPP.

The MEPS Household Component Survey (HC),[6] a nationally representative survey of the U.S. civilian noninstitutionalized population, collects medical expenditure data at both the person and household levels. The MEPS-HC collects detailed data on demographic characteristics, health conditions, health status, use of medical care services, charges and payments, access to care, satisfaction with care, health insurance coverage, income, and employment. In addition to collecting data at the person and household levels, expenditure data for the sampled households are then collected from the doctors, hospitals, and phar-

Table 3. Percent of private-sector employees that are enrolled in health insurance plans at establishments that offer health insurance by selected firm size and selected characteristics, Medical Expenditure Panel Survey (Insurance Component), United States, 2001

Characteristic	All firm sizes	1,000 or more employees	Less than 50 employees	50 or more employees
United States	62.2	64.4	60.5	62.6
Industry group:				
Agriculture, fishing, forestry	59.5	64.7	52.6	64.4
Mining and manufacturing	80.4	84.0	71.2	81.8
Construction	64.9	71.3	66.6	63.2
Utilities and transportation	72.7	73.9	63.2	73.6
Wholesale trade	75.4	80.0	69.7	77.3
Financial services and real estate	72.8	73.5	71.3	73.0
Retail trade	47.6	42.4	58.8	44.7
Professional services	65.8	67.2	66.0	65.8
Other services	41.9	45.1	41.9	42.0
Ownership:				
For profit, incorporated	63.3	64.8	62.2	63.6
For profit, unincorporated	57.1	61.0	56.5	57.4
Nonprofit	58.5	63.1	53.9	59.5
Unknown	62.7	62.9	95.8	62.3
Age of firm:				
Less than 5 years	53.9	68.2	57.0	50.4
5–9 years	52.0	39.4	58.2	46.3
10–19 years	56.0	53.1	59.8	53.1
20 or more years	63.2	64.3	62.2	63.5
Unknown	67.0	67.1	56.3	67.1
Multi/single status:				
2 or more locations	63.6	64.5	58.2	63.8
1 location only	59.2	58.9	60.7	57.2
Full-time employees:				
Less than 25 percent	18.3	21.1	16.9	18.8
25–49 percent	31.4	34.4	29.3	31.8
50–74 percent	50.0	55.4	46.4	50.9
75 percent or more	70.7	72.3	69.2	71.1
Unknown	64.2	64.8	71.9	64.0
Union presence:				
No union employees	60.7	62.4	60.1	60.9
Has union employees	67.7	68.7	66.0	67.8
Unknown	64.2	64.8	71.9	64.0
Percent of low-wage[1] employees:				
50% or more low wage	36.4	35.7	37.4	36.1
Less than 50% low wage	68.6	69.3	67.8	68.9
Unknown	66.1	66.5	54.2	66.4

[1] Defined as earning $9.50 per hour or less.

SOURCE: Agency for Healthcare Research and Quality.

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macies used by these households. The primary collection method uses Computer Aided Telephone Interviewing (CATI) techniques. Table 7 presents selected data on the health insurance status of the population under age 65.

Establishment vs. household surveys

Why are there separate establishment and household surveys covering what appears to be the same health topics? Each survey type provides information that is unavailable or not readily available from the other. Establishment surveys provide more accurate data on the costs and details of health plans than do household surveys; however, the latter are better vehicles for obtaining demographic data such as age, sex, race, and marital status.[7] A question also is raised on the rationale for conducting multiple establishment and multiple household surveys. The answer again is that each survey is

Table 4. Average annual single and family premiums, average employee contribution and percent of total per enrolled employee at private-sector establishments that offer health insurance, by selected characteristics, Medical Expenditure Panel Survey (Insurance Component), United States, 2001

Characteristic	Single coverage			Family coverage		
	Total cost	Employee contribution	Employee percent[1]	Total cost	Employee contribution	Employee percent[1]
United States	$2,889	$498	17.3	$7,509	$1,741	23.2
Industry group:						
Agriculture, fishing, forestry	2,709	449	16.6	6,859	1,106	16.1
Mining and manufacturing	2,738	423	15.5	7,308	1,311	17.9
Construction	2,632	442	16.8	7,154	1,839	25.7
Utilities and transportation	2,817	393	14.0	7,362	1,271	17.3
Wholesale trade	2,735	427	15.6	7,331	1,650	22.5
Financial services and real estate	2,944	539	18.3	7,878	1,913	24.3
Retail trade	2,774	643	23.2	7,171	2,234	31.1
Professional services	2,992	439	14.7	7,746	1,921	24.8
Other services	3,062	607	19.8	7,735	2,088	27.0
Ownership:						
For profit, incorporated	2,821	512	18.1	7,463	1,701	22.8
For profit, unincorporated	3,032	472	15.6	7,775	2,359	30.3
Nonprofit	3,182	443	13.9	7,759	1,757	22.6
Unknown	2,839	499	17.6	7,416	1,671	22.5
Age of firm:						
Less than 5 years	3,013	509	16.9	7,684	2,126	27.7
5-9 years	2,819	544	19.3	7,408	2,340	31.6
10-19 years	2,838	499	17.6	7,570	1,996	26.4
20 or more years	2,956	495	16.7	7,544	1,714	22.7
Unknown	2,747	493	17.9	7,415	1,586	21.4
Multi/single status:						
2 or more locations	2,857	521	18.2	7,476	1,644	22.0
1 location only	2,947	459	15.6	7,601	2,013	26.5
Full-time employees:						
Less than 25 percent	2,670	601	22.5	7,046	1,829	26.0
25–49 percent	2,744	631	23.0	7,065	1,676	23.7
50–74 percent	3,019	551	18.3	7,524	1,963	26.1
75 percent or more	2,882	481	16.7	7,533	1,716	22.8
Union presence						
No union employees	2,860	511	17.9	7,648	1,966	25.7
Has union employees	2,938	408	13.9	7,070	1,186	16.8
Unknown	3,149	569	18.1	7,730	1,598	20.7
Percent of low-wage[2] employees						
50% or more low wage	2,813	610	21.7	7,113	2,227	31.3
Less than 50% low wage	2,923	465	15.9	7,626	1,802	23.6
Unknown	2,860	512	17.9	7,426	1,571	21.2

[1] Percents may vary slightly due to rounding.
[2] Defined as earning $9.50 per hour or less.
SOURCE: Agency for Healthcare Research and Quality.

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designed and funded for specific purposes, even though broad subjects, such as healthcare, may be the concern of different agencies. For example, as noted, the MEPS household survey focuses on such details as the health status of individuals, their access to and use of healthcare services, and their income and employment status. The SIPP household survey, while producing selected healthcare statistics, collects data used to estimate future costs for government programs such as the food stamps program.

Trends in healthcare costs

There are several Federal Government agencies that provide estimates on trends in health care costs. BLS publishes information from the NCS and the Consumer Price Index (CPI). The Bureau of Economic Analysis from the Department of Commerce, and the Centers for Medicare and Medicaid Services from the Department of Health and Human Services, also provide information on healthcare trends.

Bureau of Labor Statistics. The NCS provides trends in employer costs through the Employment Cost Index (ECI) and the Employer Costs for Employee Compensation (ECEC). The ECI measures the rate of change in employee compensation, which includes employer costs for benefits, including health insurance.[8] The ECEC measures the average cost per employee hour worked that employers pay for employee compensation, including health insurance benefits. The ECI and ECEC provide data for the civilian economy, which includes

Table 5. Percent of people with health insurance coverage for the entire year and type of coverage by selected characteristics, Current Population Survey, 2002

Characteristic	Total	Covered by private or government health insurance								Not covered
		Total	Private health insurance			Government health insurance				
			Total	Employment	Direct purchase	Total	Medicaid	Medicare	Military care	
Total	100	84.8	69.6	61.3	9.3	25.7	11.6	13.4	3.5	15.2
Sex										
Male	100	83.3	69.6	62.2	8.6	23.6	10.5	11.9	3.8	16.7
Female	100	86.1	69.6	60.4	10.0	27.8	12.7	14.9	3.2	13.9
Race and ethnicity										
White alone or in combination	100	85.8	72.3	63.2	10.1	24.8	9.8	14.2	3.5	14.2
White alone	100	85.8	72.4	63.3	10.2	24.7	9.6	14.4	3.5	14.2
White alone, not Hispanic	100	89.3	77.4	67.3	11.4	24.6	7.7	15.8	3.8	10.7
Black alone or in combination	100	80.1	54.2	50.4	4.3	33.8	23.4	10.3	3.6	19.9
Black alone	100	79.8	54.0	50.3	4.4	33.7	23.1	10.5	3.5	20.2
Asian alone or in combination	100	82.0	69.1	60.6	9.5	18.7	10.6	8.1	2.8	18.0
Asian alone	100	81.6	68.7	60.0	9.8	18.4	10.4	8.5	2.3	18.4
Hispanic (of any race)	100	67.6	46.0	42.4	3.7	26.1	20.2	6.4	1.8	32.4
Age										
Under 18 years	100	88.4	67.5	63.0	5.3	26.8	23.9	.7	2.9	11.6
18 to 24 years	100	70.4	60.4	48.9	5.7	13.6	10.6	.7	2.8	29.6
25 to 34 years	100	75.1	67.5	63.2	5.3	10.1	7.1	1.2	2.3	24.9
35 to 44 years	100	82.3	75.4	70.7	6.4	9.6	6.2	2.0	2.5	17.7
45 to 64 years	100	86.5	77.7	71.2	9.1	13.6	5.9	5.6	4.2	13.5
65 years and older	100	99.2	60.4	33.8	29.6	95.8	9.6	95.3	6.6	.8
Nativity										
Native	100	87.2	71.9	63.3	9.6	26.5	11.8	13.7	3.8	12.8
Foreign born	100	66.6	52.2	46.0	7.1	19.9	10.5	11.3	1.5	33.4
Naturalized citizen	100	82.5	64.8	56.3	9.8	27.6	9.8	20.7	2.5	17.5
Not a citizen	100	56.7	44.4	39.6	5.4	15.1	10.9	5.5	.9	43.3
Region										
Northeast	100	87.0	71.7	64.1	8.4	26.0	12.2	14.7	1.8	13.0
Midwest	100	88.3	76.4	67.4	10.0	23.3	9.7	13.3	2.1	11.7
South	100	82.5	65.9	58.0	9.1	27.4	11.8	14.1	4.9	17.5
West	100	82.9	66.9	58.3	9.6	25.4	12.8	11.6	4.1	17.1

SOURCE: U.S. Census Bureau.

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the total private nonfarm economy and State and local governments, excluding households and the Federal Government. In December 2003, data were obtained from about 8,300 establishments in the private sector and 800 sample establishments in State and local government. Although both use the same data source, the ECI uses fixed employment weights based on the Bureau's Occupational Employment Statistics survey to derive industry and occupation series indexes. Since March 1995, 1990 employment counts have been used. The ECEC, on the other hand, produces cost levels and is calculated by using current, rather than fixed, employment weights.

The ECI is designed to measure how compensation paid by employers would have changed over time if the industry/occupation composition of employment had not changed from the base period, while the ECEC is designed to measure the current cost for employee compensation. While the ECEC provides information about average compensation in the economy at a point in time, the ECI should be used to examine changes in benefit costs over time. However, by comparing the ECEC at different points in time, a measure of the change in average compensation in the labor market can be observed. For health insurance costs, for example, the change could indicate a shift in firms providing health insurance benefits, a change in the composition of premium costs between employer and employee, or a change in employee participation.[9] The share of total compensation accounted for by health insurance in private industry rose from 6.0 percent in March 1991 to 6.6 percent in March 2004. Table 8 provides estimates on annual benefit and health insurance cost trends from the ECI and ECEC from March 1991 to March 2004.

The Consumer Price Index (CPI) is a measure of the average change in the prices paid by urban consumers for a market basket of goods and services purchased for day to day living.[10] The current CPI uses a market basket developed from detailed expenditure information collected from the Consumer Expenditure Survey. The 1998 CPI revision used information provided by families and individuals on what they actually bought over the years 1993 through 1995. Altogether, more

Table 6. Health insurance coverage types by age, sex, and employment status, Survey of Income and Program Participation, 1997

[Numbers in thousands]

Characteristic	15 years and older		15–44		45–64		65 and older	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	208,059	100.0	120,784	100.0	55,211	100.0	32,064	100.0
Employed	131,290	63.1	87,603	72.5	39,485	71.5	4,202	13.1
Current employer	69,845	53.2	45,261	51.7	23,619	59.8	965	23.0
Previous employer	3,336	2.5	1,295	1.5	1,479	3.7	562	13.4
Spouse's employer	21,033	16.0	13,306	15.2	7,323	18.5	404	9.6
Other relative's employer	5,500	4.2	5,342	6.1	126	.3	31	.7
Privately purchased or military-related	8,727	6.6	4,602	5.3	2,601	6.6	1,524	36.3
Public health insurance	3,503	2.7	2,387	2.7	468	1.2	649	15.4
No health insurance	19,345	14.7	15,411	17.6	3,868	9.8	67	1.6
Unemployed	5,527	2.7	4,445	3.7	970	1.8	112	.4
Previous employer	708	12.9	485	10.9	199	20.5	24	21.8
Spouse's employer	702	12.7	485	10.9	209	21.6	7	6.4
Other relative's employer	425	7.7	425	9.6	([1])	([1])	([1])	([1])
Privately purchased or military-related	339	6.1	233	5.2	54	5.5	52	46.4
Public health insurance	790	14.3	672	15.1	89	9.2	28	25.4
No health insurance	2,564	46.4	2,145	48.3	419	43.2	–	–
Not in labor force	71,241	34.2	28,736	23.8	14,756	26.7	27,749	86.5
Previous employer	11,246	15.8	1,902	6.6	2,938	19.9	6,405	23.1
Spouse's employer	14,164	19.9	6,137	21.4	4,780	32.4	3,248	11.7
Other relative's employer	6,799	9.5	6,567	22.9	114	.8	118	.4
Privately purchased or military-related	14,482	20.3	2,228	7.8	1,654	11.2	10,600	38.2
Public health insurance	15,672	22.0	5,419	18.9	3,078	20.9	7,176	25.9
No health insurance	8,878	12.5	6,483	22.6	2,193	14.9	202	.7

[1] Represents zero or rounds to zero.

SOURCE: U.S. Census Bureau.

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than 30,000 individuals and families provided expenditure information for use in determining the importance, or weight, of more than 2,000 categories in the CPI index structure. Using Consumer Expenditure Survey data from 1999 through 2000, the CPI began an ongoing 2-year weight revision with the publication of the 2002 indexes.

The CPI reflects spending patterns for two population groups: All urban consumers (CPI-U) and Urban Wage Earners and Clerical Workers (CPI-W). The CPI-U represents about 87 percent of the total U.S. population. It is based on the expenditures of almost all residents of metropolitan areas. It excludes the spending patterns of persons in non-metropolitan areas, farm families, persons in the Armed Forces, and those in institutions such as prison inmates. The CPI-W's population represents about 32 percent of the total U.S. population and is a subset of the CPI-U's population.

Table 7. Health insurance coverage of the civilian noninstitutionalized population under age 65, Medical Expenditure Panel Survey (Household Component), United States, first half of 2002

Population characteristic	Population in thousands	Percent distribution		
		Private	Public only	Uninsured
Total[1]	247,523	67.9	13.5	18.5
Employment status				
Employed	133,479	78.6	3.5	17.9
Not employed	48,923	49.6	22.8	22.7
Sex				
Male	122,942	68.3	12.0	19.7
Female	124,581	67.5	15.1	17.4
Race/ethnicity				
Hispanic	35,454	43.4	20.5	36.1
Black	31,777	52.7	27.0	20.4
White	166,748	76.0	9.3	14.6
Other	13,544	68.0	15.6	16.3
Hispanic male	18,251	44.2	17.4	38.4
Black male	14,866	53.1	24.4	22.5
White male	83,148	76.2	8.4	15.3
Other male	6,677	68.5	14.2	17.3
Hispanic female	17,203	42.5	23.7	33.8
Black female	16,911	52.2	29.2	18.5
White female	83,600	75.7	10.3	14.0
Other female	6,867	67.6	17.0	15.4
Marital status[2]				
Married	98,352	80.3	4.9	14.9
Widowed	3,282	56.0	20.2	23.8
Divorced	20,493	64.2	12.5	23.3
Separated	3,946	45.7	20.7	33.6
Never married	56,852	59.1	12.4	28.6
Perceived health status				
Excellent	84,060	71.6	12.3	16.1
Very good	81,487	72.3	10.2	17.5
Good	59,080	63.3	14.9	21.8
Fair	17,076	54.1	23.3	22.7
Poor	5,594	40.4	37.4	22.3
Census region				
Northeast	46,026	73.3	13.1	13.6
Midwest	56,152	75.0	10.2	14.8
South	87,689	63.2	14.8	22.1
West	57,656	64.1	15.3	20.7

[1] Includes persons with unknown employment, unknown marital and unknown perceived health status.

[2] For individuals ages 16 and older.

NOTE: The estimates in this table cover the civilian noninstitutionalized population under age 65. Percents may not add to 100 because of rounding.

SOURCE: Center for Financing, Access and Cost Trends, Agency for Health-care Research and Quality: Medical Expenditure Panel Survey, Household Component, 2002.

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Table 8. Trends in private industry employer health insurance costs, National Compensation Survey, March 1991 to March 2004

Date	ECEC private industry costs (cents per hour worked)		ECEC private industry costs (annual percent change)		ECI private industry (annual percent change)	
	All benefits	Health insurance	All benefits	Health insurance	All benefits	Health insurance
March						
1991	$4.27	$0.92	–	–	5.8	11.5
1992	4.55	1.02	6.6	10.9	6.3	10.3
1993	4.80	1.10	5.5	7.9	5.6	8.1
1994	4.94	1.14	2.9	3.6	4.4	5.7
1995	4.85	1.06	–1.8	–6.3	2.9	1.6
1996	4.91	1.04	1.2	–1.7	1.6	–.3
1997	4.94	.99	.6	–4.4	2.0	0.2
1998	5.02	1.00	1.6	1.8	2.3	2.2
1999	5.13	1.03	2.2	2.6	2.2	3.7
2000	5.36	1.09	4.5	5.9	5.5	7.6
2001	5.63	1.16	5.0	8.0	5.0	8.1
2002	5.90	1.31	4.8	12.6	4.8	10.5
2003	6.22	1.45	5.4	11.2	6.1	9.8
2004	6.65	1.53	6.9	5.5	7.0	9.3

NOTE: Dash indicates percent change is not applicable.

SOURCE: Bureau of Labor Statistics, National Compensation Survey.

Table 9. Trends in healthcare prices, Consumer Price Index, March 1991 to March 2004

Date	CPI All items (1982–84=100)		CPI Medical care (1982–84=100)		CPI Medical care services (1982–84=100)		CPI Medical care commodities (1982–84=100)	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
March								
1991	135.0	–	173.7	–	173.8	–	173.2	–
1992	139.3	3.2	187.3	7.8	187.4	7.8	186.7	7.8
1993	143.6	3.1	198.6	6.0	199.7	6.6	193.9	3.9
1994	147.2	2.5	208.3	4.9	210.4	5.4	199.1	2.7
1995	151.4	2.9	218.4	4.9	221.8	5.4	203.7	2.3
1996	155.7	2.9	226.6	3.8	230.7	4.0	208.9	2.6
1997	160.0	2.8	233.4	3.0	237.7	3.0	214.7	2.8
1998	162.2	1.4	239.8	2.8	244.8	3.0	218.5	1.8
1999	165.0	1.7	248.3	3.6	253.1	3.4	227.7	4.2
2000	171.2	3.8	258.1	4.0	263.2	4.0	236.3	3.8
2001	176.2	2.9	270.0	4.6	275.9	4.8	244.9	3.6
2002	178.8	1.5	282.0	4.5	288.9	4.7	254.1	3.8
2003	184.2	3.0	294.2	4.3	302.6	4.8	261.4	2.9
2004	187.4	1.7	307.5	4.5	318.4	5.2	267.3	2.3

NOTE: Dash indicates percent change is not applicable.

SOURCE: Bureau of Labor Statistics, Consumer Price Index, All Urban Consumers, U.S. city average, not seasonally adjusted.

Medical care is one of the major item groups within the Consumer Price Index. This major group consists of medical care commodities and medical care services. Medical care services, the major component of medical care, includes physician, dental, eye care, and other medical professional services, inpatient and outpatient hospital care, and nursing home services. Medical care commodities include prescription and non-prescription drugs and medical equipment and supplies. Weights for CPI medical care reflect household expenditures for health insurance premiums, as well as out-of-pocket medical expenses not covered by health insurance. The CPI does not include employer-paid insurance premiums or government-paid healthcare such as Medicare Part A.[11] Table 9 provides estimates on annual price trends from the CPI from March 1991 to March 2004.

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Bureau of Economic Analysis. The Bureau of Economic Analysis (BEA) is an agency of the Department of Commerce, which along with the Bureau of the Census, are part of the Economics and Statistics Administration. The cornerstone of BEA's estimates is the National Economic Accounts, which feature the estimates of gross domestic product and related measures.[12]

The National Economic Accounts are aggregations of accounts belonging to four sectors of the economy: business, personal, government, and foreign. For each sector, three accounts are created—a production account that records the production attributable to that sector; an appropriation account that records the sources of that sector's income; and a savings-investment account that records the sector's net increase in assets or liabilities. Taken together, these sector accounts constitute a double-entry system in which an outlay recorded in one account is also recorded as a receipt in another account.

The National Income and Product Accounts (NIPA) are a combination of the sector accounts designed to display the value and composition of national output and the distribution of incomes generated by its production. The NIPA consists of seven accounts: (1) the domestic income and product account; (2) the private enterprise income account; (3) personal income and outlay account; (4) the government receipts and expenditures account; (5) the foreign transactions current account; (6) the domestic capital account; and (7) the foreign transactions capital account.[13]

In producing NIPA estimates, BEA relies primarily on data based on information gathered by regulatory or tax agencies for other purposes as well as data from other statistical agencies, such as BLS and the Bureau of the Census. Comprehensive data on health insurance are difficult to obtain because employer-provided health insurance has no single administrative source of data. Final estimates are based on a combination of regulatory information, survey data, and trade sources. MEPS is the primary date source for the employer cost of the employee health insurance component and for the medical care and hospitalization insurance component of personal consumption expenditures. Estimates from the Employer Cost for Employee Compensation published by BLS are used to estimate the annual growth rate of employer expenditures. Wage data from the BLS annual tabulations of wages and salaries of employees covered by State unemployment insurance reports are also used.

Within the personal income and outlays account is the Personal Consumption Expenditures for medical care. Included within this account are costs (in current dollars) for physicians, dentists, and other professional services; costs for hospital visits and nursing homes; and health insurance and workers' compensation costs. Changes in current dollar expenditures can be decomposed into quantity and price components. Quantities or "real" measures and prices are expressed as index numbers with the reference year 2000, currently equal to 100. Annual changes in quantities and prices are calculated using a Fisher formula that incorporates weights from two adjacent years.[14] The NIPA produces a "chained weighted" measure that updates the weights for every period. For example, the growth rate between 1992 and 1993 is computed using prices that prevailed in 1992 and 1993, while the growth rate

Table 10. Trends in healthcare costs, Bureau of Economic Analysis, National Economic Accounts, March 1991 to March 2003

Date	Personal consumption expenditures for medical care (millions of dollars)		Index for personal consumption expenditures for medical care (2000=100)	
	Millions of dollars	Percent change	Index	Percent change
March				
1991	$590,667	–	72.655	–
1992	656,587	11.2	76.633	5.5
1993	703,754	7.2	80.483	5.0
1994	741,349	5.4	83.911	4.3
1995	789,806	6.5	87.485	4.3
1996	821,476	4.0	89.624	2.5
1997	859,878	4.7	92.031	2.7
1998	911,398	6.0	94.247	2.4
1999	944,276	3.6	96.491	2.4
2000	1,003,564	6.3	98.934	2.5
2001	1,084,582	8.1	102.819	3.9
2002	1,175,209	8.4	105.410	2.9
2003	1,272,391	8.3	108.369	2.8

NOTE: Dash indicates percent change is not applicable.

SOURCE: Bureau of Economic Analysis, National Economic Accounts, National Income and Product Accounts tables, Table 2.4.4U Chain-Type Price Indexes for Personal Consumption Expenditures, Medical care; Table 2.4.5U Personal Consumption Expenditures by Type of Product, Medical Care.

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between 1997 and 1998 is computed using prices that prevailed in 1997 and 1998. Chain-type estimates provide the best available method for comparing the level of a given series at two points in time. Table 10 provides estimates on trends in healthcare costs from the National Economic Accounts from March 1991 to March 2003.

Centers for Medicare and Medicaid Services. The Centers for Medicare and Medicaid Services (CMS) is an agency of the Department of Health and Human Services. The CMS publishes the National Health Accounts (NHA), an annual series of statistics presenting total national health expenditures.[15] The NHA consists of categories defining the sources of healthcare dollars and the establishments from which services are purchased with these funds. Funding sources are broadly classified into private health insurance, out-of-pocket spending, and specific government programs such as Medicare and Medicaid. A small portion of expenditures is estimated for other private revenues, such as philanthropic giving and revenues received for nonhealth activities. Behind each NHA source of funding is a sponsor, designated as business, households, governments, and other private funds, who provides the financial support with which healthcare bills are paid. The difference between the source of funds and the sponsor can be illustrated using private health insurance. Although private health insurers pay claims on the behalf of individuals, the premiums are paid or sponsored by employers (business, government, and households). Although private health insurance is considered a private source of funding, in the NHA, the payments are categorized into business, household, and government sponsor categories. The NHA is compatible with the National Income and Product Accounts published by BEA.

The NHA includes the National Health Expenditures, historical and projected, and the State Health Expenditures. The National Health Expenditure survey measures spending for healthcare in the United States by type of service delivered (hospital care, physician services, nursing homecare, and so forth) and the source of funding for those services (private health insurance, Medicare, Medicaid, out-of-pocket spending, and so forth). Total health expenditures are broadly classified into private health insurance, out-of-pocket spending, and specific government programs such as Medicare and Medicaid. A small portion of expenditures is estimated for other private revenues such as philanthropic giving and revenues received by some healthcare providers from nonhealth activities such as the operation of cafeterias and gift shops. Private health expenditures include out-of-pocket expenses, private insurance, and "other private revenues" described above. Private health insurance expenditures are the cost of premiums earned by private health providers. See the box below for the definitions used by the National Health Expenditure Survey.

The primary source for estimating private and State and local government contributions to employer-sponsored health insurance plans is the MEPS-IC survey sponsored by the Agency for Healthcare Research and Quality. Employer-paid premiums were estimated forward using the annual growth in private health premiums derived from the Employer Costs for Employee Compensation component of the NCS. The U.S. Office of Personnel Management supplied estimates of the premium amounts paid by Federal employers on behalf of their employees and retirees. Tables 11 and 12 provide estimates on expenditures and trends in healthcare costs from the National Health Expenditures Survey from 1993 to 2002.

Table 11. Per capita health expenditures and growth in private health costs and private health insurance, National Health Expenditures Survey, 1993–2002

Year	Per capita health expenditures			Average annual percent growth from previous year		
	Per capita amount	Private health expenditures	Private health insurance expenditures	Per capita growth	Private health expenditure growth	Private health insurance growth
1993	$3,381	$1,895	$989	8.5	6.4	–
1994	3,534	1,922	–	5.5	2.4	–
1995	3.698	1,993	1,078	5.7	4.7	–
1996	3,847	2,061	1,119	5.0	4.4	3.8
1997	4,007	2,161	1,171	5.1	5.8	4.7
1998	4,179	2,285	1,243	5.3	6.7	6.2
1999	4,402	2,411	1,319	6.3	6.5	6.1
2000	4,670	2,550	1,422	7.1	6.7	7.8
2001	5,021	2,716	1,545	8.5	7.5	8.7
2002	5,440	2,941	1,679	9.3	9.3	8.6

NOTE: Dash indicates data not available.

SOURCE: Centers for Medicare and Medicaid Services, National Health Expenditures Survey.

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Definitions used in the National Health Expenditure Survey

Out of pocket expenditures

Direct spending by consumers for all healthcare goods and services. Included is the amount paid for services not covered by insurance and the amount of coinsurance and deductibles required by private health insurance and by public programs such as Medicare and Medicaid. Enrollee premiums for private health insurance and Medicare are not included, as are coinsurance and deductible amounts paid by supplementary Medicare policies.

Private health insurance

Individually purchased and employer-sponsored insurance premiums paid for by a variety of plans, including traditional healthcare plan (Blue Cross and Blue Shield) premiums, managed care, and self-insured plans. Managed care plans include Health Maintenance Organiastions (HMOs), Preferred Provider Organizations (PPOs), and Point of Service Plans (POSs). Self-insured plans are offered by employers who directly assume the major cost of health insurance for their employees. Some self-insured plans bear the entire risk, while others insure against large claims by purchasing stop-loss insurance plans. Stop-loss coverage limits the amount an employer will have to pay for each person (individual limit) or for the total expense of the company (group limit).

Other private funds

Revenues received for which no direct patient care services are rendered. The most widely recognized source of other private funds is philanthropy. Philanthropic support may be direct from individuals, obtained through fund-raising organizations such as the United Way, or obtained from foundations or corporations. For some institutions, other private funds include income from the operation of gift shops, cafeterias, parking lots, as well as investment income.

Medicare

Payments from the Federal health insurance program for people aged 65 and older and those with certain disabilities. Medicare coverage provides for acute hospital care, physician services, brief stays in skilled nursing facilities, and short-term skilled homecare related to a medical problem. Coverage is restricted to medical care, and does not include prescription drugs or custodial care at home or in nursing homes.

Medicaid

Payments from a Federal-State program that covers health services for low-income individuals and families. Coverage and eligibility requirements vary by State. Medicaid is the largest source of funding for medical and health-related services for people with limited income and the primary payer of nursing homecare.

Other public funds

All other healthcare expenditures channeled through any program established by public law. For example, expenditures under workers' compensation programs and direct healthcare costs for the Department of Defense, Department of Veteran Affairs, and Indian Health Service. Also included are State and local hospitals, home health agencies, and school health subsidies. Premiums paid by enrollees for Medicare Supplementary Medical Insurance are included as a public expenditure; however, Medicare coinsurance and deductibles are included under out-of-pocket payments because they are paid directly by the beneficiary to the provider of the service.

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Table 12. Amount and percent distribution of personal healthcare expenditures by source of funds, National Health Expenditures Survey, selected calendar years 1993–2002

Expenditure category	Year						
	1993	1995	1997	1999	2000	2001	2002
Amount (billions of dollars)							
Total	$775.8	$865.7	$959.2	$1,065.0	$1,135.3	$1,231.4	$1,304.2
Out-of-pocket payments	146.9	146.5	162.1	184.5	192.6	200.5	212.5
Private health insurance	259.9	288.8	319.2	366.4	398.7	437.2	479.3
Other private funds	38.4	44.2	51.4	56.2	54.2	53.7	56.2
Public funds	330.5	386.2	426.6	457.9	489.8	540.0	592.2
Medicare	144.4	178.6	203.6	206.2	217.5	239.2	259.1
Medicaid	115.7	135.3	151.7	173.7	188.3	207.5	232.4
Other public funds	70.4	72.3	71.3	78.0	84.0	93.3	100.7
Percentage distribution							
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Out-of-pocket payments	18.9	16.9	16.9	17.3	17.0	16.3	15.9
Private health insurance	33.5	33.4	33.3	34.4	35.1	35.5	35.8
Other private funds	5.0	5.1	5.4	5.3	4.8	4.4	4.2
Public funds	42.6	44.6	44.5	43.0	43.1	43.8	44.2
Medicare	18.6	20.6	21.2	19.4	19.2	19.4	19.3
Medicaid	14.9	15.6	15.8	16.3	16.6	16.9	17.3
Other public funds	9.1	8.4	7.4	7.3	7.4	7.6	7.5

SOURCE: Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group; U.S. Census Bureau.

Summary

THE STATISTICAL SYSTEM of the United States is highly decentralized, with a myriad of Federal agencies involved in the collection and analysis of health statistics. The missions of agencies differ, with some having a major focus of investigation, regulation, or enforcement, while others such as BLS being exclusively a statistical agency. These different purposes result in outputs varying in scope of coverage, methodology, and timing. The purpose of this article was to give an overview of the major Federal statistics on healthcare, not to provide an exhaustive list of all surveys and detailed differences in methodology. For more information, visit the Internet sites listed in the Notes section. □

Notes

[1] More information on the National Compensation Survey is available on the Internet at **http://www.bls.gov/ncs/** (visited Sept. 24, 2004).

[2] More information on the Medical Expenditure Panel Survey (Insurance Component) is available on the Internet at **http://www.meps.ahcpr.gov/MEPSDATA/ic/2001/technote2001.pdf** (visited Sept. 24, 2004).

[3] For more details on MEPS and NCS comparisons, see William Wiatrowski, Holly Harvey, and Katharine R. Levit, "Employment-Related Health Insurance: Federal Agencies' Roles in Meeting Data Needs," *Health Care Financing Review*, Spring 2002, Volume 23, Number 3, pp. 115–130. The article is available on the Internet at **http://www.cms.hhs.gov/review/02spring/02Springpg115.pdf** (visited Sept. 24, 2004).

[4] More information on the Current Population Survey is available on the Internet at **http://www.census.gov/prod/2003pubs/p60-223.pdf** (visited Sept. 24, 2004).

[5] More information on the Survey of Income and Program Participation is available on the Internet at **http://www.census.gov/prod/2003pubs/p70-81.pdf** (visited Sept. 24, 2004).

[6] More information on the Medical Expenditure Panel Survey (Household Component) is available on the Internet at **http://www.meps.ahrq.gov/papers/rf18_02-0006/rf18.pdf** (visited Sept. 24, 2004).

[7] For a full discussion on comparing establishment and household surveys, see Diane E. Herz, Joseph R. Meisenheimer II, and Harriet G. Weinstein, "Health and retirement benefits: data from two BLS surveys," *Monthly Labor Review*, March 2000, pp. 3–20. The article is available on the Internet at **http://www.bls.gov/opub/mlr/2000/03/art1full.pdf** (visited Sept. 24, 2004).

[8] More information on the methodology of the National Compensation Survey and historical data for the Employment Cost Index and Employer Costs for Employee Compensations is available on the Internet at **http://www.bls.gov.ncs/ect.home.htm** (visited Sept. 24, 2004).

[9] More information on using and comparing estimates from the ECI and ECEC is available from several articles. See Michael K. Lettau, Mark A. Loewenstein, and Aaron T. Cushner, "Explaining the Differential

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Growth Rates of the ECI and the ECEC, "*Compensation and Working Conditions*, Summer 1997, pp. 15–23; Albert E. Schwenk, "Measuring Trends in the Structure and Levels of Employee Costs for Employee Compensation," *Compensation and Working Conditions*, Summer 1997, pp. 3–14; and Martha A.C. Walker and Bruce J. Bergman, "Analyzing Year-to-Year Changes in Employer Costs for Employee Compensation," *Compensation and Working Conditions*, Spring 1998, pp. 17–27.

[10] More information on the methodology and historical data for the Consumer Price Index is available on the Internet at **http://www.bls.gov/cpi/home.htm** (visited Sept. 24, 2004).

[11] More information on measuring price change for medical care in the CPI is available on the Internet at **http://www.bls.gov/cpi/cpifact4.htm** (visited Sept. 24, 2004).

[12] More information on the methodology and historical data for the National Economic Accounts is available on the Internet at **http://www.bea.doc.gov/bea/mp.htm** and **http://www.bea.doc.gov/bea/dn1.htm** (visited Apr. 1, 2004).

[13] The number of accounts in NIPA increased to seven with the 2003 benchmark revision. For more information, see Nicole Mayerhauser, Shelly Smith, and David F. Sullivan, "Preview of the 2003 Comprehensive Revision of the National Income and Product Accounts," *Survey of Current Business*, August 2003, pp. 7–31.

[14] For more information on Fisher formulas and the use of "chained weighted" index in the NIPA, see the news release, "Initial Results of the 2003 Comprehensive Revision of the National Income and Product Accounts," *Survey of Current Business*, December 2003, Volume 83, Number 12.

[15] More information on the methodology and historical data for the National Health Accounts is available on the Internet at **http://www.cms.hhs.gov/statistics/nhe/default.asp** and **http://www.cms.hhs.gov/statistics/nhe/historical/** (visited Sept. 24, 2004).

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Measuring defined benefit plan replacement rates with PenSync

A synthetic pension data set created with regression and statistical matching procedures utilizes IRS data to evaluate the effectiveness of a defined benefit pension plan in meeting the income needs of retirees; the findings suggest that variations in replacement rates stem from differences in benefit formulas, earnings, years in the plan, and employment characteristics

James H. Moore, Jr.

Will future generations of retirees have adequate retirement income to maintain their preretirement standard of living? In an effort to better understand retirement income security, the Social Security Administration (SSA) developed a microsimulation model, called Modeling Income in the Near Term (MINT),[1] to project the retirement income of persons born between 1926 and 1965. There are three main sources of retirement income: Social Security, employer pension benefits (from both defined benefit and defined contribution pension plans), and personal savings. This article focuses on a method for projecting income from defined benefit pension plans.

Version 1 of MINT used replacement rates calculated by the Bureau of Labor Statistics (BLS, the Bureau) to estimate retirement benefits from the private sector, as well as from State and local government defined benefit plans. Because the Bureau no longer publishes replacement rates,[2] and because there are no other sources from which to obtain such rates, SSA has developed an experimental replacement rate calculation requiring BLS data on pension plans. A file containing both the statistically re-created BLS data and data from the Survey of Income and Program Participation (SIPP) is linked to earnings histories. Work was done under a memorandum of understanding between the Bureau and the SSA such that BLS data would be analyzed at the Bureau and only results of statistical equations could be taken offsite.

Under the MINT, two key components—pension plan characteristics and preretirement earnings—are used to calculate replacement rates. The statistical equations developed at the Bureau are used to estimate pension plan characteristics as a function of job characteristics, which are statistically matched to SIPP individuals. SSA administrative data on earnings are used to develop two measures of earnings and to calculate defined benefit amounts. These amounts, together with preretirement earnings, are then used to calculate replacement rates. The resulting dataset is called *PenSync*.

Estimating future pension income is especially problematic in light of the major changes that have occurred in the world of pensions. For example, over the last two decades, the demographics of individuals covered by a pension, as well as the type of pension plan providing the coverage, have changed drastically. As recently as the mid-1990s, the majority of full-time employees in medium-sized and large private establishments who were covered by a pension plan were covered by a defined benefit plan.[3] Currently, the majority of all employees (full time and part time) in private industry are covered by a defined contribution plan.[4] Not only has the type of pension plan changed, but so has the design of the plan.[5] A new type of pension plan has evolved as well: the cash balance plan, which has gained popularity over the past few years.[6] According to data recently released by the Bureau, participation in cash balance plans increased

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nearly fourfold between 1997 and 2000, from 6 percent to 23 percent.

Currently, no data set collects enough information to analyze these changes in pension plan coverage and design. Through a statistical match, the methodology in this article brings together (1) detailed information on pension plans and plan providers, (2) survey data on plan participants, and (3) administrative data on earnings histories, in order to improve the estimation of pension income for future retirees.

The article begins with a presentation of the methodology, including a brief description of the key components of a defined benefit plan and the models used to replicate the employer-based survey (EBS) data. Next, the data are described, after which the statistical matching procedure and the assumptions are discussed. Finally, results are given and a conclusion proffered.

Data

One of the major sources of data used in this study was the 1995 EBS. Because the 1993 SIPP data and the 1995 EBS data were collected the same year, comparability of the two data sets is facilitated. The EBS provides representative data on the incidence and detailed provisions of the Nation's defined benefit pension plans in all nonagricultural private-sector establishments employing 100 or more full- and part-time workers in all 50 States and the District of Columbia. The sample used in the study contains 4,925 observations. Because defined benefit plan provisions are difficult for the average person to interpret, the appendix to this article briefly describes some of the major provisions found in such a plan, including the benefit formulas and some of their key components, as well as eligibility requirements.[7]

Using representative samples of the Nation's households, the SIPP collects data on sources and amounts of income, various characteristics of the labor force, participation in government programs, eligibility data, and general demographic characteristics. The study presented in this article focused on the data collected in the Retirement Expectations Pension Plan Coverage Topical Module and the Work History Topical Module. To make the SIPP more comparable to the EBS, the SIPP sample was restricted to nonagricultural private-sector wage and salary workers who worked at an establishment with 100 or more employees and who were covered by a defined benefit plan. The self-employed are not included in the sample, and individuals must have had at least 5 years of employment in their current job. The sample consists of individuals who were born between 1930 and 1955 and who thus ranged in age from 40 to 65 in 1995. All told, the sample has 2,508 observations for analysis.

Two sources of administrative earnings data were used for the construction of the earnings measures: the Detailed Earnings Record and the Summary Earnings Record, both maintained by the Social Security Administration. The Detailed Earnings Record contains information on wages, tips, other compensation, and deferred wages from 1981 through 2001. These data are provided to the Internal Revenue Service on Form W-2 from employers; the form reports on all persons with wages, including nonfilers and other noncovered employees. The Summary Earnings Record contains Social Security-covered earnings derived from payroll tax records for the years 1951 through 1999 (up to the taxable wage ceiling). After a review of both data sets, it was determined that the Detailed Earnings Record had significant advantages over the Summary Earnings Record. One major advantage to using the Detailed Earnings Record is that it has earnings data for each job in each year, whereas the Summary Earnings Record's earnings data is a sum of all earnings from all jobs in each year. By using the Detailed Earnings Record, it is possible to separate earnings out by job, which in turn makes it possible to isolate one defined benefit plan with the earnings from one job, instead of having a sum of earnings from multiple jobs.

Methodology

Chart 1 shows the flow of the systematic procedures applied to create PenSync and to calculate replacement rates. The first step is to determine the structure of the data and to select the proper econometric technique that best fits the data. Ordinary least-squares (OLS) regression is used to fit continuous explanatory and dependent variables. However, because the dependent variable that represents the type of formula is categorical, the traditional OLS multiple regression analysis is not appropriate. A discrete dependent-variable model fits the data substantially better than least-square methodology.[8] Therefore, the study used a multinomial logit (MNL) model to fit the categorical dependent variable.

The next step involves estimating the MNL and the OLS models to obtain estimates of the coefficients. The resulting estimates are used to produce predicted values by a process of multiplying the estimated coefficients by the observed EBS data. The end product is a database called PenPred.

The next step in the process is to statistically match the predicted pension plan characteristics (PenPred) to the SIPP by job characteristics. This procedure assigns a defined benefit pension plan with detailed characteristics to the analytical sample of workers in the SIPP who reported being covered by such a plan. The resulting dataset is called PenSync. The final two steps involve constructing an algorithm to calculate benefit amounts and then calculating the replacement rate for each individual in the sample.

Model specification

MNL model specification. The employer's choice of pension formula is modeled with McFadden's random utility framework.[9] Nine alternatives are identified: two flat-dollar formulas; four types of terminal-earnings formulas; two types based on a

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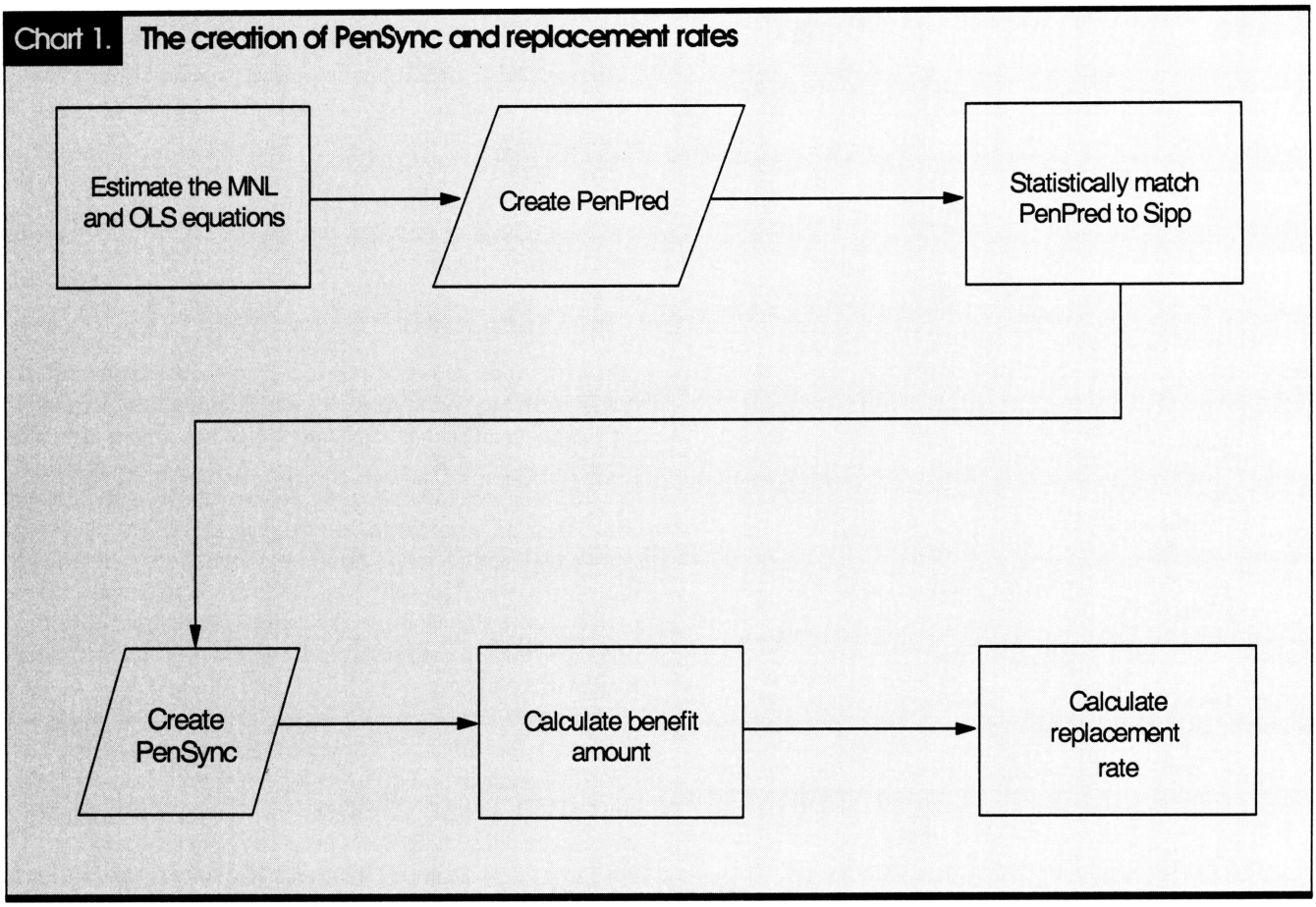

percentage of the worker's career average earnings; and a cash balance plan.[10] In choosing which type of formula to provide, employers may consider a variety of job characteristics, such as their employees' occupations and work schedules. The decision may also be affected by the characteristics of the employers themselves, such as the type of industry in which the establishment operates, the number of employees in the firm, and the presence or absence of a union. (See table 1 for the descriptive statistics of job characteristics variables used to model the employer's choice of benefit formula.) For any employer i, the utility of choice j to that employer is expressed as

$$U_{ij} = V_{ij}(E_i, W_i) + \varepsilon_{ij}, \quad (1)$$

where

U_{ij} is the overall utility of choice j for employer i,
$V(E,W)$ represents utility determined by the observed data,
E is a vector of employer characteristics,
W is a vector of characteristics of employees within the firm,
ε is a vector of unobserved components, and
j denotes pension formula alternatives.

Utility-maximizing behavior implies that employer i will choose a particular alternative j only if $U_{ij} > U_{ik}$ for all k not equal to j. The error term ε is assumed to be a random variable and includes idiosyncrasies and measurement errors. Employer i chooses the alternative that produces the greatest utility. The decision is random.

The probability of any given alternative j being chosen by an employer can be expressed as

$$P = P(U_{ij} > U_{ik}), \text{ for all } k \neq j. \quad (2)$$

By substitution of equation (1),

$$P = P(V_{ij} + \varepsilon_{ij} > V_{ik} + \varepsilon_{ik}, \text{ for all } k \neq j).$$

Rearranging terms yields

$$P = P[(\varepsilon_{ij} - \varepsilon_{ik}) > (V_{ij} - V_{ik}), \text{ for all } k \neq j]. \quad (3)$$

If the distribution of the random ε's is known, the distribution of each difference $\varepsilon_{ij} - \varepsilon_{ik}$, for all $j, j \neq k$, can be derived. Then, from equation (3), the probability that the employer will choose alternative j can be calculated.

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Table 1. Descriptive statistics for job characteristics variables

Category	Number	Percent
Industry		
Mining	56	1.14
Construction	49	.99
Manufacturing	1,330	27.01
Transportation	804	16.32
Wholesale	154	3.13
Retail	444	9.02
Finance	1,106	22.46
Service	982	19.94
Occupational groups		
Professional	1,564	31.76
Blue collar	1,652	33.54
Clerical	1,709	34.70
Union status		
Not a union member	3,547	72.02
Union member	1,378	27.98
Work Schedule		
Part time	308	6.25
Full time	4,617	93.75
Employment		
Less than 250	922	18.72
250–499	754	15.31
500–999	886	17.99
1,000 or more	2,363	47.98
Number of observations	4,925	100.00

SOURCE: Author's calculation using EBS data.

Letting $X_{ij} = (E_i, W_i)$ and assuming that V is a linear function of components of X operationalizes equation 2 as

$$U_{ij} = \beta_j X_{ij} + \varepsilon_{ij}, \quad (4)$$

where β_j is a vector of coefficients indicating the effect of the various X_{ij}'s on employer i's utility derived from option j. Note that β_j is subscripted by the choice index j. This means that, in the analysis, a given X_{ij} is allowed to "interact" with each option. For example, union status may have one effect on the utility of choosing a flat-dollar formula and another on the utility of choosing a cash balance plan.

As mentioned earlier, an MNL approach is used to determine the probability that an employer will choose one of nine mutually exclusive benefit formulas:

1. flat dollar amount times years of service, together with a fixed dollar amount times years of service;
2. flat dollar amount times years of service, together with a varying dollar amount times years of service;
3. percentage of terminal earnings, together with a fixed percentage of earnings, averaged over the last few years of employment;
4. percentage of terminal earnings, together with a varying percentage of earnings, averaged over a specified period of consecutive years of employment;
5. percentage of terminal earnings, together with a varying percentage of earnings, averaged over the last few years of employment;
6. percentage of terminal earnings, together with a fixed percentage of earnings, averaged over a specified period of consecutive years of employment;
7. percentage of terminal earnings, together with a fixed percentage of earnings, averaged over the employee's career;
8. percentage of terminal earnings, together with varying percentages of earnings, averaged over the employee's career;
9. cash balance plan.

(Yet a 10th formula is a pension equity plan, based on terminal earnings and to which interest rates do not apply. However, the incidence of such plans is too scarce to estimate with any precision.)

The MNL model is frequently used to analyze situations in which there are a number of alternatives. However, it is widely known that a potentially important drawback of the model is the property called "independence from irrelevant alternatives" (IIA); that is, the model can be applied only to situations in which the alternatives from which one chooses are totally independent.

To test for the existence of IIA, a model is constructed such that the alternatives include choosing one type of benefit formula over a different type of benefit formula. If the employer views the alternatives as differing only along irrelevant dimensions, then, when the model is reestimated, it will not show a significant difference in explanatory power from that of the original model. The model used in this article passed the IIA assumption.

That the model passed the IIA assumption is not entirely surprising, given that there are many incentives embedded in the different types of pension formulas offered by employers. Some types of pension formula are geared toward retaining employees, while others encourage retirement. Therefore, depending upon the incentive sought by the employer, his or her decision to offer a particular type of pension formula is IIA. Again, the purpose of the IIA test is to ensure that the alternatives presented to employers are indeed viewed as independent.[11] Consequently, in this context, for a given employer i with characteristic x_i, the probability of choosing a given benefit formula can be estimated with the MNL model

$$BF_{ij} = \frac{e^{v_{ij}}}{\sum_{k=1}^{K} e^{v_{ijk}}}, \quad (5)$$

where

BF_{ij} = the probability that employer i chose formula j,

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$v_{ij} = \sum\beta_m X_{ijm}$ = the deterministic component of the utility of formula j to employer i,
X_{ijm} = the mth explanatory variable for formula j and employer i, in which $m = 1...M$, and
β_m = coefficient to be estimated.

The MNL model includes information on characteristics of the employer, of his or her employees, and of the pension plan the employer is offering. (For a description of the values of the dependent variable, see exhibit 1.) In addition to predicting the type of formula, the model estimates the quantitative values common to each type, using OLS.

OLS model specification. The quantitative variables for employer i and formula j can be written as

$$QV_{ij} = \beta_{0ij}...\beta_{1ij}X + \varepsilon_{ij}, \quad (6)$$

where QV_{ij} is a set of quantitative pension provision variables used in the pension benefit calculation and i denotes the ith employer. In this model, the coefficients are estimated by a linear least-squares multiple regression, β_{0i} is a constant, X is a vector of job characteristics of the employer and his or her employees and pension plan characteristics, and ε_i is an error term. (See exhibit 2 for a listing and definition of the quantitative pension variables.)

Creating the synthetic pension file

As shown in chart 1, the first two steps in creating PenSync involve fitting the MNL and OLS models to the EBS data set to score a new data set of predicted observations.[12] Table 2 gives an overview of the accuracy of the MNL model. The model predicted the correct formula 71 percent of the time, on average, and many of the incorrect predictions were among similar types of formulas. For example, the model predicted a flat-dollar formula with a fixed dollar amount with a 95.77-percent accuracy rate, while predicting a flat-dollar formula with a varying dollar amount 20.45 percent of the time. However, when the model incorrectly predicted a flat-dollar formula with a varying dollar amount, it predicted that that formula would be a flat-dollar formula with a fixed dollar amount 50 percent of the time. Both types of formula are similar in their design, and any attempts that were made to increase the accuracy of the prediction flawed the model with multicollinearity and overspecification. The results from the OLS models are found in table 3.

To summarize the procedure, the first step involved estimating equations 5 and 6 to generate a set of coefficient estimates, which are used to replicate the EBS data. The resulting estimates of the coefficients are used to produce predicted values by multiplying each estimated coefficient by the corresponding observed EBS data. This multiplication process is repeated for each variable in the equations specified. The end product is a database containing the predicted values for each observation required to compute a pension benefit amount, along with the related explanatory variables. The database is called PenPred. To assess the quality of PenPred, the resulting means and standard deviations are compared with those of the EBS. (See table 4.)

Statistical matching. Statistical matching is a process of linking data from multiple data sets on the basis of similar characteristics rather than unique identifying information. In a

Exhibit 1. Description of the values for the multinomial logit dependent variable

Value	Type of formula
1	Flat dollar amount times years of service, together with a fixed dollar amount times years of service
2	Flat dollar amount times years of service, together with a varying dollar amount times years of service
3	Percentage of terminal earnings, together with a fixed percentage of earnings, averaged over the last few years of employment
4	Percentage of terminal earnings, together with a varying percentage of earnings, averaged over a specified period of consecutive years of employment
5	Percentage of terminal earnings, together with a varying percentage of earnings, averaged over the last few years of employment
6	Percentage of terminal earnings, together with a fixed percentage of earnings, averaged over a specified period of consecutive years of employment
7	Percentage of terminal earnings, together with a fixed percentage of earnings, averaged over the employee's career
8	Percentage of terminal earnings, together with varying percentages of earnings, averaged over the employee's career
9	Cash balance plan

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Exhibit 2. Definitions of quantitative variables

DOL_DOL1	First dollar-amount breakpoint used to calculate a flat-dollar formula
DOL_DOL2	Second dollar-amount breakpoint used to calculate a flat-dollar formula
DOL_DOL3	Third dollar-amount breakpoint used to calculate a flat-dollar formula
DOL_YRS1	First years-of-service breakpoint used to calculate a flat-dollar formula
DOL_YRS2	Second years-of-service breakpoint used to calculate a flat-dollar formula
NORM_AAS	Sum of normal retirement age and years of service
NORM_AGE	Normal retirement age
NORM_SRV	Normal retirement service requirement
NR_PAY	Percentage of earnings contributed to a cash balance plan
NR_INT	Interest rate
EBASEYR1	First breakpoint for number of years to be included in the calculation of benefits
EBASEYR2	Second breakpoint for number of years to be included in the calculation of benefits
POE_DOL1	First dollar-amount breakpoint used to calculate a percentage-of-earnings formula
POE_DOL2	Second dollar-amount breakpoint used to calculate a percentage-of-earnings formula
POE_PCT1	First percentage-of-earnings breakpoint used to calculate a percentage-of-earnings formula
POE_PCT2	Second percentage-of-earnings breakpoint used to calculate a percentage-of-earnings formula
POE_PCT3	Third percentage-of-earnings breakpoint used to calculate a percentage-of-earnings formula
POE_PCT4	Fourth percentage-of-earnings breakpoint used to calculate a percentage-of-earnings formula
POE_PCT5	Fifth percentage-of-earnings breakpoint used to calculate a percentage-of-earnings formula
POE_YRS1	First breakpoint for number of years of service to be included in the calculation of benefits
POE_YRS2	Second breakpoint for number of years of service to be included in the calculation of benef

statistical match, each observation in one microdata set (a *base* database) is assigned one or more observations from another microdata set (a *secondary* database). The assignment is made on the basis of similar characteristics because the files lacked the same unique identifier.

A substantial amount of research has been carried out concerning the validity of using statistically matched data for analysis. A number of the early researchers in the field carefully documented some of the shortcomings of statistical matching.[13] In particular, Benjamin Okner pointed out some of the common problems with statistical matching, including comparability of the data, the handling of missing data, specific techniques for matching, and the definition and evaluation of the goodness of a match. The next subsection briefly discusses some steps taken to address Okner's concerns.

Data comparability. In an effort to make the PenPred data and the SIPP data compatible, the following harmonization criteria, well discussed in the literature, were used: [14]

1. *Harmonization of units.* It is necessary that records from the different sources refer to the same unit. The unit of analysis for this study is workers.

2. *Harmonization of target population.* If the data sets refer to different target populations, it is important to select just those records which refer to the population of interest. Both data sets comprise a sample of workers employed in private nonagricultural industries and occupations and who participate in a defined benefit plan.

3. *Harmonization of variables.* The common variables should be defined in the same way. Both data sets use Standard Industry Codes and Census Occupation Codes to categorize the industry and occupation, respectively.

Missing data. There are three common approaches to handling missing data: impute the missing data, model the probability of "missingness," or ignore the missing data. After testing to make sure that there were no significant differences on the key variables between records with missing data and records without missing data, the more conservative approach to handling missing data was adopted. Hence, missing values are replaced with means for each variable.[15]

Selection of the matching variables. Consider first PenPred, henceforward called the universe U, consisting of a set of N records. For each record, there are values for R variables. U is represented by an N-by-R matrix, in which each of the N rows contains the values of the R variables for one record. The R variables represent the industry code, the occupation code, and the union status, all of which are considered key variables for matching based on analysis performed on the EBS data. The SIPP consists of a set of M

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Table 2. Accuracy of multinomial logit model

Frequency and percent	Observed formula value	Predicted formula value									Observed total
		Flat dollar		terminal earnings				Career average		Cash balance	
		1	2	3	4	5	6	7	8	9	
Predicted total		873	20	147	1,683	358	1,446	21	95	282	4,925
Frequency	1	816	6	0	14	0	1	2	1	12	852
Percent		95.77	.70	.00	1.64	.00	.12	.23	.12	1.41	...
Frequency	2	22	9	0	13	0	0	0	0	0	44
Percent		50.00	20.45	.00	29.55	.00	.00	.00	.00	.00	...
Frequency	3	0	0	112	0	43	0	0	0	0	155
Percent		.00	.00	72.26	.00	27.74	.00	.00	.00	.00	...
Frequency	4	1	1	2	1,182	0	207	1	1	0	1,395
Percent		.07	.07	.14	84.73	.00	14.84	.07	.07	.00	...
Frequency	5	0	1	29	1	315	1	0	0	0	347
Percent		.00	.29	8.36	.29	90.78	.29	.00	.00	.00	...
Frequency	6	0	3	4	473	0	1,099	6	10	0	1,595
Percent		.00	.19	.25	29.66	.00	68.90	.38	.63	.00	...
Frequency	7	0	0	0	0	0	6	11	0	0	17
Percent		.00	.00	.00	.00	.00	35.29	64.71	.00	.00	...
Frequency	8	0	0	0	0	0	132	0	83	0	215
Percent		.00	.00	.00	.00	.00	61.40	.00	38.60	.00	...

SOURCE: Author's calculation using EBS and PenSync data.

records. For each record, there are values for the S variables that are represented by an M-by-S matrix, in which each of the M rows contains the values of the S variables for one record. The S variables represent the industry code, the occupational code, and the union status.

As mentioned earlier, to enable two or more data sources to be statistically matched, a set of variables common to all data sets must be found. These common characteristics are referred to as X variables, where $X = (x_1,..., x_p)$. In this equation,

x_1 = the worker's two-digit standard industry classification;[16]

x_2 = the worker's three-digit standard occupation classification;[17] and

x_3 = the worker's union status.The ith record in U is denoted

$$U_i = (u_{i1}\, u_{i2}...u_{ij}) \tag{7}$$

and, as indicated, contains j observed variables. Similarly, the ith record in the SIPP,

$$\text{SIPP}_i = (\text{SIPP}_{i1}\, \text{SIPP}_{i2}... \text{SIPP}_{ih}) \tag{8}$$

contains h observed variables. The remaining variables in each of the files are referred to as Y on the PenPred file and Z on the SIPP file. $Y = (y_1...y_q)$, where y_i is a vector of predicted values of all pension provisions; and $Z = (z_1...z_r)$, where z_i is a vector of socioeconomic and work history variables.

Specification of the distance function. The statistical matching procedure is carried out by minimizing a distance function, defined as the absolute difference of the numerical values of the occupations and the union statuses in two cases: the distance between the ith worker in the U and the jth worker in the SIPP is defined by

$$D_{ij} = \sum_{n=1}^{k} \left(I_{in} - I_{jn}\right) + \left(O_{in} - O_{jn}\right) + \left(U_{in} - U_{jn}\right), \tag{9}$$

where

$n = 1,..., k$,

D_{ij} = the distance between the ith U record and the jth SIPP record,

$I_{in} - I_{jn}$ = the distance between the values of the nth pair of industry variables in the ith record,

$O_{in} - O_{jn}$ = the distance between the values of the nth pair of occupation code variables in the ith record, and

$U_{in} - U_{jn}$ = the distance between the values of the nth pair of union status variables in the ith record.

Certain X variables may be treated as cohort variables. A cohort variable establishes subclasses of the records in each

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Table 3. Regression results for selected quantitative variables ordinary least squares model

Variable	Constant	Size	Industry	Work schedule	Occupation	Union status	Dollar formula	Career average	R^2
DOL_DOL1	5.0851	−0.0005	−2.862	−2.0372	1.2767	0.3024	31.8015	0.7117	.74
	[1](.80890)	[1](.00001)	[1](.3666)	[1](.4234)	[1](.2336)	(.2616)	[1](.5091)	[1](.4262)	...
CB PERCENT	4.5894	.0001	.164	−.0600	−.0032	−.0346	−4.8377	−4.8791	.79
	[1](.0735)	[1](.00001)	[1](.0322)	(.0372)	(.0205)	(.023)	[1](.0447)	[1](.0375)	...
CB INTEREST	5.26057	−.0001	.0044	.043	.0502	.016	−5.2488	−5.2148	.79
	[1](.076)	(.00001)	(.0333)	(.0385)	(.0212)	(.0238)	[1](.0462)	[1](.0387)	...
POE 1	−2.6099	.0002	−.3918	1.8657	.6683	.8312	−.3176	12.9813	.67
	[1](.480)	[2](.00005)	(.2103)	[1](.2429)	[1](.1340)	[1](.1501)	(.2921)	[1](.2445)	...
POE 2	.2800	.00002	.1202	−.054	−.0807	−.2721	−.1862	5662	.18
	[2](.0911)	(.000009)	(.0399)	[2](.0461)	(.0254)	[1](.0285)	[2](.0554)	[1](.0464)	...
YEARS 1	−3143	.0001	.3194	.0678	−.062	.0314	−.3266	3.3456	.41
	(.2185)	[1](.000002)	[2](.0957)	(.1106)	(.0610)	(.0683)	(.133)	[1](.1113)	...
YEARS 2	−4.3253	−.0006	4.3718	8.346	−1.8145	3.6991	−6.4945	26.0477	.12
	(3.9373)	(.0004)	(1.7254)	[1](1.993)	(1.1)	(1.2312)	(2.3964)	[1](2.0059)	...
NORM_AGE	46.606	.001564	5.454	−3.20707	−2	−2.98348	−2.8452	7.651	.09
	[1](2.01)	[1](.0002)	[1](.88)	[2](1.01)	[2](.56)	[1](2.98)	(1.22)	[1](1.02)	...
NORM_SRV	10.629	−.00152	−6.373	3.71762	1.3416	2.67692	6.3605	1.856	.10
	[1](1.94)	[1](.0001)	[1](.523)	[1](.604)	[1](.333)	[1](.7)	[1](.723)	(.61)	...

[1] Significant at 1-percent statistical level.
[2] Significant at 5-percent statistical level.

of the two files, with matching permitted only between a pair of cases in the same subclass. In this study, x_1, "industry," is the cohort variable. For example, a worker in the mining industry in the SIPP file can be matched only to another worker in the mining industry in the *U* file.

Assumptions. Three assumptions are relevant to the statistical matching procedures:

1. *No unobserved heterogeneity exists between the predicted data and the observed data.* Stated differently, the probabilities associated with being covered by a given pension formula and having a particular set of job characteristics are analogous across the three data sets. Mathematically, this identifying assumption is captured in the formula

$$\pi(x,y|\,X, \text{Data}_{\text{BLS}}) - \pi(x,y,|\,X, \text{Data}_{\text{SIPP}}) - \pi(x,y,|\,X, \text{Data}_{\text{PenSync}}) = 0 \qquad (10)$$

where
x = type of pension plan,
y = type of formula,
and X is a vector of individual job characteristics (for example, industry, occupation, and union status).

Sensitivity analysis was conducted to check the validity of this assumption. Basic descriptive analysis revealed that the mean values of the observed data are similar to the mean values of the predicted data. Cross tabulations also revealed similarities between the three data sets.

2. *Workers will remain on their current job until they reach the normal retirement age.* This assumption is rendered mathematically as

$$\pi(x,y|X_t, \text{Data}_{\text{SIPP}}) - \pi(x,y|X_{t+i}, \text{Data}_{\text{SIPP}}) = 0, \qquad (11)$$

where
i = start year of current job,..., retirement year.

Many defined benefit plans allow workers to retire prior to the normal retirement date, but the worker's benefit is reduced by an actuarial reduction factor. The current version of PenSync does not have the capability to model early retirement; therefore, it is assumed that workers will remain on their current job until they satisfy the normal retirement provision specified in their defined benefit plan. Note that the assertion that workers will remain on their current job obviously presupposes that those workers will continue to work in the same industry and occupation. To test the feasibility of remaining on the current job, the SIPP and the data from the Detailed Earnings Record were used to measure tenure on the current job and the frequency of job change. The SIPP data reveal that the average tenure on the current defined benefit pension job was 18 years, and the Detailed Earnings Record data indicate that, between the starting year (reported in the work history topical module of the SIPP) of the current job and 2003, 63 percent of the workers in the sample remained with their same employer. To test these assumptions further, the SIPP data are used to check how often a worker reports changing industry or occupation. When the full panel of the SIPP is analyzed, it is found that 92 percent and 90 percent of the workers report remaining in the same industry and occupation, respectively. (Recent growth

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Table 4. Mean and standard deviation for predicted and observed quantitative variables

Variables	Mean			Standard deviation		
	Predicted	Observed	Difference	Predicted	Observed	Difference
DOL_DOL1	6.40	6.33	0.06	11.81	13.83	−2.02
DOL_DOL2	.04	.09	−.05	.20	1.44	−1.25
DOL_DOL3	.66	.46	.19	1.10	5.20	−4.10
DOL_YRS1	.15	.11	.04	.36	1.14	−.78
DOL_YRS2	.05	.11	−.06	.22	1.81	−1.59
NORM_AAS	5.32	5.30	.02	2.03	20.10	−18.07
NORM_AGE	57.38	57.33	.04	5.29	17.77	−12.49
NORM_SRV	7.89	7.91	−.02	3.23	10.59	−7.36
NR_PAY	.31	.30	.01	1.21	1.34	−.13
NR_INT	.31	.32	−.01	1.21	1.41	−.20
EBASEYR1	2.97	2.79	.18	1.70	2.40	−.71
EBASEYR2	21.24	20.76	.48	11.67	35.52	−23.85
POE_DOL1	243.58	234.11	9.47	146.37	1,877.95	−1,731.58
POE_DOL2	.00	.00	.00	.00	.00	.00
POE_PCT1	10.19	10.24	−.04	5.64	7.03	−1.39
POE_PCT2	.76	.67	.09	.43	.85	−.42
POE_PCT3	.00	.18	−.18	.00	.43	−.43
POE_PCT4	.00	.02	−.02	.00	.14	−.14
POE_PCT5	.00	.04	−.04	.00	.21	−.21
POE_YRS1	5.40	5.22	.18	2.91	11.30	−8.39
POE_YRS2	.50	.43	.06	.50	2.28	−1.78

SOURCE: Author's calculation using EBS and PenSync data.

in cash balance plans may have affected the length of time people stay in their jobs, but the timeframe of the data is years before that growth.)

3. *The SIPP-reported pension job for employer 1 is the job with the highest earnings in the W-2 file in each year.* Again, mathematically, this assumption can be stated as

$$\pi(x,y|\,X_t, \text{Data}_{\text{DER}}) - \pi(x,y|\,X_t, \text{Data}_{\text{SIPP}}) = 0, \qquad (12)$$

where X = earnings in a given year and t = 1951...2002. This assumption assumes that the pension module job 1 in the SIPP[18] is the same as the job reporting the highest wage on the Detailed Employment Record. SIPP respondents are asked the question about calendar-year wages and salaries twice per panel and are encouraged to refer to their respective W-2 forms or other documents to ensure their accuracy.

To test the validity of the third assumption, the earnings total reported in the SIPP for the pension job is compared with the highest-wage job on the Detailed Employment Record for the same year. The SIPP earnings are similar to the highest earnings on the Detailed Employment Record, varying by plus or minus $2,000 annually. Respondents in the SIPP also can report earnings and pension coverage from two employers; therefore, to render it yet more likely that the probability that the pension job reported for employer 1 is indeed the highest-wage job on the Detailed Employment Record, the second job reported in the SIPP is analyzed. The analysis reveals that less than 3 percent of the unweighted individuals who reported having a defined benefit type of pension reported having the same type of pension on their second job.

The matching algorithm. The match procedure is unconstrained, which has the advantage of permitting the closest possible match for a U record, but at the cost of increasing the sample variance of estimators involving the Y and Z variables. To avoid violating the confidentially provision in the memorandum of understanding, particular attention is given to tabulations based on small cell sizes. To avoid the possibility of unauthorized disclosure, cells with three or fewer cases were dropped from the sample.

The matching algorithm also employs a decision rule: if the pair agrees on all three characteristics (that is, industry, occupation, and union status), designate the pair as a level-1 match; or else if the pair agrees on the two characteristics industry and occupation, designate the pair as a level-2 match; or else if the pair agrees on the two characteristics industry and major occupational group, designate the pair as a level-3 match; or else if the pair agrees on industry characteristics only, designate the pair as a level-4 match; or else designate the pair as a nonmatch. As shown in the following tabulation, the final data file for analysis consists of 2,508 observations containing detailed socioeconomic variables, along with in-depth employer-provided pension data:

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Level	*Number of matches*	*Match rate (percent)*
Total	2,508	100
1	1,876	75
2	192	8
3	430	17
4	10	.004

This database is called PenSync.

Benefit algorithm. The final procedure used to create the synthetic pension file involves constructing an algorithm to calculate benefit amounts and replacement rates for each individual in PenSync. The algorithm starts by determining the type of formula assigned to an individual (for example, career average earnings, terminal earnings, cash balance, or a flat-dollar formula). For individuals covered by a formula based on a percentage of their earnings times years of service, a subroutine is initiated to determine whether the earnings are career average earnings or terminal earnings. For individuals covered by a career average arrangement, the benefit amount is determined by multiplying a proportion of the average earnings from the Detailed Earnings Record by the worker's total number of credited years of service.[19] For individuals whose benefit amounts are based upon a terminal earnings arrangement, the algorithm multiplies a proportion of the average earnings from the Detailed Earnings Record during a specified period, typically near the individual's retirement age.

For individuals who are covered by a cash balance plan, the benefit amounts are represented as an account balance equal to a percentage of the individual's earnings during each year of participation in the plan, credited with interest based on some index. At retirement, a participant in a cash balance plan typically receives his or her accumulated vested account as a lump sum. For purposes of the analysis carried out in this article, once the worker reaches the normal retirement age specified by the plan, the accumulated vested account is transformed into an annuity. Some benefits are associated, not with earnings, but rather, with a dollar amount per year of service. For those individuals, the benefit amount is determined by multiplying a fixed dollar amount by years of service in the plan.

Table 5. Pension income and replacement rate for workers who qualify for normal retirement prior to 2003

Category	Percent of workers	Average earnings (dollars)		Monthly benefit	Replacement rate (percent)	
		High 3 of last 5	High 5 of last 10		High 3 of last 5	High 5 of last 10
All workers	100	$37,958	$ 32,649	$1,012	32	29
Type of formula						
Dollar formula	19	35,858	30,068	818	21	24
Terminal earnings	54	38,921	34,381	1,144	38	30
Career average	10	32,233	28,192	781	21	20
Cash balance	17	40,600	32,614	960	32	36
Occupation						
Professional/technical	39	49,779	42,579	1,415	42	33
Administrative/clerical	18	25,148	22,607	579	24	25
Production/service	43	32,308	27,606	815	26	27
Industry						
Goods producing	40	37,828	32,999	913	26	27
Non-goods producing	60	38,044	32,417	1,079	36	31
Years in the plan						
0–10	16	28,015	23,711	256	9	11
11–15	15	31,144	27,315	502	18	20
16–20	10	33,406	29,080	845	28	31
21–25	12	29,837	26,122	955	30	34
26–30	26	45,759	38,206	1,178	33	33
More than 30	22	47,428	41,674	1,840	61	41
Union status						
Non-union member	66	39,594	33,930	917	25	27
Union member	35	34,852	30,219	1,202	46	32

NOTE: High 3 of last 5 is the average of the 3 highest years of earnings 5 years prior to the normal retirement date specified in the pension plan. High 5 of last 10 is the average of the 5 highest years of earnings 10 years prior to the normal retirement date specified in the pension plan. All earnings and benefit amounts are measured in 2003 dollars. Eligibility for retirement depends on a worker's age or number of years of credited service, or both. The mean normal retirement age in PenSync is 60, with an average of 25 years of service. The normal retirement date is the year in which the worker satisfies his or her pension plan provision which specifies that the worker is eligible to receive an unreduced retirement benefit. The year 2003 is used to verify whether an individual has satisfied the normal retirement requirement. The mean normal retirement year in PenSync is 1998.

SOURCE: Author's calculation using PenSync.

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The final step in the algorithm produces a set of pension benefits and replacement rate ratios for the two measures of earnings: the last 10 years of earnings (L10YR) and the last 5 years of earnings (L5YR). L10YR is the average of the 5 highest years of earnings 10 years prior to the normal retirement date specified in the pension plan; L5YR is the average of the 3 highest years of earnings 5 years prior to the pension plan's normal retirement date. The latter is the year in which the worker satisfies provisions specified in the plan in order to receive an unreduced retirement benefit. The year 2003 is used to verify whether an individual has satisfied the pension plan's normal retirement requirement. All earnings and benefit amounts are measured in 2003 dollars.

Results

For workers who are eligible for normal retirement benefits prior to 2003, the defined benefit plan is estimated to replace about 30 percent of the last year of positive earnings. The average earnings are estimated to be about $35,000, and the average monthly pension benefit is $1,012. (See table 5.) Pension replacement rates are estimated to vary by the type of benefit formula, employment characteristics, and years of participation in the pension plan. Replacement rates were lowest for those in flat-dollar or career average formulas and highest for those in terminal earnings formulas or cash balance formulas, with a 16- to 17-percentage-point differential. Replacement rates were considerably lower for those in administrative/clerical or production/service jobs, compared with those in professional/technical jobs, and were lower for those in goods-producing industries than those in non-goods-producing industries. Union members are estimated to have higher replacement rates than non-union members, and more years of participation in a pension plan is associated with much higher replacement rates. Workers who remain in the same pension plan for more than 30 years have more than 60 percent of their earnings in the 5 years prior to retirement replaced by their plans, compared with only a 9-percent replacement rate for those with less than 10 years of participation.

PREDICTING RETIRMENT INCOME FROM A PENSION PLAN is a difficult task. The absence of good data is a major contributor to the difficulty involved. Furthermore, the lack of comprehensive data sources on pensions places limitations on pension research and policy decisions. The methodologies applied in this article have been in existence for decades, yet they remain more of an art than a science. However, many challenges are inherent in the employment of the procedure itself: the specification of an appropriate model, data harmonization, and, probably most important, the quality of the data. Nevertheless, the methodology set forth herein is a reasonable approach, given constraints from two different restricted data sets. □

Notes

[1] MINT was developed to estimate the distributional effects of proposed Social Security policy alternatives on current and future beneficiaries' retirement income. The model projects retirement income from Social Security, pensions, personal investments or savings, and partial retirement earnings. For a complete description of the MINT project, see the final reports prepared by the RAND Corporation (Constantijn Panis and Lee Lillard, "Near Term Model Development," draft final report, SSA contract no. 600-96-27335 (Santa Monica, CA, RAND, 1999); Constantijn Panis, Michael Hurd, David Loughran, Julie Zissimopoulos, Steven Haider, and Patricia St. Clair, "The Effect of Changing Social Security Administration's Early Entitlement Age and the Normal Retirement Age," draft report, SSA contract no. 600-96-27335 (Santa Monica, CA, RAND, 2002)); The Urban Institute (Eric Toder and others, "Modeling Income in the Near Term—Projections of Retirement Income through 2020 for the 1931–1960 Birth Cohorts," final report, SSA contract no. 600–96–27332 (Washington, DC, The Urban Institute, 1999)); and the Social Security Administration (Barbara A. Butrica, Howard M. Iams, James Moore, and Mikki Waid, *Methods in Modeling Income in the Near Term (MINT)*, ORES working study no. 91 (Social Security Administration, May 2001)).

[2] The last years the Bureau published replacement rates for full-time employees were 1993 for those in medium and large private establishments and 1994 for State and local government employees.

[3] See *Employee Benefits in Medium and Large Private Establishments, 1993*, Bulletin 2456 (Bureau of Labor Statistics, November 1994), especially table 1, p. 8.

[4] See *National Compensation Survey: Employee Benefits in Private Industry in the United States, 2000*, Bulletin 2555 (Bureau of Labor Statistics, January 2003), especially table 1, p. 4.

[5] See Olivia Mitchell, "Developments in Pensions," *NBER Reporter* (Washington, DC, National Bureau of Economic Research, 1998); and Leslie E. Papke, "Are 401(k) Plans Replacing Other Employer-Provided Pensions? Evidence from Panel Data," *Journal of Human Resources*, vol. 34, no. 2, spring 1999, pp. 346–68.

[6] Kenneth R. Elliott and James H. Moore, "Cash Balance Pension Plans: The New Wave," *Compensation and Working Conditions,* vol. 5, no. 2, summer 2000, pp. 3–12.

[7] To learn more about defined benefit plans and their features, see Gerald E. Cole, "An Explanation of Pension Plans," *Employee Benefits Journal*, June 1999, pp. 3–13.

[8] A. Agresti, *Categorical Data Analysis* (New York, J. Wiley & Sons, 1990).

[9] D. McFadden, "Conditional Logit Analysis of Qualitative Choice Behavior," in P. Zarembka, ed., *Frontiers in Econometrics* (New York, Academic Press, 1974), pp. 105–42.

[10] See the appendix for a brief description of these alternatives.

[11] Interested readers should refer to W. H. Green, *Econometric Analysis* (New York, Macmillan, 1990); K. Train, *Qualitative Choice Analysis: Theory, Econometrics, and an Application to Automobile Demand* (Cambridge, MA, MIT Press, 1986); and Moshe Ben-Akiva and Steven Lerman, *Discrete Choice Analysis: Theory and Application to Travel Demand* (Cambridge, MA, MIT Press, 1985; 4th printing, 1991).

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[12] For a description of the SAS Proc Score procedure, visit the website **http://ftp.sas.com/techsup/download/stat/scorenew.html**. See also SAS Technical Support Documents 650e, *Multinomial Logit, Discrete Choice Modeling: An Introduction to Designing Choice Experiments*, and *Collecting, Processing, and Analyzing Choice Data with SAS* (Cary, NC, SAS Institute, Inc., 2001).

[13] See Benjamin A. Okner, "Constructing a New Data Base from Existing Microdata Sets: The 1966 Merge File," *Annals of Economic and Social Measurement*, July 1972, pp. 325–52, and "Data Matching and Merging: An Overview," *Annals of Economic and Social Measurement*, April 1974, pp. 347–52; Horst E. Alter, "Creation of a Synthetic Data Set by Linking Records of the Canadian Survey of Consumer Finances with the Family Expenditure Survey 1970," *Annals of Economic and Social Measurement*, vol. 3, no. 2, 1974, pp. 373–94; D. B. Radner, R. Allen, M. E. Gonzalez, T. B. Jabine, and H. J. Muller, *Report on Exact and Statistical Matching Techniques*, statistical policy working paper (U.S. Dept. of Commerce, 1980); and J. T. Barry, "An Investigation of Statistical Matching," *Journal of Applied Statistics*, vol. 15, 1988, pp. 275–83.

[14] The statistical matching criteria for integrating data were taken from Marcello D'Orazio, Marco Di Zio, and Mauro Scanu, "Statistical Matching: a tool for integrating data in National Statistical Institutes" (Rome, Italian National Statistical Institute, 2001); on the Internet at**http://webfarm.jrc.cec.eu.int/ETK-NTTS/Papers/final_papers/43.pdf**.

[15] See R. J. A. Little and D. B. Rubin, *Statistical Analysis with Missing Data* (New York, J. Wiley and Sons, 1978); J. O. Kim and J. Curry, "The treatment of missing data in multivariate analysis," *Sociological Methods and Research*, vol. 6, 1977, pp. 215–40; and P. L. Roth, "Missing data: A conceptual view for applied psychologists," *Personnel Psychology*, vol. 47, 1994, pp. 537–60.

[16] All workers are classified into one of more than 82 industries according to their Standard Industrial Classification.

[17] All workers are classified into one of more than 820 occupations according to their Standard Occupational Classification.

[18] The SIPP asks respondents about two jobs.

[19] For all individuals, regardless of type of formula, the number of credited years of service is determined by subtracting the normal retirement year specified in the pension plan from the year the worker reported starting his or her current job. For years of earnings that are outside the scope of the Detailed Earnings Record, the Summary Earnings Record is used to supplement the missing data.

APPENDIX: Brief description of defined benefit provisions

A defined benefit plan provides employees with guaranteed retirement benefits based on a predetermined formula. There are three basic types of defined benefit formulas found in the employer-based survey (EBS) data: (1) a percentage of earnings per year of service, (2) a cash balance arrangement, and (3) a flat amount per year of service.

According to the EBS data, the majority of workers who participate in a defined benefit plan are covered by a formula based on a percentage of their earnings per year of service.[1] In this type of arrangement, the employee benefit is based on a proportion of earnings per year of service for each year that an employee participates in the plan. The years of service credited may be based upon either a career average or final earnings. Under a career average arrangement, the plan benefits accrue in accordance with the average of the earnings paid over the entire period of the employee's participation in the plan. Under a final-pay arrangement, by contrast, the plan benefits are based on an average of the employee's earnings during a short period, typically near the employee's retirement age. For example, the earnings may be averaged over the last 3 or 5 years of employment or over the 3 or 5 consecutive years in the 10-year period immediately prior to retirement, during which the employee's earnings are typically the highest.

A cash balance plan is another type of defined benefit plan—one whereby the benefit formula takes into account the employee's income and the number of years of service credited. Although a cash balance plan is structured to bear a resemblance to a defined contribution plan, the benefits are represented as an account balance instead of as an annuity. The account balance is equal to a percentage of the employee's income during each year of participation in the plan, and it is also credited with interest. The interest rate is often based on an index, such as the rate of return on 30-year Treasury bonds.

Some benefits are associated, not with income, but rather, with a dollar amount per year of service. In 2000, 14 percent of all workers in the private sector who were covered by a defined benefit plan had this type of plan. A formula incorporating a flat dollar amount per year of service provides a benefit amount based on a fixed dollar amount multiplied by years of service in the plan. To illustrate, if a plan specifies a benefit of $40 a month for each year of service, an employee with 30 years of participation in the plan would receive a monthly benefit of $1,200.

Before an employee is entitled to benefits from the plan, he or she must become *vested*, which means having a designated number of years of service with an employer. A 5-year cliff-vesting requirement is the most prevalent provision. Therefore, the study presented in this article assumes that, upon satisfying the 5-year vesting requirement, an individual is entitled to receive a nonforfeitable accrued benefit upon separation or retirement.

Benefits under a defined benefit plan are usually paid when the employee retires. All defined benefit plans are required to specify an age, years of service, or some combination of the two whence an employee can receive unreduced benefits. The normal retirement age in most plans is 65 years. However, many defined benefit plans allow retirement after a stated age that is earlier than the declared normal retirement age, but the employee's benefit is reduced by an actuarial reduction factor. This provision is called *early retirement*.

Note to the appendix

[1] These data can be found at **http://www.bls.gov/ncs/ebs/sp/ebrp0001.pdf**.

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Concrete productivity statistics

Persistent and substantial variations in productivity among individual factories have been observed, even in industries that are narrowly defined. Attempts to explain this variation have tended to focus on technological or "supply-side" reasons such as management approaches.

In "Market Structure and Productivity: A Concrete Example" (NBER Working Paper 10501), Chad Syverson of the University of Chicago focuses on the other side of the exchange process—the demand side. Syverson states that, "The more difficult it is for consumers to switch between competing suppliers, the greater the productivity dispersion that can be sustained."

To investigate this notion, Syverson considers a concrete example—literally. He analyzes data from the Census of Manufactures for a single four-digit Standard Industrial Classification (SIC) industry: ready-mixed concrete, SIC 3273. An advantage of these data is that a physical measure of the product is available (cubic yards), in addition to the dollar value of shipments. Syverson focuses on one aspect of substitutability in this study, pertaining to transport costs. The ready-mixed concrete industry has substantial transport costs, which implies that there are separate geographic markets for the product.

He uses the concrete data to test the premise that, "in markets where it is easy for industry consumers to switch suppliers, productivity distributions should exhibit higher minima, less dispersion, and higher central tendency than those in low-substitutability markets." His findings support this premise: they show that markets that have high demand densities for this product have higher minimum and mean productivity levels, and such markets have less dispersion in productivity levels among producers.

Up the ladder

Top business people have always enjoyed at least some celebrity. Even the robber barons, such as Rockefeller and Carnegie, had popular biographies written about them attributing their success to hard work, according to the introduction to Peter Capelli and Monika Hamori's recent NBER Working Paper, "The Path to the Top: Changes in the Attributes and Careers of Corporate Executives, 1980 to 2001." In addition to the celebrity accorded some of today's top business leaders, they hold important positions in the world. Understanding the nature of success in the business world, say Capelli and Hamori, "says a great deal about access to positions of influence, about social mobility generally, and specifically about career development practices."

The brief survey of literature that introduces the concepts of executive career studies is good reading. According to the works cited by Capelli and Hamori, there have been three broad eras of executive recruitment since the beginning of the 20th century. The first was an era marked by a mix of entrepreneurial merit in some cases and inherited wealth or position in the early years of the century. A second, broadly occupying the middle years of the century, was marked by the rise of what William A. Whyte labeled the "organization man." The final era started in the 1980s and is characterized by what Michael B. Arthur and Denise M. Rousseau call "the boundaryless career."

The nature of successful, high-performance careers that may not reflect secure, long-term commitments between an organization and its members is the subject of Capelli and Hamori's new research. They found significant difference between the attributes and career paths of the top 10 executives in the Fortune 100 companies in 1980 and those in evidence among a similar panel in 2001. In terms of basic attributes, today's executives are younger, more likely to have a college degree, and somewhat more likely to be women. The latter, as the authors say, was "not a difficult achievement given that the number was zero in 1980."

In terms of career path, today's top executives are less likely to have been lifetime employees of their companies, took less time to get to the top rungs of the corporate ladder, and had seen bigger promotions, as evidenced both by a direct measure of promotion size and the fact they had held fewer positions during their successful careers.

These findings were robust to several factors including restriction to those executives for which Capelli and Hamori could fill in a complete career history and restriction of the sample to firms that were in the Fortune 100 in both 1980 and 2001. One partition of the data that did yield some interesting differences was between firms in manufacturing and service industries.

In 1980, there were very few differences between executives in manufacturing and top managers in service firms. In 2001, according to the data, "Executives in the service sector are younger, more likely to be women and to be Ivy League graduates. Most important, they are much less likely to have started their career in the same company ... and they spent four and a half fewer years in their current organization. They also got to the top about two and a half years sooner than their peers in manufacturing. The manufacturing/service distinction apparently was irrelevant in understanding differences in executive experience in 1980 but has become highly relevant in 2001." □

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Notes on Current Labor Statistics

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

General notes

The following notes apply to several tables in this section:

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

Seasonally adjusted data appear in tables 1–14, 17–21, 48, and 52. Seasonally adjusted labor force data in tables 1 and 4–9 were revised in the February 2004 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14, and 17 were revised in the March 2004 *Review*. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 54 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the "real" earnings shown in table 14—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1982 = 100, the hourly rate expressed in 1982 dollars is $2 ($3/150 x 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1982" dollars.

Sources of information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Definitions of each series and notes on the data are contained in later sections of these Notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Bulletin 2490. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 919. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on the back cover of this issue.

More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in the Bureau's monthly publication, *Employment and Earnings*. Historical unadjusted and seasonally adjusted data from the household survey are available on the Internet:

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*, 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

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table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; overall prices by stage of processing; and overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data.

Employment and Unemployment Data

(Tables 1; 4–29)

Household survey data

Description of the series

Employment data in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 60,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff are also counted among the unemployed. **The unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. Persons **not in the labor force** are those not classified as employed or unemployed. This group includes discouraged workers, defined as persons who want and are available for a job and who have looked for work sometime in the past 12 months (or since the end of their last job if they held one within the past 12 months), but are not currently looking, because they believe there are no jobs available or there are none for which they would qualify. The **civilian noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy. The **civilian labor force participation** rate is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appears in the Explanatory Notes of *Employment and Earnings*. For a discussion of changes introduced in January 2003, see "Revisions to the Current Population Survey Effective in January 2003" in the February 2003 issue of *Employment and Earnings* (available on the BLS Web site at: **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

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in each establishment which reports them.

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

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

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

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

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The March 2003 benchmark was introduced in February 2004 with the release of data for January 2004, published in the March 2004 issue of the *Review*. With the release in June 2003, CES completed a conversion from the Standard Industrial Classification (SIC) system to the North American Industry Classification System (NAICS) and completed the transition from its original quota sample design to a probability-based sample design. The industry-coding update included reconstruction of historical estimates in order to preserve time series for data users. Normally 5 years of seasonally adjusted data are revised with each benchmark revision. However, with this release, the entire new time series history for all CES data series were re-seasonally adjusted due to the NAICS conversion, which resulted in the revision of all CES time series.

Also in June 2003, the CES program introduced concurrent seasonal adjustment for the national establishment data. Under this methodology, the first preliminary estimates for the current reference month and the revised estimates for the 2 prior months will be updated with concurrent factors with each new release of data. Concurrent seasonal adjustment incorporates all available data, including first preliminary estimates for the most current month, in the adjustment process. For additional information on all of the changes introduced in June 2003, see the June 2003 issue of *Employment and Earnings* and "Recent changes in the national Current Employment Statistics survey," *Monthly Labor Review*, June 2003, pp. 3–13.

Revisions in State data (table 11) occurred with the publication of January 2003 data. For information on the revisions for the State data, see the March and May 2003 issues of *Employment and Earnings*, and "Recent changes in the State and Metropolitan Area CES survey," *Monthly Labor Review*, June 2003, pp. 14–19.

Beginning in June 1996, the BLS uses the X-12-ARIMA methodology to seasonally adjust establishment survey data. This procedure, developed by the Bureau of the Census, controls for the effect of varying survey intervals (also known as the 4- versus 5-week effect), thereby providing improved measurement of over-the-month changes and underlying economic trends. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the most recent 2 months are based on incomplete returns and are published as preliminary in the tables (12–17 in the *Review*). When all returns have been received, the estimates are revised and published as "final" (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Fourth-quarter data are published as preliminary in January and February and as final in March.

FOR ADDITIONAL INFORMATION on establishment survey data, contact the Division of Current Employment Statistics: (202) 691–6555.

Unemployment data by State

Description of the series

Data presented in this section are obtained from the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions, and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act. Seasonally adjusted unemployment rates are presented in table 10. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for all States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates are revised to new population controls, usually with publication of January estimates, and benchmarked to annual average CPS levels.

FOR ADDITIONAL INFORMATION on data in this series, call (202) 691–6392 (table 10) or (202) 691–6559 (table 11).

Quarterly Census of Employment and Wages

Description of the series

Employment, wage, and establishment data in this section are derived from the quarterly tax reports submitted to State employment security agencies by private and State and local government employers sub-

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ject to State unemployment insurance (UI) laws and from Federal, agencies subject to the Unemployment Compensation for Federal Employees (UCFE) program. Each quarter, State agencies edit and process the data and send the information to the Bureau of Labor Statistics.

The Quarterly Census of Employment and Wages (QCEW) data, also referred as ES-202 data, are the most complete enumeration of employment and wage information by industry at the national, State, metropolitan area, and county levels. They have broad economic significance in evaluating labor market trends and major industry developments.

Definitions

In general, the Quarterly Census of Employment and Wages monthly employment data represent the number of **covered workers** who worked during, or received pay for, the pay period that included the 12th day of the month. **Covered private industry employment** includes most corporate officials, executives, supervisory personnel, professionals, clerical workers, wage earners, piece workers, and part-time workers. It excludes proprietors, the unincorporated self-employed, unpaid family members, and certain farm and domestic workers. Certain types of nonprofit employers, such as religious organizations, are given a choice of coverage or exclusion in a number of States. Workers in these organizations are, therefore, reported to a limited degree.

Persons on paid sick leave, paid holiday, paid vacation, and the like, are included. Persons on the payroll of more than one firm during the period are counted by each UI-subject employer if they meet the employment definition noted earlier. The employment count excludes workers who earned no wages during the entire applicable pay period because of work stoppages, temporary layoffs, illness, or unpaid vacations.

Federal employment data are based on reports of monthly employment and quarterly wages submitted each quarter to State agencies for all Federal installations with employees covered by the Unemployment Compensation for Federal Employees (UCFE) program, except for certain national security agencies, which are omitted for security reasons. Employment for all Federal agencies for any given month is based on the number of persons who worked during or received pay for the pay period that included the 12th of the month.

An **establishment** is an economic unit, such as a farm, mine, factory, or store, that produces goods or provides services. It is typically at a single physical location and engaged in one, or predominantly one, type of economic activity for which a single industrial classification may be applied. Occasionally, a single physical location encompasses two or more distinct and significant activities. Each activity should be reported as a separate establishment if separate records are kept and the various activities are classified under different NAICS industries.

Most employers have only one establishment; thus, the establishment is the predominant reporting unit or statistical entity for reporting employment and wages data. Most employers, including State and local governments who operate more than one establishment in a State, file a Multiple Worksite Report each quarter, in addition to their quarterly UI report. The Multiple Worksite Report is used to collect separate employment and wage data for each of the employer's establishments, which are not detailed on the UI report. Some very small multi-establishment employers do not file a Multiple Worksite Report. When the total employment in an employer's secondary establishments (all establishments other than the largest) is 10 or fewer, the employer generally will file a consolidated report for all establishments. Also, some employers either cannot or will not report at the establishment level and thus aggregate establishments into one consolidated unit, or possibly several units, though not at the establishment level.

For the Federal Government, the reporting unit is the **installation**: a single location at which a department, agency, or other government body has civilian employees. Federal agencies follow slightly different criteria than do private employers when breaking down their reports by installation. They are permitted to combine as a single statewide unit: 1) all installations with 10 or fewer workers, and 2) all installations that have a combined total in the State of fewer than 50 workers. Also, when there are fewer than 25 workers in all secondary installations in a State, the secondary installations may be combined and reported with the major installation. Last, if a Federal agency has fewer than five employees in a State, the agency headquarters office (regional office, district office) serving each State may consolidate the employment and wages data for that State with the data reported to the State in which the headquarters is located. As a result of these reporting rules, the number of reporting units is always larger than the number of employers (or government agencies) but smaller than the number of actual establishments (or installations).

Data reported for the first quarter are tabulated into **size** categories ranging from worksites of very small size to those with 1,000 employees or more. The size category is determined by the establishment's March employment level. It is important to note that each establishment of a multi-establishment firm is tabulated separately into the appropriate size category. The total employment level of the reporting multi-establishment firm is not used in the size tabulation.

Covered employers in most States report total **wages** paid during the calendar quarter, regardless of when the services were performed. A few State laws, however, specify that wages be reported for, or based on the period during which services are performed rather than the period during which compensation is paid. Under most State laws or regulations, wages include bonuses, stock options, the cash value of meals and lodging, tips and other gratuities, and, in some States, employer contributions to certain deferred compensation plans such as 401(k) plans.

Covered employer contributions for old-age, survivors, and disability insurance (OASDI), health insurance, unemployment insurance, workers' compensation, and private pension and welfare funds are not reported as wages. Employee contributions for the same purposes, however, as well as money withheld for income taxes, union dues, and so forth, are reported even though they are deducted from the worker's gross pay.

Wages of covered Federal workers represent the gross amount of all payrolls for all pay periods ending within the quarter. This includes cash allowances, the cash equivalent of any type of remuneration, severance pay, withholding taxes, and retirement deductions. Federal employee remuneration generally covers the same types of services as for workers in private industry.

Average annual wage per employee for any given industry are computed by dividing total annual wages by annual average employment. A further division by 52 yields average weekly wages per employee. Annual pay data only approximate annual earnings because an individual may not be employed by the same employer all year or may work for more than one employer at a time.

Average weekly or annual wage is affected by the ratio of full-time to part-time workers as well as the number of individuals in high-paying and low-paying occupations. When average pay levels between States and industries are compared, these factors should be taken into consideration. For example, industries characterized by high proportions of part-time workers will

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show average wage levels appreciably less than the weekly pay levels of regular full-time employees in these industries. The opposite effect characterizes industries with low proportions of part-time workers, or industries that typically schedule heavy weekend and overtime work. Average wage data also may be influenced by work stoppages, labor turnover rates, retroactive payments, seasonal factors, bonus payments, and so on.

Notes on the data

Beginning with the release of data for 2001, publications presenting data from the Covered Employment and Wages program have switched to the 2002 version of the North American Industry Classification System (NAICS) as the basis for the assignment and tabulation of economic data by industry. NAICS is the product of a cooperative effort on the part of the statistical agencies of the United States, Canada, and Mexico. Due to difference in NAICS and Standard Industrial Classification (SIC) structures, industry data for 2001 is not comparable to the SIC-based data for earlier years.

Effective January 2001, the program began assigning Indian Tribal Councils and related establishments to local government ownership. This BLS action was in response to a change in Federal law dealing with the way Indian Tribes are treated under the Federal Unemployment Tax Act. This law requires federally recognized Indian Tribes to be treated similarly to State and local governments. In the past, the Covered Employment and Wage (CEW) program coded Indian Tribal Councils and related establishments in the private sector. As a result of the new law, CEW data reflects significant shifts in employment and wages between the private sector and local government from 2000 to 2001. Data also reflect industry changes. Those accounts previously assigned to civic and social organizations were assigned to tribal governments. There were no required industry changes for related establishments owned by these Tribal Councils. These tribal business establishments continued to be coded according to the economic activity of that entity.

To insure the highest possible quality of data, State employment security agencies verify with employers and update, if necessary, the industry, location, and ownership classification of all establishments on a 3-year cycle. Changes in establishment classification codes resulting from the verification process are introduced with the data reported for the first quarter of the year. Changes resulting from improved employer reporting also are introduced in the first quarter. For these reasons, some data, especially at more detailed geographic levels, may not be strictly comparable with earlier years.

County definitions are assigned according to Federal Information Processing Standards Publications as issued by the National Institute of Standards and Technology. Areas shown as counties include those designated as independent cities in some jurisdictions and, in Alaska, those areas designated by the Census Bureau where counties have not been created. County data also are presented for the New England States for comparative purposes, even though townships are the more common designation used in New England (and New Jersey).

The Office of Management and Budget (OMB) defines metropolitan areas for use in Federal statistical activities and updates these definitions as needed. Data in this table use metropolitan area criteria established by OMB in definitions issued June 30, 1999 (OMB Bulletin No. 99-04). These definitions reflect information obtained from the 1990 Decennial Census and the 1998 U.S. Census Bureau population estimate. A complete list of metropolitan area definitions is available from the National Technical Information Service (NTIS), Document Sales, 5205 Port Royal Road, Springfield, Va. 22161, telephone 1-800-553-6847.

OMB defines metropolitan areas in terms of entire counties, except in the six New England States where they are defined in terms of cities and towns. New England data in this table, however, are based on a county concept defined by OMB as New England County Metropolitan Areas (NECMA) because county-level data are the most detailed available from the Quarterly Census of Employment and Wages. The NECMA is a county-based alternative to the city- and town-based metropolitan areas in New England. The NECMA for a Metropolitan Statistical Area (MSA) include: (1) the county containing the first-named city in that MSA title (this county may include the first-named cities of other MSA, and (2) each additional county having at least half its population in the MSA in which first-named cities are in the county identified in step 1. The NECMA is officially defined areas that are meant to be used by statistical programs that cannot use the regular metropolitan area definitions in New England.

FOR ADDITIONAL INFORMATION on the covered employment and wage data, contact the Division of Administrative Statistics and Labor Turnover at (202) 691–6567.

Job Openings and Labor Turnover Survey

Description of the series

Data for the **Job Openings and Labor Turnover Survey** (JOLTS) are collected and compiled from a sample of 16,000 business establishments. Each month, data are collected for total employment, job openings, hires, quits, layoffs and discharges, and other separations. The JOLTS program covers all private nonfarm establishments such as factories, offices, and stores, as well as Federal, State, and local government entities in the 50 States and the District of Columbia. The JOLTS sample design is a random sample drawn from a universe of more than eight million establishments compiled as part of the operations of the Quarterly Census of Employment and Wages, or QCEW, program. This program includes all employers subject to State unemployment insurance (UI) laws and Federal agencies subject to Unemployment Compensation for Federal Employees (UCFE).

The sampling frame is stratified by ownership, region, industry sector, and size class. Large firms fall into the sample with virtual certainty. JOLTS total employment estimates are controlled to the employment estimates of the Current Employment Statistics (CES) survey. A ratio of CES to JOLTS employment is used to adjust the levels for all other JOLTS data elements. Rates then are computed from the adjusted levels.

The monthly JOLTS data series begin with December 2000. Not seasonally adjusted data on job openings, hires, total separations, quits, layoffs and discharges, and other separations levels and rates are available for the total nonfarm sector, 16 private industry divisions and 2 government divisions based on the North American Industry Classification System (NAICS), and four geographic regions. Seasonally adjusted data on job openings, hires, total separations, and quits levels and rates are available for the total nonfarm sector, selected industry sectors, and four geographic regions.

Definitions

Establishments submit **job openings** information for the last business day of the reference month. A job opening requires that (1) a specific position exists and there is work available for that position; and (2) work could start within 30 days regardless of whether a suitable candidate is found; and (3) the employer is actively recruiting from outside the establishment to fill the position. Included are full-time, part-time, permanent,

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short-term, and seasonal openings. Active recruiting means that the establishment is taking steps to fill a position by advertising in newspapers or on the Internet, posting help-wanted signs, accepting applications, or using other similar methods.

Jobs to be filled only by internal transfers, promotions, demotions, or recall from layoffs are excluded. Also excluded are jobs with start dates more than 30 days in the future, jobs for which employees have been hired but have not yet reported for work, and jobs to be filled by employees of temporary help agencies, employee leasing companies, outside contractors, or consultants. The job openings rate is computed by dividing the number of job openings by the sum of employment and job openings, and multiplying that quotient by 100.

Hires are the total number of additions to the payroll occurring at any time during the reference month, including both new and rehired employees and full-time and part-time, permanent, short-term and seasonal employees, employees recalled to the location after a layoff lasting more than 7 days, on-call or intermittent employees who returned to work after having been formally separated, and transfers from other locations. The hires count does not include transfers or promotions within the reporting site, employees returning from strike, employees of temporary help agencies or employee leasing companies, outside contractors, or consultants. The hires rate is computed by dividing the number of hires by employment, and multiplying that quotient by 100.

Separations are the total number of terminations of employment occurring at any time during the reference month, and are reported by type of separation—quits, layoffs and discharges, and other separations. Quits are voluntary separations by employees (except for retirements, which are reported as other separations). Layoffs and discharges are involuntary separations initiated by the employer and include layoffs with no intent to rehire, formal layoffs lasting or expected to last more than 7 days, discharges resulting from mergers, downsizing, or closings, firings or other discharges for cause, terminations of permanent or short-term employees, and terminations of seasonal employees. Other separations include retirements, transfers to other locations, deaths, and separations due to disability. Separations do not include transfers within the same location or employees on strike.

The separations rate is computed by dividing the number of separations by employment, and multiplying that quotient by 100. The quits, layoffs and discharges, and other separations rates are computed similarly, dividing the number by employment and multiplying by 100.

Notes on the data

The JOLTS data series on job openings, hires, and separations are relatively new. The full sample is divided into panels, with one panel enrolled each month. A full complement of panels for the original data series based on the 1987 Standard Industrial Classification (SIC) system was not completely enrolled in the survey until January 2002. The supplemental panels of establishments needed to create NAICS estimates were not completely enrolled until May 2003. The data collected up until those points are from less than a full sample. Therefore, estimates from earlier months should be used with caution, as fewer sampled units were reporting data at that time.

In March 2002, BLS procedures for collecting hires and separations data were revised to address possible underreporting. As a result, JOLTS hires and separations estimates for months prior to March 2002 may not be comparable with estimates for March 2002 and later.

The Federal Government reorganization that involved transferring approximately 180,000 employees to the new Department of Homeland Security is not reflected in the JOLTS hires and separations estimates for the Federal Government. The Office of Personnel Management's record shows these transfers were completed in March 2003. The inclusion of transfers in the JOLTS definitions of hires and separations is intended to cover ongoing movements of workers between establishments. The Department of Homeland Security reorganization was a massive one-time event, and the inclusion of these intergovernmental transfers would distort the Federal Government time series.

Data users should note that seasonal adjustment of the JOLTS series is conducted with fewer data observations than is customary. The historical data, therefore, may be subject to larger than normal revisions. Because the seasonal patterns in economic data series typically emerge over time, the standard use of moving averages as seasonal filters to capture these effects requires longer series than are currently available. As a result, the stable seasonal filter option is used in the seasonal adjustment of the JOLTS data. When calculating seasonal factors, this filter takes an average for each calendar month after detrending the series. The stable seasonal filter assumes that the seasonal factors are fixed; a necessary assumption until sufficient data are available. When the stable seasonal filter is no longer needed, other program features also may be introduced, such as outlier adjustment and extended diagnostic testing. Additionally, it is expected that more series, such as layoffs and discharges and additional industries, may be seasonally adjusted when more data are available.

JOLTS hires and separations estimates cannot be used to exactly explain net changes in payroll employment. Some reasons why it is problematic to compare changes in payroll employment with JOLTS hires and separations, especially on a monthly basis, are: (1) the reference period for payroll employment is the pay period including the 12th of the month, while the reference period for hires and separations is the calendar month; and (2) payroll employment can vary from month to month simply because part-time and on-call workers may not always work during the pay period that includes the 12th of the month. Additionally, research has found that some reporters systematically underreport separations relative to hires due to a number of factors, including the nature of their payroll systems and practices. The shortfall appears to be about 2 percent or less over a 12-month period.

FOR ADDITIONAL INFORMATION on the Job Openings and Labor Turnover Survey, contact the Division of Administrative Statistics and Labor Turnover at (202) 961-5870.

Compensation and Wage Data

(Tables 1–3; 30–36)

Compensation and waged 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

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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 34 for medium and large private establishments and in table 35 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 employ-

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ees. 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 36.

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; 37–47)

Price data are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period—December 2003 = 100 for many Producer Price Indexes (unless otherwise noted), 1982–84 = 100 for many Consumer Price Indexes (unless otherwise noted), and 1990 = 100 for International Price Indexes.

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all-urban consumer index (CPI-U), introduced in 1978, is representative of the 1993–95 buying habits of about 87 percent of the noninstitutional population of the United States at that time, compared with 32 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 23,000 retail establishments and 5,800 housing units in 87 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 14 major urban centers are presented in table 38. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are meaured for the CPI-U. A rental equivalence method replaced the asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes. An updated CPI-U and CPI-W were introduced with release of the January 1987 and January 1998 data.

FOR ADDITIONAL INFORMATION, contact the Division of Prices and Price Indexes: (202) 691–7000.

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 80,000 quotations per month, selected to represent the movement of prices of all commodities produced in the manufacturing; agriculture, forestry, and fishing; mining; and gas and electricity and public utilities sectors. The stage-of-processing structure of PPI organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition. The industry and product structure of PPI organizes data in accordance with the 2002 North American Industry Classification System and product codes developed by the U.S. Census Bureau.

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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 International Trade Classification (SITC), and the four-digit level of detail for the Harmonized System. Aggregate import indexes by country or region of origin are also available.

BLS publishes indexes for selected categories of internationally traded services, calculated on an international basis and on a balance-of-payments basis.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. The trade weights currently used to compute both indexes relate to 2000.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

FOR ADDITIONAL INFORMATION, contact the Division of International Prices: (202) 691–7155.

Productivity Data

(Tables 2; 48–51)

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.

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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 48–51 describe the relationship between output in real terms and the labor and capital inputs involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input.

Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; shifts in the composition of the labor force; capital investment; level of output; changes in the utilization of capacity, energy, material, and research and development; the organization of production; managerial skill; and characteristics and efforts of the work force.

FOR ADDITIONAL INFORMATION on this productivity series, contact the Division of Productivity Research: (202) 691–5606.

Industry productivity measures

Description of the series

The BLS industry productivity indexes measure the relationship between output and inputs for selected industries and industry groups, and thus reflect trends in industry efficiency over time. Industry measures include labor productivity, multifactor productivity, compensation, and unit labor costs.

The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

Definitions

Output per hour is derived by dividing an index of industry output by an index of labor input. For most industries, **output** indexes are derived from data on the value of industry output adjusted for price change. For the remaining industries, output indexes are derived from data on the physical quantity of production.

The **labor input** series is based on the hours of all workers or, in the case of some transportation industries, on the number of employees. For most industries, the series consists of the hours of all employees. For some trade and services industries, the series also includes the hours of partners, proprietors, and unpaid family workers.

Unit labor costs represent the labor compensation costs per unit of output produced, and are derived by dividing an index of labor compensation by an index of output. **Labor compensation** includes payroll as well as supplemental payments, including both legally required expenditures and payments for voluntary programs.

Multifactor productivity is derived by dividing an index of industry output by an index of combined inputs consumed in producing that output. **Combined inputs** include capital, labor, and intermediate purchases. The measure of **capital input** represents the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories. The measure of **intermediate purchases** is a combination of purchased materials, services, fuels, and electricity.

Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics and the Census Bureau, with additional data supplied by other government agencies, trade associations, and other sources.

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

International Comparisons

(Tables 52–54)

Labor force and unemployment

Description of the series

Tables 52 and 53 present comparative measures of the labor force, employment, and unemployment approximating U.S. concepts for the United States, Canada, Australia, Japan, and six European countries. The labor force statistics published by other industrial countries are not, in most cases, comparable to U.S. concepts. Therefore, the Bureau adjusts the figures for selected countries, for all known major definitional differences, to the extent that data to prepare adjustments are available. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country. For further information on adjustments and comparability issues, see Constance Sorrentino, "International unemployment rates: how comparable are they?" *Monthly Labor Review*, June 2000, pp. 3–20 (available on the BLS Web site at **http://www.bls.gov/opub/mlr/2000/06/art1full.pdf**).

Definitions

For the principal U.S. definitions of the labor force, employment, and unemployment, see the Notes section on Employment and

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Unemployment Data: Household survey data.

Notes on the data

The foreign country data are adjusted as closely as possible to U.S. concepts, with the exception of lower age limits and the treatment of layoffs. These adjustments include, but are not limited to: including older persons in the labor force by imposing no upper age limit, adding unemployed students to the unemployed, excluding the military and family workers working fewer than 15 hours from the employed, and excluding persons engaged in passive job search from the unemployed.

Data for the United States relate to the population 16 years of age and older. The U.S. concept of the working age population has no upper age limit. The adjusted to U.S. concepts statistics have been adapted, insofar as possible, to the age at which compulsory schooling ends in each country, and the Swedish statistics have been adjusted to include persons older than the Swedish upper age limit of 64 years. The adjusted statistics presented here relate to the population 16 years of age and older in France, Sweden, and the United Kingdom; 15 years of age and older in Australia, Japan, Germany, Italy, and the Netherlands. An exception to this rule is that the Canadian statistics are adjusted to cover the population 16 years of age and older, whereas the age at which compulsory schooling ends remains at 15 years. In the labor force participation rates and employment-population ratios, the denominator is the civilian noninstitutionalized working age population, except that the institutionalized working age population is included in Japan and Germany.

In the United States, the unemployed include persons who are not employed and who were actively seeking work during the reference period, as well as persons on layoff. Persons waiting to start a new job who were actively seeking work during the reference period are counted as unemployed under U.S. concepts; if they were not actively seeking work, they are not counted in the labor force. In some countries, persons on layoff are classified as employed due to their strong job attachment. No adjustment is made for the countries that classify those on layoff as employed. In the United States, as in Australia and Japan, passive job seekers are not in the labor force; job search must be active, such as placing or answering advertisements, contacting employers directly,or registering with an employment agency (simply reading ads is not enough to qualify as active search). Canada and the European countries classify passive jobseekers as unemployed. An adjustment is made to exclude them in Canada, but not in the European countries where the phenomenon is less prevalent. Persons waiting to start a new job are counted among the unemployed for all other countries, whether or not they were actively seeking work.

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

There are breaks in series for the United States (1994, 1997, 1998, 1999, 2000, 2003), Australia (2001), and Germany (1999).

For the United States, beginning in 1994, data are not strictly comparable for prior years because of the introduction of a major redesign of the labor force survey questionnaire and collection methodology. The redesign effect has been estimated to increase the overall unemployment rate by 0.1 percentage point. Other breaks noted relate to changes in population controls that had virtually no effect on unemployment rates.

For a description of all the changes in the U.S. labor force survey over time and their impact, see Historical Comparability in the "Household Data" section of the BLS publication *Employment and Earnings* (available on the BLS Web site at **http://www.bls.gov/cps/eetech_methods.pdf**).

For Australia, the 2001 break reflects the introduction in April 2001 of a redesigned labor force survey that allowed for a closer application of International Labor Office guidelines for the definitions of labor force statistics. The Australian Bureau of Statistics revised their data so there is no break in the employment series. However, the reclassification of persons who had not actively looked for work because they were waiting to begin a new job from "not in the labor force" to "unemployed" could only be incorporated for April 2001 forward. This reclassification diverges from the U.S. definition where persons waiting to start a new job but not actively seeking work are not counted in the labor force. The impact of the reclassification was an increase in the unemployment rate by 0.1 percentage point in 2001.

For Germany, the 1999 break reflects the incorporation of an improved method of data calculation and a change in coverage to persons living in private households only.

For further qualifications and historical data, see *Comparative Civilian Labor Force Statistics, Ten Countries*, on the BLS Web site at **http://www.bls.gov/fls/flslforc.pdf**

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 691-5654 or **flshelp@bls.gov**

Manufacturing productivity and labor costs

Description of the series

Table 54 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).

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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 48 and 50 in this section). The quarterly measures are on a "sectoral output" basis, rather than a value-added basis. Sectoral output is gross output less intrasector transactions.

Total 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.

An hours series is not available for Denmark after 1993; 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 in 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 55–56)

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 ill-

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nesses 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:

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1. Labor market indicators

Selected indicators	2002	2003	2002		2003				2004		
			III	IV	I	II	III	IV	I	II	III
Employment data											
Employment status of the civilian noninstitutional population (household survey):[1]											
Labor force participation rate	66.6	66.2	66.6	66.5	66.3	66.4	66.2	66.1	66.0	65.9	66.0
Employment-population ratio	62.7	62.3	62.8	62.5	62.4	62.3	62.1	62.3	62.2	62.2	62.4
Unemployment rate	5.8	6.0	5.8	5.9	5.8	6.1	6.1	5.9	5.6	5.6	5.5
Men	5.9	6.3	5.9	6.1	6.1	6.5	6.4	6.1	5.7	5.7	5.6
16 to 24 years	12.8	13.4	13.1	12.5	12.6	14.0	13.8	13.1	12.5	12.9	12.5
25 years and older	4.7	5.0	4.7	4.9	5.0	5.2	5.1	4.9	4.5	4.5	4.4
Women	5.6	5.7	5.6	5.7	5.5	5.7	5.8	5.6	5.6	5.4	5.4
16 to 24 years	11.1	11.4	10.9	11.4	11.2	11.8	11.5	10.9	11.1	10.9	11.0
25 years and older	4.6	4.6	4.6	4.6	4.5	4.6	4.7	4.6	4.5	4.4	4.3
Employment, nonfarm (payroll data), in thousands:[1]											
Total nonfarm	130,341	129,931	130,287	130,248	130,047	129,878	129,820	130,002	130,367	131,125	131,521
Total private	108,828	108,356	108,736	108,654	108,428	108,309	108,260	108,453	108,827	109,577	109,897
Goods-producing	22,557	21,817	22,466	22,252	22,025	21,848	21,718	21,676	21,719	21,869	21,927
Manufacturing	22,557	21,817	15,197	14,979	14,775	14,570	14,410	14,340	14,326	14,385	14,403
Service-providing	107,789	108,114	107,821	107,995	108,022	108,030	108,102	108,326	108,648	109,256	109,595
Average hours:											
Total private	33.9	33.7	33.9	33.8	33.8	33.7	33.6	33.7	33.8	33.7	33.8
Manufacturing	40.5	40.4	40.4	40.4	40.4	40.2	40.2	40.6	41.0	40.9	40.8
Overtime	4.2	4.2	4.3	4.2	4.2	4.1	4.1	4.4	4.6	4.6	4.6
Employment Cost Index[2]											
Percent change in the ECI, compensation:											
All workers (excluding farm, household and Federal workers)	3.4	3.8	.9	.6	1.4	.8	1.1	.5	1.4	.9	1.0
Private industry workers	3.2	4.0	.6	.4	1.7	.8	1.0	.4	1.5	.9	.8
Goods-producing[3]	3.7	4.0	.6	.9	1.8	.9	.7	.5	2.3	.9	.9
Service-providing[3]	3.1	4.0	.6	.2	1.5	.8	1.1	.5	1.1	1.0	.8
State and local government workers	4.1	3.3	2.2	.9	.7	.4	1.7	.5	.7	.4	1.7
Workers by bargaining status (private industry):											
Union	4.2	4.6	1.2	.9	1.6	1.2	1.0	.7	2.8	1.5	.8
Nonunion	3.2	3.9	.5	.4	1.6	.8	1.0	.4	1.3	.8	.9

[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.

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2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	2002	2003	2002		2003				2004		
			III	IV	I	II	III	IV	I	II	III
Compensation data[1,2]											
Employment Cost Index—compensation (wages, salaries, benefits):											
Civilian nonfarm	3.4	3.8	0.9	0.6	1.4	0.8	1.1	0.5	1.4	0.9	1.0
Private nonfarm	3.2	4.0	.6	.4	1.7	.8	1.0	.4	1.5	.9	.8
Employment Cost Index—wages and salaries:											
Civilian nonfarm	2.9	2.9	.7	.4	1.0	.6	.9	.3	.6	.6	.9
Private nonfarm	2.7	3.0	.4	.3	1.1	.7	.8	.4	.7	.7	.9
Price data[1]											
Consumer Price Index (All Urban Consumers): All Items	2.3	2.3	.6	-.1	1.8	−.3	−.2	−.2	1.2	1.2	.2
Producer Price Index:											
Finished goods	3.2	3.2	.2	-.1	3.7	−.8	.3	.0	1.2	1.2	.0
Finished consumer goods	4.2	4.2	.0	-.3	2.4	1.8	.3	.0	1.5	1.4	−1.7
Capital equipment	.4	.4	−.7	.6	.6	−.6	−.1	.0	.6	.5	.4
Intermediate materials, supplies, and components	4.6	4.6	1.1	.1	6.5	−2.1	−.1	.0	2.5	3.0	1.9
Crude materials	25.2	25.2	1.9	6.5	28.0	−10.6	3.4	14.4	6.0	7.6	−5.1
Productivity data[3]											
Output per hour of all persons:											
Business sector	4.3	4.5	4.8	1.2	3.9	7.6	8.5	2.4	3.9	1.5	2.3
Nonfarm business sector	4.4	4.4	4.5	1.6	3.7	6.7	9.0	3.1	3.7	3.9	1.9
Nonfinancial corporations[4]	4.4	5.4	4.1	3.4	3.2	9.1	9.4	5.0	.1	2.7	–

[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.

NOTE: Dash indicates data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly change					Four quarters ending—				
	2003		2004			2003		2004		
	III	IV	I	II	III	III	IV	I	II	III
Average hourly compensation:[1]										
All persons, business sector	5.6	4.0	2.8	4.3	3.8	4.6	5.3	4.6	4.2	3.7
All persons, nonfarm business sector	6.1	4.4	2.0	4.9	3.6	4.6	5.4	4.5	4.4	3.7
Employment Cost Index—compensation:										
Civilian nonfarm[2]	1.1	.5	1.4	.9	1.0	3.9	3.8	3.8	3.9	3.8
Private nonfarm	1.0	.4	1.5	.9	.8	4.0	4.0	3.9	4.0	3.7
Union	1.0	.7	2.8	1.5	.8	4.8	4.6	5.7	6.0	5.8
Nonunion	1.0	.4	1.3	.8	.9	3.8	3.9	3.6	3.5	3.4
State and local governments	1.7	.5	.7	.4	1.7	3.6	3.3	3.3	3.4	3.4
Employment Cost Index—wages and salaries:										
Civilian nonfarm[2]	.9	.3	.6	.6	.9	2.9	2.9	2.5	2.5	2.4
Private nonfarm	.8	.4	.7	.7	.9	3.0	3.0	2.6	2.6	2.6
Union	.6	.6	.6	1.0	.8	2.6	2.4	2.5	2.9	3.0
Nonunion	.9	.2	.7	.6	.8	3.1	3.1	2.6	2.5	2.5
State and local governments	1.0	.4	.4	.2	1.0	2.3	2.1	2.1	1.9	2.0

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

[2] Excludes Federal and household workers.

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4. Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
TOTAL															
Civilian noninstitutional population[1]	217,570	221,168	221,779	222,039	222,279	222,509	222,161	222,357	222,550	222,757	222,967	223,196	223,422	223,677	223,941
Civilian labor force	144,863	146,510	146,610	146,892	147,187	146,878	146,863	146,471	146,650	146,741	146,974	147,279	147,856	147,704	147,483
Participation rate	66.6	66.2	66.1	66.2	66.2	66.0	66.1	65.9	65.9	65.9	65.9	66.0	66.2	66.0	65.9
Employed	136,485	137,736	137,644	138,095	138,533	138,479	138,566	138,301	138,298	138,576	138,772	139,031	139,660	139,681	139,480
Employment-population ratio[2]	62.7	62.3	62.1	62.2	62.3	62.2	62.4	62.2	62.1	62.2	62.2	62.3	62.5	62.4	62.3
Unemployed	8,378	8,774	8,966	8,797	8,653	8,398	8,297	8,170	8,352	8,164	8,203	8,248	8,196	8,022	8,003
Unemployment rate	5.8	6.0	6.1	6.0	5.9	5.7	5.6	5.6	5.7	5.6	5.6	5.6	5.5	5.4	5.4
Not in the labor force	72,707	74,658	75,168	75,147	75,093	75,631	75,298	75,886	75,900	76,016	75,993	75,916	75,565	75,973	76,458
Men, 20 years and over															
Civilian noninstitutional population[1]	96,439	98,272	98,568	98,696	98,814	98,927	98,866	98,966	99,065	99,170	99,279	99,396	99,512	99,642	99,776
Civilian labor force	73,630	74,623	74,905	74,942	75,188	75,044	75,171	74,797	75,018	74,871	75,048	75,372	75,577	75,639	75,443
Participation rate	76.3	75.9	76.0	75.9	76.1	75.9	76.0	75.6	75.7	75.5	75.6	75.8	75.9	75.9	75.6
Employed	69,734	70,415	70,596	70,726	70,964	71,099	71,329	70,969	71,128	71,118	71,162	71,570	71,847	71,870	71,677
Employment-population ratio[2]	72.3	71.7	71.6	71.7	71.8	71.9	72.1	71.7	71.8	71.7	71.7	72.0	72.2	72.1	72.0
Unemployed	3,896	4,209	4,309	4,216	4,224	3,945	3,842	3,828	3,890	3,753	3,886	3,802	3,730	3,768	3,766
Unemployment rate	5.3	5.6	5.8	5.6	5.6	5.3	5.1	5.1	5.2	5.0	5.2	5.0	4.9	5.0	5.0
Not in the labor force	22,809	23,649	23,663	23,754	23,620	23,882	23,694	24,168	24,047	24,299	24,231	24,023	23,935	24,003	24,332
Women, 20 years and over															
Civilian noninstitutional population[1]	105,136	106,800	107,080	107,197	107,303	107,404	107,131	107,216	107,299	107,389	107,483	107,586	107,687	107,801	107,920
Civilian labor force	63,648	64,716	64,608	64,899	64,917	64,846	64,515	64,629	64,687	64,785	64,813	64,893	65,122	64,903	64,989
Participation rate	60.5	60.6	60.3	60.5	60.5	60.4	60.2	60.3	60.3	60.3	60.3	60.3	60.5	60.2	60.2
Employed	60,420	61,402	61,191	61,524	61,597	61,521	61,260	61,456	61,373	61,571	61,721	61,629	61,918	61,870	61,925
Employment-population ratio[2]	57.5	57.5	57.1	57.4	57.4	57.3	57.2	57.3	57.2	57.3	57.4	57.3	57.5	57.4	57.4
Unemployed	3,228	3,314	3,417	3,375	3,320	3,326	3,255	3,172	3,314	3,215	3,092	3,264	3,204	3,033	3,064
Unemployment rate	5.1	5.1	5.3	5.2	5.1	5.1	5.0	4.9	5.1	5.0	4.8	5.0	4.9	4.7	4.7
Not in the labor force	41,488	42,083	42,472	42,299	42,387	42,558	42,617	42,587	42,613	42,604	42,670	42,693	42,565	42,898	42,931
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	15,994	16,096	16,131	16,145	16,162	16,178	16,164	16,175	16,186	16,198	16,205	16,214	16,222	16,234	16,246
Civilian labor force	7,585	7,170	7,097	7,051	7,082	6,987	7,177	7,045	6,945	7,085	7,113	7,014	7,157	7,162	7,051
Participation rate	47.4	44.5	44.0	43.7	43.8	43.2	44.4	43.6	42.9	43.7	43.9	43.3	44.1	44.1	43.4
Employed	6,332	5,919	5,857	5,846	5,972	5,859	5,977	5,875	5,797	5,888	5,888	5,832	5,896	5,941	5,877
Employment-population ratio[2]	39.6	36.8	36.3	36.2	37.0	36.2	37.0	36.3	35.8	36.3	36.3	36.0	36.3	36.6	36.2
Unemployed	1,253	1,251	1,240	1,205	1,109	1,128	1,200	1,170	1,148	1,197	1,225	1,181	1,262	1,220	1,173
Unemployment rate	16.5	17.5	17.5	17.1	15.7	16.1	16.7	16.6	16.5	16.9	17.2	16.8	17.6	17.0	16.6
Not in the labor force	8,409	8,926	9,034	9,094	9,080	9,191	8,987	9,130	9,240	9,113	9,092	9,200	9,065	9,072	9,195
White[3]															
Civilian noninstitutional population[1]	179,783	181,292	181,696	181,871	182,032	182,185	181,879	182,001	182,001	182,252	182,384	182,531	182,676	182,846	183,022
Civilian labor force	120,150	120,546	120,411	120,736	121,041	120,751	120,723	120,540	120,542	120,675	120,984	121,180	121,428	121,300	121,016
Participation rate	66.8	66.5	66.3	66.4	66.5	66.3	66.4	66.2	66.2	66.2	66.3	66.4	66.5	66.3	66.1
Employed	114,013	114,235	114,015	114,535	114,783	114,678	114,765	114,602	114,433	114,712	114,976	115,152	115,623	115,547	115,323
Employment-population ratio[2]	63.4	63.0	62.8	63.0	63.1	62.9	63.1	63.0	62.8	62.9	63.0	63.1	63.3	63.2	63.0
Unemployed	6,137	6,311	6,397	6,200	6,258	6,073	5,958	5,938	6,109	5,963	6,008	6,028	5,805	5,753	5,693
Unemployment rate	5.1	5.2	5.3	5.1	5.2	5.0	4.9	4.9	5.1	4.9	5.0	5.0	4.8	4.7	4.7
Not in the labor force	59,633	60,746	61,285	61,135	60,991	61,434	61,156	61,460	61,579	61,577	61,400	61,351	61,248	61,546	62,006
Black or African American[3]															
Civilian noninstitutional population[1]	25,578	25,686	25,784	25,825	25,860	25,894	25,867	25,900	25,932	25,967	26,002	26,040	26,078	26,120	26,163
Civilian labor force	16,565	16,526	166,677	16,589	16,524	16,365	16,602	16,404	16,595	16,485	16,442	16,506	16,755	16,724	16,703
Participation rate	64.8	64.3	64.7	64.2	63.9	63.2	64.2	63.3	64.0	63.5	63.2	63.4	64.3	64.0	63.8
Employed	14,872	14,739	14,826	14,696	14,812	14,679	14,886	14,804	14,909	14,878	14,818	14,833	14,926	14,983	14,981
Employment-population ratio[2]	58.1	57.4	57.5	56.9	57.3	56.7	57.5	57.2	57.2	57.3	57.0	57.0	57.2	57.4	57.3
Unemployed	1,693	1,787	1,851	1,893	1,712	1,686	1,736	1,600	1,686	1,607	1,624	1,673	1,829	1,741	1,722
Unemployment rate	10.2	10.8	11.1	11.4	10.4	10.3	10.5	9.8	10.2	9.7	9.9	10.1	10.9	10.4	10.3
Not in the labor force	9,013	9,161	9,107	9,236	9,336	9,529	9,265	9,495	9,337	9,482	9,560	9,534	9,323	9,396	9,460

See footnotes at end of table.

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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		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Hispanic or Latino ethnicity															
Civilian noninstitutional population[1]	25,963	27,551	27,808	27,913	28,016	28,116	27,619	27,705	27,791	27,879	27,968	28,059	28,150	28,243	28,338
Civilian labor force	17,943	18,813	18,877	18,940	19,125	19,035	18,811	18,693	19,010	19,064	19,313	19,304	19,450	19,482	19,446
Participation rate	69.1	68.3	67.9	67.9	68.3	67.7	68.1	67.5	68.4	68.4	69.1	68.8	69.1	69.0	68.6
Employed	16,590	17,372	17,456	17,556	17,709	17,784	17,441	17,303	17,596	17,693	17,958	18,019	18,118	18,144	18,073
Employment-population ratio[2]	63.9	63.1	62.8	62.9	63.2	63.3	63.2	62.5	63.3	63.5	64.2	64.2	64.4	64.2	63.8
Unemployed	1,353	1,441	1,421	1,383	1,416	1,250	1,370	1,389	1,414	1,371	1,355	1,285	1,332	1,338	1,372
Unemployment rate	7.5	7.7	7.5	7.3	7.4	6.6	7.3	7.4	7.4	7.2	7.0	6.7	6.8	6.9	7.1
Not in the labor force	8,020	8,738	8,931	8,974	8,891	9,082	8,807	9,012	8,781	8,815	8,654	8,755	8,700	8,761	8,892

[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		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Characteristic															
Employed, 16 years and over	136,845	137,736	137,644	138,095	138,533	138,479	138,566	138,301	138,298	138,576	138,772	139,031	139,660	139,681	139,480
Men	72,903	73,332	73,488	73,643	73,915	74,085	74,343	73,901	74,006	74,053	74,035	74,476	74,822	74,860	74,601
Women	63,582	64,404	64,155	64,452	64,618	64,394	64,223	64,400	64,292	64,523	64,737	64,555	64,838	64,822	64,879
Married men, spouse present	44,116	44,653	44,566	44,684	45,152	45,431	45,490	45,128	45,043	44,735	44,723	44,938	44,935	45,106	45,034
Married women, spouse present	34,155	34,695	34,612	34,993	35,076	35,034	34,585	34,502	34,256	34,339	34,522	34,461	34,599	34,448	34,601
Persons at work part time[1]															
All industries:															
Part time for economic reasons	4,213	4,701	4,896	4,800	4,880	4,788	4,714	4,437	4,733	4,574	4,665	4,513	4,490	4,504	4,452
Slack work or business conditions	2,788	3,118	3,185	3,030	3,226	3,205	2,996	2,865	3,011	2,819	2,853	2,803	2,660	2,812	2,808
Could only find part-time work	1,124	1,279	1,334	1,356	1,350	1,295	1,380	1,347	1,427	1,439	1,467	1,404	1,500	1,461	1,312
Part time for noneconomic reasons	18,843	19,014	19,021	18,935	19,110	18,561	18,905	18,900	19,006	19,000	19,621	19,531	19,741	19,680	19,386
Nonagricultural industries:															
Part time for economic reasons	4,119	4,596	4,794	4,690	4,782	4,727	4,613	4,328	4,622	4,471	4,605	4,442	4,400	4,391	4,379
Slack work or business conditions	2,726	3,052	3,127	2,964	3,153	3,144	2,911	2,778	2,927	2,756	2,812	2,762	2,605	2,714	2,753
Could only find part-time work	1,114	1,264	1,335	1,349	1,353	1,279	1,399	1,340	1,414	1,431	1,476	1,387	1,496	1,442	1,315
Part time for noneconomic reasons	18,487	18,658	18,633	18,628	18,752	18,367	18,636	18,691	18,693	18,664	19,220	19,072	19,290	19,213	19,025

[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.

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6. Selected unemployment indicators, monthly data seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Characteristic															
Total, 16 years and older	5.8	6.0	6.1	6.0	5.9	5.7	5.6	5.6	5.7	5.6	5.6	5.6	5.5	5.4	5.4
Both sexes, 16 to 19 years	16.5	17.5	17.5	17.1	15.7	16.1	16.7	16.6	16.5	16.9	17.2	16.8	17.6	17.0	16.6
Men, 20 years and older	5.3	5.6	5.8	5.6	5.6	5.3	5.3	5.1	5.2	5.0	5.2	5.0	4.9	5.0	5.0
Women, 20 years and older	5.1	5.1	5.3	5.2	5.1	5.1	5.0	4.9	5.1	5.0	4.8	5.0	4.9	4.7	4.7
White, total[1]	5.1	5.2	5.3	5.1	5.2	5.0	4.9	4.9	5.1	4.9	5.0	5.0	4.8	4.7	4.7
Both sexes, 16 to 19 years	14.5	15.2	15.1	14.3	14.3	14.8	14.1	15.2	14.8	15.7	15.7	14.8	14.9	15.3	14.7
Men, 16 to 19 years	15.9	17.1	17.6	15.9	16.8	16.3	14.0	15.5	16.2	17.9	18.6	16.4	15.5	15.8	15.8
Women, 16 to 19 years	13.1	13.3	12.6	12.6	11.5	13.1	14.2	14.9	13.3	13.3	12.7	13.2	14.3	14.8	13.6
Men, 20 years and older	4.7	5.0	5.0	4.9	5.0	4.7	4.5	4.5	4.7	4.5	4.7	4.5	4.3	4.4	4.3
Women, 20 years and older	4.4	4.4	4.5	4.4	4.4	4.3	4.4	4.2	4.4	4.2	4.1	4.4	4.2	4.0	4.0
Black or African American, total[1]	10.2	10.8	11.1	11.4	10.4	10.3	10.5	9.8	10.2	9.7	9.9	10.1	10.9	10.4	10.3
Both sexes, 16 to 19 years	29.8	33.0	32.7	37.3	28.9	27.3	32.5	25.1	29.4	28.3	32.5	32.6	37.0	28.9	28.9
Men, 16 to 19 years	31.3	36.0	34.2	40.9	32.5	28.4	42.1	29.6	36.6	30.9	30.3	33.9	37.8	33.9	36.0
Women, 16 to 19 years	28.3	30.3	31.4	33.2	25.7	26.5	25.8	21.9	22.8	26.1	34.1	31.4	36.3	24.1	21.6
Men, 20 years and older	9.5	10.3	11.0	10.5	10.1	9.3	9.6	9.4	9.2	9.3	9.3	9.3	10.3	10.4	10.4
Women, 20 years and older	8.8	9.2	9.2	9.8	9.1	9.7	9.1	8.8	9.3	8.7	8.4	8.9	9.1	8.7	8.9
Hispanic or Latino ethnicity	7.5	7.7	7.5	7.3	7.4	6.6	7.3	7.4	7.4	7.2	7.0	6.7	6.8	6.9	7.1
Married men, spouse present	3.6	3.8	3.8	3.8	3.7	3.3	3.3	3.4	3.2	3.1	3.1	3.2	3.2	3.1	3.0
Married women, spouse present	3.7	3.7	3.9	3.8	3.8	3.9	3.7	3.6	3.7	3.7	3.3	3.7	3.5	3.5	3.2
Full-time workers	5.9	6.1	6.2	6.1	6.1	5.8	5.7	5.6	5.8	5.6	5.7	5.6	5.6	5.5	5.6
Part-time workers	5.2	5.5	5.7	5.5	5.1	5.3	5.4	5.2	5.4	5.3	5.2	5.5	5.2	5.2	5.0
Educational attainment[2]															
Less than a high school diploma	8.4	8.8	8.7	8.8	8.5	8.1	8.8	8.5	8.8	8.7	8.8	8.8	8.3	8.1	8.8
High school graduates, no college[3]	5.3	5.5	5.4	5.5	5.4	5.5	4.9	5.0	5.3	5.2	5.0	5.1	5.1	4.9	4.8
Some college or associate degree	4.5	4.8	4.8	4.8	4.8	4.5	4.5	4.4	4.7	4.1	4.0	4.2	4.2	4.0	4.0
Bachelor's degree and higher[4]	2.9	3.1	3.2	3.1	3.1	3.0	2.9	2.9	2.9	2.9	2.9	2.7	2.7	2.7	2.5

[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		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Less than 5 weeks	2,893	2,785	2,749	2,733	2,622	2,627	2,612	2,468	2,589	2,792	2,707	2,688	2,805	2,604	2,790
5 to 14 weeks	2,580	2,612	2,736	2,585	2,556	2,450	2,394	2,412	2,414	2,369	2,376	2,405	2,476	2,521	2,255
15 weeks and over	2,904	3,378	3,511	3,478	3,484	3,403	3,365	3,274	3,320	2,969	3,077	3,065	2,878	2,903	2,954
15 to 26 weeks	1,369	1,442	1,438	1,460	1,448	1,513	1,467	1,403	1,332	1,170	1,288	1,306	1,211	1,239	1,253
27 weeks and over	1,535	1,936	2,073	2,018	2,036	1,890	1,898	1,871	1,988	1,800	1,789	1,759	1,667	1,664	1,747
Mean duration, in weeks	16.6	19.2	19.6	19.4	20.0	19.6	19.8	20.3	20.1	19.7	20.0	19.9	18.6	19.0	19.6
Median duration, in weeks	9.1	10.1	10.1	10.3	10.4	10.4	10.7	10.3	10.3	9.5	10.0	10.8	8.9	9.4	9.5

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

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8. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Reason for unemployment	Annual average		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Job losers[1]	4,607	4,838	4,947	4,877	4,719	4,618	4,382	4,323	4,607	4,399	4,211	4,099	4,181	3,936	3,984
On temporary layoff	1,124	1,121	1,110	1,097	1,055	1,060	1,028	1,064	1,040	994	926	1,011	1,065	982	917
Not on temporary layoff	3,483	3,717	3,837	3,780	3,664	3,558	3,353	3,258	3,567	3,405	3,286	3,088	3,116	2,955	3,068
Job leavers	866	818	836	789	931	783	804	827	836	822	846	902	895	884	827
Reentrants	2,368	2,477	2,436	2,518	2,440	2,366	2,509	2,424	2,424	2,314	2,438	2,435	2,330	2,447	2,424
New entrants	536	641	684	653	619	694	681	676	627	645	713	636	680	694	692
Percent of unemployed															
Job losers[1]	55.0	55.1	55.6	55.2	54.2	54.6	52.3	52.4	54.2	53.8	51.3	50.8	51.7	49.4	50.3
On temporary layoff	13.4	12.8	12.5	12.4	12.1	12.5	12.3	12.9	12.2	12.1	11.3	12.5	13.2	12.3	11.6
Not on temporary layoff	41.6	42.4	43.1	42.8	42.1	42.0	40.0	39.8	42.0	41.6	40.0	38.3	38.5	37.1	38.7
Job leavers	10.3	9.3	9.4	8.9	10.7	9.3	9.6	10.0	9.8	10.1	10.3	11.2	11.1	11.1	10.4
Reentrants	28.3	28.2	27.4	28.5	28.0	28.0	30.0	29.4	28.5	28.3	29.7	30.2	28.8	30.7	30.6
New entrants	6.4	7.3	7.7	7.4	7.1	8.2	8.1	8.2	7.4	7.9	8.7	7.9	8.4	8.7	8.7
Percent of civilian labor force															
Job losers[1]	3.2	3.3	3.4	3.3	3.2	3.1	3.0	3.0	3.1	3.0	2.9	2.8	2.8	2.7	2.7
Job leavers	.6	.6	.6	.5	.6	.5	.5	.6	.6	.6	.6	.6	.6	.6	.6
Reentrants	1.6	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.6	1.7	1.7	1.6	1.7	1.6
New entrants	.4	.4	.5	.4	.4	.5	.5	.5	.4	.4	.5	.4	.5	.5	.5

[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		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Total, 16 years and older	5.8	6.0	6.1	6.0	5.9	5.7	5.6	5.6	5.7	5.6	5.6	5.6	5.5	5.4	5.4
16 to 24 years	12.0	12.4	12.8	12.3	12.1	11.7	12.0	11.8	11.8	11.6	12.1	12.0	12.0	11.6	11.8
16 to 19 years	16.5	17.5	17.5	17.1	15.7	16.1	16.7	16.6	16.5	16.9	17.2	16.8	17.6	17.0	16.6
16 to 17 years	18.8	19.1	19.3	20.2	17.5	18.3	18.2	17.6	19.4	20.2	21.6	20.6	20.2	20.8	19.6
18 to 19 years	15.1	16.4	16.2	15.2	14.7	14.7	15.7	15.7	14.5	14.7	14.7	14.3	16.1	14.9	14.9
20 to 24 years	9.7	10.0	10.6	10.1	10.4	9.6	9.8	9.5	9.6	9.2	9.7	9.8	9.3	9.0	9.5
25 years and older	4.6	4.8	4.9	4.9	4.8	4.7	4.5	4.5	4.6	4.5	4.4	4.5	4.4	4.3	4.3
25 to 54 years	4.8	5.0	5.1	5.1	5.0	4.9	4.7	4.7	4.9	4.6	4.5	4.5	4.6	4.5	4.4
55 years and older	3.8	4.1	4.0	3.8	3.9	3.9	3.7	3.8	3.8	3.8	3.9	3.9	3.7	3.7	3.7
Men, 16 years and older	5.9	6.3	6.4	6.2	6.2	5.8	5.7	5.7	5.8	5.7	5.8	5.6	5.5	5.6	5.6
16 to 24 years	12.8	13.4	14.1	13.2	13.4	12.6	12.7	12.2	12.6	12.8	13.0	12.8	12.2	12.4	12.9
16 to 19 years	18.1	19.3	19.6	18.7	18.3	17.4	17.5	17.2	18.3	19.1	19.1	18.1	17.7	18.0	18.1
16 to 17 years	21.1	20.7	22.1	20.4	18.3	18.4	19.3	19.4	22.3	23.4	23.3	22.8	21.2	21.9	20.6
18 to 19 years	16.4	18.4	18.2	17.9	18.1	16.9	16.2	15.7	15.8	16.5	16.6	15.8	15.7	16.0	16.8
20 to 24 years	10.2	10.6	11.7	10.8	11.2	10.4	10.5	10.0	10.1	10.0	10.3	10.4	9.7	9.9	10.6
25 years and older	4.7	5.0	5.0	5.0	5.0	4.7	4.5	4.5	4.6	4.4	4.6	4.4	4.4	4.4	4.3
25 to 54 years	4.8	5.2	5.2	5.2	5.2	4.9	4.7	4.7	4.8	4.5	4.7	4.4	4.5	4.5	4.4
55 years and older	4.1	4.4	4.2	4.0	4.1	4.0	3.6	3.7	3.8	3.9	4.1	4.3	3.8	4.0	3.9
Women, 16 years and older	5.6	5.7	5.8	5.7	5.5	5.6	5.6	5.5	5.6	5.4	5.3	5.6	5.6	5.3	5.2
16 to 24 years	11.1	11.4	11.4	11.3	10.7	10.7	11.3	11.2	10.8	10.3	11.1	11.2	11.7	10.7	10.6
16 to 19 years	14.9	15.6	15.2	15.4	13.0	14.7	15.9	16.0	14.7	14.5	15.3	15.6	17.5	16.1	15.2
16 to 17 years	16.6	17.5	16.5	20.1	16.6	18.2	17.1	15.9	16.9	17.3	20.1	18.7	19.4	19.7	18.6
18 to 19 years	13.8	14.2	14.1	12.5	11.1	12.2	15.2	15.6	13.0	12.6	12.7	12.6	16.5	13.6	12.9
20 to 24 years	9.1	9.3	9.5	9.3	9.6	8.8	8.9	8.9	8.9	8.3	9.0	9.0	8.8	8.0	8.3
25 years and older	4.6	4.6	4.7	4.7	4.6	4.6	4.6	4.4	4.6	4.6	4.2	4.5	4.5	4.3	4.3
25 to 54 years	4.8	4.8	4.9	4.9	4.8	5.0	4.8	4.5	4.9	4.7	4.4	4.7	4.7	4.4	4.4
55 years and older[1]	3.6	3.7	3.8	3.4	3.5	3.5	4.1	3.9	3.5	3.3	3.3	3.8	3.8	3.9	3.5

[1] Data are not seasonally adjusted.

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

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10. Unemployment rates by State, seasonally adjusted

State	Aug. 2003	July 2004[P]	Aug. 2004[P]	State	Aug. 2003	July 2004[P]	Aug. 2004[P]
Alabama	5.8	5.7	6.0	Missouri	5.8	5.5	5.5
Alaska	8.1	7.2	7.6	Montana	4.8	4.3	4.8
Arizona	5.7	4.3	4.4	Nebraska	4.1	3.4	3.6
Arkansas	6.4	5.6	5.4	Nevada	5.4	4.4	4.0
California	6.8	6.2	5.9	New Hampshire	4.3	3.9	3.7
Colorado	6.1	5.1	5.1	New Jersey	5.9	5.0	4.8
Connecticut	5.6	4.6	4.6	New Mexico	6.6	5.3	5.4
Delaware	4.6	3.9	3.6	New York	6.4	5.9	5.6
District of Columbia	7.1	7.8	7.5	North Carolina	6.5	5.1	5.0
Florida	5.2	4.5	4.6	North Dakota	4.0	3.1	3.3
Georgia	4.6	4.1	4.2	Ohio	6.1	6.0	6.3
Hawaii	4.5	3.0	2.9	Oklahoma	5.8	4.5	4.1
Idaho	5.5	4.9	5.0	Oregon	8.4	6.8	7.4
Illinois	6.8	6.1	6.1	Pennsylvania	5.5	5.3	5.6
Indiana	5.3	5.1	5.1	Rhode Island	5.2	5.8	5.5
Iowa	4.6	4.4	4.5	South Carolina	6.8	6.0	6.4
Kansas	5.4	4.7	4.8	South Dakota	3.7	3.4	3.2
Kentucky	6.2	5.3	5.1	Tennessee	6.0	4.5	4.9
Louisiana	6.8	6.1	5.0	Texas	6.8	5.7	5.7
Maine	5.2	4.2	4.5	Utah	5.5	4.8	4.7
Maryland	4.5	4.1	4.3	Vermont	4.6	3.3	3.3
Massachusetts	5.9	5.3	5.4	Virginia	4.1	3.5	3.6
Michigan	7.5	6.8	6.7	Washington	7.7	6.0	6.2
Minnesota	5.0	4.4	4.8	West Virginia	6.2	5.2	5.5
Mississippi	6.1	5.9	5.9	Wisconsin	5.7	4.7	4.8
				Wyoming	4.3	3.6	3.7

[P] = preliminary

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

State	Aug. 2003	July 2004[P]	Aug. 2004[P]	State	Aug. 2003	July 2004[P]	Aug 2004[P]
Alabama	2,156,597	2,167,420	2,171,032	Missouri	3,019,768	3,056,674	3,048,875
Alaska	333,223	344,300	345,845	Montana	478,342	481,813	483,962
Arizona	2,698,556	2,762,685	2,765,225	Nebraska	977,500	989,063	990,212
Arkansas	12,620,518	1,318,180	1,321,281	Nevada	1,144,514	1,187,711	1,185,851
California	1,747,380	17,684,902	17,646,871	New Hampshire	723,142	731,739	730,469
Colorado	2,485,666	2,517,202	2,521,641	New Jersey	4,383,949	4,422,455	4,425,145
Connecticut	1,803,513	1,793,946	1,788,315	New Mexico	900,291	905,651	910,889
Delaware	417,705	426,819	424,091	New York	9,296,355	9,329,716	9,308,448
District of Columbia	301,841	297,456	301,032	North Carolina	4,249,180	4,191,547	4,183,628
Florida	8,192,302	8,382,532	8,400,607	North Dakota	347,368	349,109	350,563
Georgia	4,433,298	4,423,456	4,439,453	Ohio	5,923,188	5,872,882	5,875,960
Hawaii	621,967	630,939	630,197	Oklahoma	1,695,930	1,709,172	1,698,816
Idaho	6 93488	706,094	710,466	Oregon	1,861,355	1,855,215	1,850,802
Illinois	6,336,573	6,385,051	6,388,300	Pennsylvania	6,153,061	6,263,438	6,275,025
Indiana	3,195,342	3,170,913	3,147,244	Rhode Island	574,263	572,605	568,893
Iowa	1,598,880	1,626,036	1,632,557	South Carolina	2,007,596	2,066,923	2,068,869
Kansas	1,436,277	1,466,312	1,471,017	South Dakota	425,511	425,051	424,034
Kentucky	1,960,213	1,990,046	1,982,539	Tennessee	2,906,469	2,920,251	2,931,130
Louisiana	2,030,838	2,048,042	2,032,997	Texas	10,935,944	10,953,035	10,963,157
Maine	695,582	697,483	701,541	Utah	1,188,573	1,208,191	1,211,405
Maryland	2,906,522	2,951,793	2,948,541	Vermont	350,899	354,165	354,281
Massachusetts	3,407,669	3,415,216	3,412,958	Virginia	3,778,538	3,847,041	3,846,077
Michigan	5,037,317	5,046,983	5,052,968	Washington	3,142,922	3,195,787	3,211,058
Minnesota	2,926,194	2,953,076	2,969,386	West Virginia	787,602	801,062	803,717
Mississippi	1,316,565	1,328,078	1,325,882	Wisconsin	3,091,687	3,108,959	3,115,623
				Wyoming	279,960	279,569	279,926

[P] = preliminary.

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

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

[In thousands]

Industry	Annual average		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
TOTAL NONFARM	130,341	129,931	129,856	129,944	130,027	130,035	130,194	130,277	130,630	130,954	131,162	131,258	131,343	131,541	131,680
TOTAL PRIVATE	108,828	108,356	108,317	108,384	108,483	108,491	108,667	108,738	109,077	109,382	109,618	109,730	109,771	109,912	110,007
GOODS-PRODUCING	22,557	21,817	21,697	21,674	21,686	21,668	21,696	21,684	21,778	21,822	21,894	21,891	21,906	21,939	21,935
Natural resources and mining	583	571	568	569	571	570	570	572	581	585	589	587	592	591	592
Logging	70.4	68.5	67.4	67.9	67.6	65.9	65.1	64.2	65.9	66.7	65.6	64.5	64.5	64.6	65.0
Mining	512.2	502.3	500.8	501.5	503.4	504.3	505.1	508.1	514.9	518.5	523.2	522.7	527.5	526.6	527.1
Oil and gas extraction	121.9	122.9	123.6	124.1	123.9	124.6	126.9	128.9	130.0	131.0	132.3	132.0	132.2	132.7	132.9
Mining, except oil and gas[1]	210.6	202.7	201.6	202.1	202.4	202.0	200.0	200.6	202.8	205.2	207.8	207.9	211.2	209.2	208.8
Coal mining	74.4	70.4	69.2	69.6	69.5	69.8	69.6	70.2	70.6	71.8	72.9	73.5	75.0	74.6	74.4
Support activities for mining	179.8	176.8	175.6	175.3	177.1	177.7	178.2	178.6	182.1	182.3	183.1	182.8	184.1	184.7	185.4
Construction	6,716	6,722	6,754	6,754	6,771	6,774	6,812	6,791	6,853	6,872	6,909	6,911	6,916	6,930	6,945
Construction of buildings	1,574.8	1,575.9	1,577.7	1,579.4	1,583.9	1,585.1	1,593.3	1,590.9	1,607.6	1,609.8	1,622.9	1,625.9	1,629.7	1,635.5	1,645.3
Heavy and civil engineering	930.6	910.7	915.2	910.8	918.8	920.7	928.0	924.0	926.8	924.7	924.3	920.9	920.2	921.9	921.0
Specialty trade contractors	4,210.4	4,235.5	4,260.9	4,263.7	4,268.6	4,268.4	4,290.2	4,276.5	4,318.9	4,337.3	4,362.2	4,364.6	4,365.6	4,378.9	4,378.6
Manufacturing	15,259	14,525	14,375	14,351	14,344	14,324	14,314	14,321	14,344	14,365	14,396	14,393	14,398	14,412	14,398
Production workers	10,766	10,200	10,077	10,058	10,048	10,044	10,035	10,038	10,058	10,085	10,123	10,128	10,141	10,162	10,142
Durable goods	9,483	8,970	8,867	8,854	8,874	8,868	8,869	8,882	8,889	8,924	8,946	8,955	8,955	8,986	8,978
Production workers	6,529	6,157	6,077	6,066	6,089	6,079	6,081	6,088	6,101	6,126	6,152	6,164	6,167	6,195	6,181
Wood products	554.9	536.1	531.8	533.4	536.3	536.6	536.3	538.4	539.7	540.0	543.0	543.8	544.1	545.9	544.8
Nonmetallic mineral products	516.0	492.6	488	486.6	489.7	487.5	492.7	490.5	493.2	497.8	501.4	501.7	502.6	501.6	502.0
Primary metals	509.4	476.7	466.3	463.4	464.1	464.6	432.2	462.2	462.0	462.5	464.0	465.4	467.0	465.4	464.2
Fabricated metal products	1,548.5	1,478.4	1,461.1	1,461.3	1,468.1	1,471.2	1,471.8	1,476.6	1,478.5	1,486.7	1,494.5	1,497.6	1,501.3	1,504.7	1,505.6
Machinery	1,229.5	1,153.5	1,139.4	1,137.0	1,142.5	1,140.4	1,138.7	1,141.2	1,145.1	1,152.0	1,153.3	1,156.7	1,160.4	1,163.3	1,160.8
Computer and electronic products[1]	1,507.2	1,360.9	1,339.2	1,332.8	1,334.4	1,332.2	1,333.2	1,333.9	1,338.0	1,339.7	1,345.8	1,346.2	1,351.9	1,353.0	1,351.2
Computer and peripheral equipment	250.0	225.7	221.9	219.3	219.1	217.8	219.4	219.0	218.6	218.1	218.8	217.7	217.2	217.9	217.2
Communications equipment	185.8	157.0	154.1	153.9	154.4	153.0	154.8	154.8	155.0	155.1	155.9	157.1	158.2	158.5	157.8
Semiconductors and electronic components	524.5	461.8	453.3	449.4	451.2	451.3	450.2	451.4	452.1	453.4	455.8	458.0	460.7	460.2	460.0
Electronic instruments	450.0	429.3	425.5	425.1	425.2	425.3	423.7	423.3	426.8	427.5	430.1	429.8	432.4	433.0	433.3
Electrical equipment and appliances	496.5	459.9	452.1	450.8	450.9	451.2	449.8	448.6	446.8	446.5	447.3	448.6	449.2	449.6	449.3
Transportation equipment	1,828.9	1,775.4	1,765.6	1,765.5	1,766.5	1,762.7	1,760.6	1,766.5	1,769.1	1,768.8	1,764.4	1,765.1	1,745.9	1,774.4	1,773.1
Furniture and related products	604.1	573.5	568.0	568.2	568.9	569.3	571.3	571.2	573.4	576.5	577.6	575.0	576.7	574.6	574.1
Miscellaneous manufacturing	688.3	662.8	655.9	655.2	652.7	651.9	652.0	653.0	653.0	653.0	654.4	654.6	655.5	653.6	653.0
Nondurable goods	5,775	5,555	5,508	5,497	5,470	5,456	5,445	5,439	5,445	5,441	5,450	5,438	5,443	5,426	5,420
Production workers	4,239	4,043	4,000	3,992	3,959	3,965	3,954	3,950	3,957	3,959	3,971	3,964	3,974	3,967	3,961
Food manufacturing	1,525.7	1,518.7	1,526.0	1,528.2	1,508.3	1,506.3	1,500.7	1,502.4	1,504.5	1,502.7	1,507.0	1,502.8	1,508.0	1,499.6	1,497.5
Beverages and tobacco products	207.4	200.6	200.2	201.0	198.3	198.3	197.7	195.9	197.2	197.8	197.5	197.6	198.4	197.2	198.7
Textile mills	290.9	260.3	250.2	247.0	245.1	241.0	239.2	237.3	237.1	235.8	236.1	235.0	235.6	234.4	233.8
Textile product mills	194.6	179.8	173.7	172.6	175.2	174.3	176.9	176.6	179.7	180.1	181.4	179.7	179.3	179.4	180.0
Apparel	359.7	312.7	299.8	299.7	297.7	297.7	296.1	297.1	294.3	292.7	290.8	286.8	284.8	284.2	282.1
Leather and allied products	50.2	45.2	44.2	43.7	44.1	44.3	44.6	44.8	44.8	44.6	45.1	44.7	45.3	44.8	45.2
Paper and paper products	546.6	519.0	513.8	513.3	511.7	510.3	509.8	508.0	508.8	507.0	508.1	506.7	509.0	509.8	508.5
Printing and related support activities	706.6	680.0	676.2	673.3	673.1	670.1	667.6	665.0	664.4	663.6	665.9	667.0	663.8	662.2	659.5
Petroleum and coal products	118.1	114.6	112.9	112.6	112.0	112.4	114.3	112.9	113.1	112.6	113.1	113.8	113.6	114.1	114.1
Chemicals	927.5	7.9	902.7	899.1	897.6	895.9	893.7	894.7	894.9	896.4	895.0	895.2	894.2	891.9	891.5
Plastics and rubber products	848.0	815.9	808.4	806.3	806.5	805.8	804.8	803.9	806.3	807.5	810.2	808.6	811.2	808.8	809.0
SERVICE-PROVIDING	107,784	108,114	108,159	108,270	108,341	108,367	108,498	108,593	108,852	109,132	109,268	109,367	109,437	109,602	109,745
PRIVATE SERVICE-PROVIDING	86,271	86,538	86,620	86,710	86,797	86,823	86,971	87,054	87,299	87,560	87,724	87,839	87,865	87,973	88,072
Trade, transportation, and utilities	25,497	25,275	25,252	25,272	25,261	25,211	25,312	25,331	25,415	25,448	25,477	25,497	25,499	25,516	25,530
Wholesale trade	5,652.3	5,605.0	5,585.1	5,581.6	5,592.7	5,598.4	5,611.4	5,612.2	5,623.5	5,632.5	5,636.7	5,639.5	5,649.6	5,652.8	5,662.9
Durable goods	3,007.9	2,949.2	2,932.1	2,932.0	2,943.9	2,945.8	2,954.9	2,953.8	2,963.4	2,967.5	2,969.7	2,975.6	2,986.0	2,989.6	2,992.9
Nondurable goods	2,015.0	2,002.1	1,995.9	1,992.4	1,989.2	1,991.8	1,993.7	1,994.5	1,995.3	1,996.3	1,997.2	1,994.3	1,994.3	1,992.1	1,992.5
Electronic markets and agents and brokers	629.4	654.3	6657.1	657.2	659.6	660.8	662.8	663.9	664.8	668.7	669.8	669.6	671.5	670.7	674.0
Retail trade	15,025.1	14,911.5	14,926.8	14,948.1	14,921.7	14,876.0	14,944.8	14,963.0	15,013.0	15,037.1	15,047.6	15,054.9	15,038.1	15,048.8	15,043.1
Motor vehicles and parts dealers[1]	1,879.4	1,883.5	1,889.8	1,889.7	1,892.9	1,893.7	1,895.4	1,900.9	1,906.9	1,910.9	1,911.4	1,908.5	1,908.1	1,904.9	1,904.9
Automobile dealers	1,252.8	1,255.1	1,259.7	1,259.6	1,258.9	1,259.5	1,261.3	1,262.9	1,263.9	1,264.7	1,263.6	1,262.3	1,259.2	1,256.8	1,253.3
Furniture and home furnishings stores	538.7	542.9	539.7	540.2	544.8	547.2	546.4	544.5	544.8	544.5	545.7	546.3	546.4	548.7	548.5
Electronics and appliance stores	525.3	511.9	506.7	506.5	512.8	511.9	509.3	508.2	511.7	514.1	512.6	511.5	510.7	511.6	512.7

See notes at end of table.

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

[In thousands]

Industry	Annual average		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[P]	Sept.[P]
Building material and garden supply stores	1,176.5	1,191.1	1,203.4	1,204.0	1,210.0	1,209.5	1,221.4	1,231.4	1,243.5	1,247.3	1,248.7	1,245.8	1,246.9	1,251.7	1,256.2
Food and beverage stores	2,881.6	2,840.9	2,829.4	2,838.7	2,821.4	2,813.9	2,826.3	2,831.3	2,838.9	2,839.9	2,845.3	2,839.7	2,834.5	2,832.9	2,834.0
Health and personal care stores	938.8	943.1	943.1	948.3	951.6	952.6	954.1	954.9	958.2	957.9	957.1	957.2	956.7	956.4	956.6
Gasoline stations	895.9	879.9	877.9	873.8	875.2	871.1	875..1	871.8	873.0	872.4	871.6	870.3	869.9	870.3	873.5
Clothing and clothing accessories stores	1,312.5	1,296.7	1,295.6	1,302.6	1,297.1	1,301.0	1,304.3	1,311.3	1,321.8	1,328.0	1,335.5	1,346.5	1,349.0	1,355.2	1,350.3
Sporting goods, hobby, book, and music stores	661.3	645.0	642.8	642.0	641.6	633.2	635.9	636.8	636.5	635.8	636.1	635.7	635.5	638.4	638.1
General merchandise stores[1]	2,812.0	2,815.2	2,839.9	2,842.9	2,826.4	2,793.4	2,822.7	2,822.5	2,824.4	2,831.0	2,830.5	2837.4	2825.3	2832.8	2814.6
Department stores	1,684.0	1,618.8	1,623.7	1,623.5	1,612.6	1,601.3	1,603.4	1,602.7	1,604.9	16.7	1,610.9	1,614.9	1,609.9	1,607.9	1,600.5
Miscellaneous store retailers	959.5	934.1	931.7	933.5	930.9	924.4	929.6	924.6	926.9	927.9	925.7	928.4	926.2	927.1	924.6
Nonstore retailers	443.7	427.5	426.8	425.9	417.3	424.1	424.3	424.8	427.4	429.8	427.4	427.6	428.9	427.8	429.1
Transportation and warehousing	4,223.6	4,176.7	4,160.8	4,162.9	4,168.0	4,157.0	4,175.9	4,175.8	4,197.0	4,196.5	4,209.9	4220.9	4228.3	4232.5	4240.3
Air transportation	563.5	527.3	511.8	506.1	511.5	512.9	510.2	511.6	512.9	513.3	514.7	513.8	512.4	511.8	512.3
Rail transportation	217.8	215.4	215.6	215.2	215.5	215.5	215.4	215.7	216.0	216.3	216.4	217.3	217.8	217.4	217.9
Water transportation	52.6	52.5	51.5	52.5	50.9	50.0	50.6	48.8	49.2	50.6	51.1	51.7	51.7	50.3	50.3
Truck transportation	1,339.3	1,328.0	1,328.7	1,329.3	1,335.7	1,338.7	1,343.6	1,344.1	1,346.4	1,352.2	1,353.9	1,353.9	1,361.9	1,363.7	1,368.7
Transit and ground passenger transportation	380.8	380.3	380.7	389.2	385.7	385.0	382.3	380.1	380.5	372.3	381.5	374.6	374.2	374.5	374.7
Pipeline transportation	41.7	40.0	39.3	39.0	38.7	38.8	38.3	38.2	38.1	38.1	38.3	38.4	38.5	38.5	38.6
Scenic and sightseeing transportation	25.6	28.0	28.9	29.0	28.7	29.4	28.7	29.7	31.4	31.1	30.6	32.6	32.6	32.7	32.9
Support activities for transportation	524.7	516.3	515.4	514.3	512.4	511.6	514.1	515.5	518.5	519.1	519.5	520.8	523.7	525.1	525.3
Couriers and messengers	560.9	566.6	566.5	565.0	564.7	559.0	566.9	567.7	572.1	570.9	572.8	578.2	579.2	580.4	581.1
Warehousing and storage	516.7	522.3	522.4	522.6	524.2	516.1	525.8	524.4	531.9	532.6	531.1	534.0	536.3	538.1	538.5
Utilities	596.2	580.8	578.9	579.2	578.9	579.3	580.2	580.0	581.2	582.1	582.3	581.7	582.6	582.0	583.3
Information	3,395	3,198	3,175	3,166	3,172	3,175	3,163	3,169	3,169	3,173	3,177	3,182	3,173	3,166	3,158
Publishing industries, except Internet	964.1	926.4	919.3	918.0	918.4	917.4	914.0	915.1	915.3	916.3	916.2	916.6	914.7	914.3	914.3
Motion picture and sound recording industries	387.9	376.1	375.4	373.4	382.7	385.2	379.7	382.7	381.2	385.7	390.8	394.9	391.0	388.0	388.7
Broadcasting, except Internet	334.1	327.0	327.6	326.0	327.0	329.5	329.7	331.8	333.0	333.3	335.4	335.5	336.4	336.6	336.9
Internet publishing and broadcasting	33.7	30.0	30.1	29.9	30.4	30.4	30.8	31.9	31.9	32.5	32.5	33.6	33.6	34.2	34.6
Telecommunications	1,186.5	1,082.6	1,069.4	1,065.2	1,062.2	1,061.2	1,061.3	1,058.2	1,055.0	1,051.9	1,047.3	1,044.8	1,042.3	1,037.5	1,027.9
ISPs, search portals, and data processing	441.0	407.5	405.4	404.8	402.6	402.6	400.1	401.1	403.7	404.0	405.1	406.5	404.9	404.3	404.7
Other information services	47.3	48.1	48.0	48.3	48.2	48.2	47.8	48.0	48.6	49.6	49.6	50.0	49.8	50.0	49.7
Financial activities	7,847	7,974	8,004	7,990	7,985	7,981	7,981	7,989	8,003	8,015	8,029	8,049	8,044	8,077	8,094
Finance and insurance	5,817.3	5,920.5	5,945.6	5,930.2	5,922.7	5,916.5	5,917.1	5,924.7	5,933.0	5,947.7	5,946.0	5,960.4	5,951.9	5,962.4	5,973.6
Monetary authorities—central bank	23.4	22.7	22.6	22.5	22.5	22.5	22.4	22.4	22.3	22.3	21.8	21.9	21.8	21.8	21.8
Credit intermediation and related activities[1]	2,686.0	2,785.6	2,808.1	2,801.0	2,790.3	2,783.3	2,785.3	2,787.2	2,793.8	2,802.1	2,800.8	2,809.9	2,804.1	2,807.3	2,815.4
Depository credit intermediation[1]	1,733.0	1,752.1	1,757.9	1,760.1	1,758.1	1,757.1	1,758.7	1,762.6	1,762.8	1,765.0	1,765.2	1,768.8	1,766.9	1,768.3	1,772.4
Commercial banking	1,278.1	1,281.1	1,283.6	1,284.4	1,280.5	1,278.9	1,280.4	1,283.5	1,284.1	1,285.0	1,284.2	1,285.9	1,284.0	1,283.0	1,287.3
Securities, commodity contracts, investments	789.4	764.4	761.7	762.0	769.1	771.9	773.8	778.2	780.8	781.0	782.8	787.2	787.8	791.6	793.0
Insurance carriers and related activities	2,233.2	2,266.1	2,271.9	2,264.7	2,261.2	2,258.1	2,255.8	2,257.4	2,257.1	2,259.5	2,262.7	2,263.8	2,260.2	2,263.9	2,265.8
Funds, trusts, and other financial vehicles	85.4	81.7	81.3	80.0	79.6	80.7	79.8	79.5	79.0	78.8	77.9	77.6	78.0	77.8	77.6
Real estate and rental and leasing	2,029.8	2,053.6	2,057.9	2,060.2	2,062.7	2,064.0	2,063.6	2,064.5	2,069.5	2,071.6	2,083.1	2,088.1	2,092.0	2,090.6	2,193.1
Real estate	1,352.9	1,384.4	1,388.8	1,390.6	1,394.5	1,395.7	1,397.7	1,400.2	1,405.8	1,409.2	1,418.7	1,418.8	1,422.1	1,424.1	1,431.1
Rental and leasing services	649.1	640.8	639.8	639.9	639.0	638.3	636.0	634.2	634.1	633.2	635.4	640.5	641.4	638.0	643.7
Lessors of nonfinancial intangible assets	27.6	28.4	29.3	29.7	29.2	30.0	29.9	30.1	29.6	29.2	29.0	28.8	28.5	28.5	28.3
Professional and business services	15,976	15,999	16,051	16,070	16,114	16,159	16,172	16,196	16,237	16,363	16,432	16,457	16,490	16,518	16,562
Professional and technical services[1]	6,675.6	6,623.5	6,606.3	6,624.1	6,647.9	6,669.3	6,657.9	6,658.1	6,679.8	6,701.4	6,708.1	6,732.6	6,739.9	6,762.0	6,788.5
Legal services	1,115.3	1,136.8	1,136.6	1,140.4	1,142.9	1,140.5	1,138.7	1,139.2	1,138.4	1,141.9	1,143.3	1,146.3	1,148.2	1,146.2	1,149.3
Accounting and bookkeeping services	837.3	815.6	802.5	801.5	810.6	826.6	815.2	813.3	812.8	818.5	806.3	811.6	811.9	815.3	817.7
Architectural and engineering services	1,246.1	1,228.0	1,230.1	1,230.9	1,233.9	1,235.2	1,230.9	1,240.0	1,246.4	1,254.1	1,258.3	1,261.9	1,264.4	1,269.3	1,274.4

See notes at end of table.

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

[In thousands]

Industry	Annual average		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
Computer systems design and related services	1,152.8	1,108.3	1,103.3	1,107.0	1,105.7	1,105.7	1,104.6	1,099.8	1,103.5	1,103.5	1,110.1	1,117.7	1,120.5	1,129.7	1,136.4
Management and technical consulting services	734.4	747.3	749.3	755.6	760.6	764.0	765.4	767.9	774.0	780.9	785.9	791.4	792.2	794.3	795.9
Management of companies and enterprises	1,705.4	1,675.5	1,671.7	1,669.1	1,671.6	1,670.2	1,675.1	1,675.6	1,676.6	1,679.7	1,683.3	1,684.5	1,685.9	1,682.5	1,677.2
Administrative and waste services	7,595.2	7,698.3	7,773.1	7,776.3	7,794.5	7,819.2	7,838.5	7,862.4	7,880.1	7,982.3	8,040.1	8,040.0	8,064.3	8,073.0	8,096.1
Administrative and support services[1]	7,276.8	73,764.0	7,451.6	7,456.0	7,473.7	7,496.3	7,517.5	7,539.6	7,556.8	7,657.0	7,715.6	7,713.0	7,738.1	7,746.6	7,770.2
Employment services[1]	3,246.5	3,336.2	3,389.1	3,402.0	3,427.6	3,461.3	3,473.8	3,493.8	3,492.3	3,553.7	3,591.5	3,573.4	3,606.8	3,607.8	3,641.1
Temporary help services	2,193.7	2,243.2	2,287.2	2,291.7	2,319.4	2,355.3	2,344.3	2,370.4	2,380.3	2,423.8	2,451.7	2,449.4	2,460.2	2,474.7	2,508.2
Business support services	756.6	747.4	753.2	753.2	746.7	745.1	739.0	739.8	746.0	748.6	751.2	754.0	749.9	751.5	745.7
Services to buildings and dwellings	1,606.1	1,631.7	1,645.2	1,639.6	1,639.4	1,635.9	1,637.1	1,639.5	1,646.2	1,674.5	1,686.0	1,694.1	1,691.5	1,691.6	1,690.4
Waste management and remediation services	318.3	321.9	321.5	320.3	320.8	322.9	321	322.8	323.3	325.3	324.5	327	326.2	326.4	325.9
Educational and health services	16,199	16,577	16,672	16,678	16,705	16,731	16,746	16,764	16,813	16,854	16,871	16,897	16,901	16,965	16,984
Educational services	2,642.8	2,688.5	2,689.1	2,707.7	2,723.1	2,728.0	2,729.3	2,727.4	2,736.0	2,740.8	2,731.1	2,727.4	2,731.2	2,746.4	1,756.4
Health care and social assistance	13,555.7	13,888.0	13,933.3	13,970.0	13,981.5	14,003.2	14,017.1	14,036.8	14,077.1	14,113.1	14,140.1	14,169.8	14,169.3	14,218.3	14,227.9
Ambulatory health care services[1]	4,633.2	4,776.0	4,792.8	4,812.8	4,818.7	4,831.0	4,840.3	4,855.3	4,868.0	4,883.6	4,896.8	4,909.6	4,920.8	4,935.1	4,939.3
Offices of physicians	1,967.8	2,003.8	2,008.2	2,018.5	2,023.3	2,030.0	2,032.3	2,034.4	2,043.5	2,046.1	2,049.6	2,053.9	2,057.5	2,062.1	2,068.5
Outpatient care centers	413.0	423.1	422.9	423.3	426.4	425.0	427.8	431.1	430.3	432.2	435.1	436.0	437.6	438.0	437.0
Home health care services	679.8	727.1	732.8	737.7	735.7	739.9	740.2	741.5	743.8	748.4	751.7	754.2	756.8	760.1	760.7
Hospitals	4,159.6	4,252.5	4,264.4	4,268.9	4,278.1	4,283.9	4,287.8	4,284.1	4,298.0	4,305.1	4,315.4	4,318.3	4,322.0	4,330.5	4,332.0
Nursing and residential care facilities[1]	2,743.3	2,784.3	2,789.3	2,794.2	2,792.8	2,793.0	2,792.1	2,791.1	2,798.4	2,802.8	2,806.3	2,809.0	2,812.0	2,814.0	2,819.5
Nursing care facilities	1,573.2	1,582.8	1,583.1	1,585.2	1,584.1	1,581.7	1,580.3	1,578.7	1,582.1	1,584.0	1,585.3	1,586.5	1,586.7	1,586.3	1,586.2
Social assistance[1]	2,019.7	2,075.2	2,086.8	2,094.1	2,091.9	2,095.3	2,096.9	2,106.3	2,112.7	2,121.6	2,121.6	2,132.9	2,114.5	2,138.7	2,137.1
Child day care services	744.1	760.5	765.8	771.6	766.3	770	766.3	772.2	773.7	777.6	777.1	786	752.1	792.7	782.8
Leisure and hospitality	11,986	12,128	12,126	12,147	12,178	12,192	12,218	12,229	12,271	12,303	12,331	12,339	12,344	12,341	12,351
Arts, entertainment, and recreation	1,782.6	1,801.0	1,794.4	1,796.9	1,799.4	1,795.2	1,801.4	1,796.7	1,798.7	1,791.1	1,793.1	1,792.0	1,791.9	1,785.6	1,792.7
Performing arts and spectator sports	363.7	370.2	372.0	369.6	371.7	368.8	369.4	366.5	364.6	361.4	358.8	359.3	357.1	356.0	363.2
Museums, historical sites, zoos, and parks	114.0	114.1	113.4	114.2	113.3	113.1	113.4	113.7	114.2	114.6	115.6	116.1	116.6	116.7	116.3
Amusements, gambling, and recreation	1,305.0	1,316.6	1,309.0	1,313.1	1,314.4	1,313.3	1,318.6	1,316.5	1,319.9	1,315.1	1,318.7	1,316.6	1,318.2	1,312.9	1,313.2
Accommodations and food services	10,203.2	10,324.4	10,331.7	10,350.4	10,378.9	10,396.3	10,416.5	10,432.3	10,742.0	10,511.8	105,837.9	10,546.7	10,551.7	10,555.6	10,558.1
Accommodations	1,778.6	1,765.2	1,739.1	1,733.7	1,751.7	1,763.0	1,752.1	1,754.4	1,753.4	1,758.5	1,758.5	1,764.7	1,764.4	1,767.9	1,765.3
Food services and drinking places	8,424.6	8,559.2	8,592.6	8,616.7	8,627.2	8,633.3	8,664.4	8,677.9	8,718.6	8,753.3	8,779.4	8,782.0	8,787.7	8,787.7	8,792.8
Other services	5,372	5,393	5,390	5,387	5,382	5,374	5,379	5,376	5,391	5,404	5,407	5,418	5,414	5,414	5,410
Repair and maintenance	1,246.9	1,236.2	1,240.4	1,237.6	1,234.4	1,228.5	1,233.5	1,230.5	1,239.4	1,238.2	1,237.7	1,235.1	1,236.3	1,235.2	1,236.8
Personal and laundry services	1,257.2	1,258.2	1,252.7	1,254.6	1,254.1	1,250.2	1,251.2	1,247.6	1,255.9	1,260.5	1,265.5	1,268.4	1,262.1	1,259.9	1,254.1
Membership associations and organizations	2,867.8	2,898.0	2,896.5	2,895.2	2,893.9	2,895.7	2,894.5	2,898.3	2,895.2	2,904.8	2,903.7	2,914.9	2,915.9	2,919.1	5,919.2
Government	21,513	21,575	21,539	21,560	21,544	21,544	21,527	21,539	21,553	21,572	21,544	21,528	21,572	21,629	21,673
Federal	2,767	2,756	2,747	2,736	2,723	2,720	2,715	2,716	2,710	2,727	2,712	2,716	2,710	2,712	2,710
Federal, except U.S. Postal Service	1,923.8	1,947.0	1,942.1	1,932.9	1,924.9	1,928.9	1,921.5	1,923.8	1,921.1	1,939.5	1,925.7	1,930.5	1,922.5	1,926.3	1,926.3
U.S. Postal Service	842.4	809.1	804.8	803.3	798.1	791.4	793.1	791.7	789.1	787.3	786.5	785.4	787.2	785.3	784.0
State	5,029	5,017	5,019	5,031	5,023	5,027	5,007	5,018	5,023	5,019	5,004	5,004	5,019	5,035	5,052
Education	2,242.8	2,266.4	2,278.8	2,290.4	2,282.5	2,285.7	2,268.0	2,279.6	2,283.2	2,278.3	2,261.4	2,257.8	2,271.1	2,285.2	2,302.3
Other State government	2,786.3	2,750.7	2,740.4	2,740.4	2,740.0	2,740.9	2,738.9	2,738.4	2,739.7	2,740.6	2,742.8	2,746.1	2,747.8	2,749.4	1,749.2
Local	13,718	13,802	13,773	13,793	13,798	13,797	13,805	13,805	13,820	13,826	13,828	13,808	13,843	13,882	13,911
Education	7,654.4	7,699.1	7,673.9	7,687.0	7,684.5	7,687.1	7,692.2	7,694.3	7,704.7	7,710.9	7,710.2	7,695.1	7,715.7	7,758.4	7,778.2
Other local government	6,063.2	6,104.0	6,099.3	6,105.9	6,113.1	6,109.7	6,112.7	6,110.8	6,114.8	6,115.4	6,117.9	6,113.3	6,116.8	6,123.2	6,132.7

[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.

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

Industry	Annual average		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
TOTAL PRIVATE	33.9	33.7	33.6	33.7	33.8	33.6	33.8	33.8	33.8	33.7	33.8	33.6	33.8	33.7	33.8
GOODS-PRODUCING	39.9	39.8	39.8	39.9	40.1	39.9	40.2	40.3	40.2	40.0	40.3	40.0	40.1	40.1	40.1
Natural resources and mining	43.2	43.6	43.6	43.7	43.9	43.6	44.5	44.1	44.2	44.3	44.2	43.9	44.1	44.4	44.6
Construction	38.4	38.4	38.4	38.4	38.5	38.1	38.5	38.5	38.6	38.2	38.3	38.1	38.4	38.1	38.3
Manufacturing	40.5	40.4	40.4	40.5	40.8	40.6	41.0	41.0	40.9	40.7	41.1	40.8	40.9	40.9	40.8
Overtime hours	4.2	4.2	4.2	4.3	4.5	4.5	4.5	4.6	4.6	4.5	4.6	4.6	4.6	4.6	4.6
Durable goods	40.8	40.8	40.8	40.9	41.3	41.2	41.5	41.5	41.4	41.2	41.6	41.2	41.3	41.3	41.3
Overtime hours	4.2	4.3	4.3	4.4	4.7	4.7	4.7	4.8	4.8	4.7	4.8	4.7	4.7	4.7	4.7
Wood products	39.9	40.4	40.4	40.6	41.2	41.0	40.9	41.1	41.0	41.0	41.4	40.5	40.7	40.9	40.4
Nonmetallic mineral products	42.0	42.2	41.9	42.1	42.4	42.3	42.5	42.5	42.9	42.3	42.0	41.8	42.1	42.3	42.4
Primary metals	42.4	42.3	42.2	42.3	42.7	42.7	43.1	43.0	43.2	43.1	43.4	43.5	43.3	43.3	43.1
Fabricated metal products	40.6	40.7	40.7	40.8	40.9	40.8	41.2	41.2	41.1	41.0	41.3	41.0	41.2	41.2	41.2
Machinery	40.5	40.8	41.0	40.9	41.1	41.1	41.8	41.8	41.7	41.6	42.3	42.0	42.0	42.1	42.3
Computer and electronic products	39.7	40.4	40.6	40.7	40.7	40.4	40.8	41.2	40.7	40.5	40.8	40.5	40.9	40.5	40.4
Electrical equipment and appliances	40.1	40.6	40.6	40.9	40.8	40.7	41.1	40.7	40.8	40.8	41.6	40.8	40.8	41.0	40.7
Transportation equipment	42.5	41.9	42.0	41.9	42.7	42.7	42.8	42.9	42.8	42.4	42.8	42.3	42.4	42.5	42.4
Furniture and related products	39.2	38.9	39.1	39.1	39.9	39.7	39.7	39.4	39.6	39.5	40.0	39.7	39.4	39.5	39.3
Miscellaneous manufacturing	38.6	38.4	38.3	38.3	38.9	38.5	39.0	38.7	38.7	38.3	38.9	38.4	38.5	38.5	38.3
Nondurable goods	40.1	39.8	39.8	39.9	40.1	39.9	40.2	40.3	40.1	40.0	40.3	40.1	40.1	40.2	40.1
Overtime hours	4.2	4.1	4.1	4.1	4.3	4.2	4.3	4.3	4.3	4.3	4.4	4.4	4.4	4.4	4.4
Food manufacturing	39.6	39.3	39.3	39.3	39.2	39.1	39.5	39.4	39.3	39.1	39.6	39.4	39.3	39.3	39.5
Beverage and tobacco products	39.4	39.1	39.1	38.8	39.9	39.1	39.6	40.3	39.4	39.6	39.2	38.7	39.2	39.5	39.1
Textile mills	40.6	39.1	39.0	39.1	40.0	39.7	40.0	40.0	40.2	39.5	40.3	40.3	40.5	40.5	40.2
Textile product mills	39.2	39.6	40.7	40.4	40.0	39.8	39.4	39.9	38.8	38.3	38.8	38.9	38.5	38.7	38.9
Apparel	36.7	35.6	35.1	35.8	36.2	35.8	35.7	36.2	36.3	35.9	36.1	35.9	36.1	36.1	36.1
Leather and allied products	37.5	39.3	38.4	38.9	39.3	40.3	39.8	39.5	39.4	39.1	38.4	38.0	37.2	37.8	37.8
Paper and paper products	41.8	42.1	41.2	41.5	41..9	41.8	41.9	42.0	41.8	41.9	42.6	42.0	42.4	42.5	42.2
Printing and related support activities	38.4	38.2	38.2	38.5	38.4	38.2	38.6	38.6	38.4	38.4	38.6	38.5	38.6	38.5	38.2
Petroleum and coal products	43.0	44.5	44.2	44.9	45.6	44.2	43.8	44.1	43.7	43.9	45.0	45.0	45.0	46.3	45.9
Chemicals	42.3	42.4	42.2	42.0	42.7	42.5	42.9	43.2	43.0	43.0	42.9	42.6	42.8	42.7	42.7
Plastics and rubber products	40.6	40.4	40.5	40.6	40.7	40.4	40.8	40.9	40.9	40.7	40.9	40.8	40.5	40.5	40.2
PRIVATE SERVICE-PROVIDING	32.5	32.4	32.3	32.3	32.4	32.2	32.4	32.4	32.4	32.3	32.4	32.3	32.4	32.4	32.5
Trade, transportation, and utilities	33.6	33.5	33.5	33.6	33.6	33.5	33.6	33.7	33.6	33.5	33.5	33.3	33.4	33.5	33.6
Wholesale trade	38.0	37.8	37.8	38.0	38.0	37.8	37.9	38.0	38.0	38.0	37.8	37.6	37.8	37.6	37.8
Retail trade	30.9	30.9	30.9	30.9	30.9	30.8	31.0	30.9	30.8	30.7	30.7	30.5	30.6	30.7	30.8
Transportation and warehousing	36.8	36.9	36.9	37.1	37.0	36.7	36.9	37.2	36.9	36.9	37.3	36.9	37.1	37.2	37.3
Utilities	40.9	41.1	40.4	41.0	41.4	40.8	40.8	41.0	41.2	41.2	41.3	41.1	41.0	40.9	41.4
Information	36.5	36.2	36.1	36.1	36.3	36.2	36.2	36.3	36.3	36.3	36.4	36.5	36.4	36.4	36.3
Financial activities	35.6	35.5	35.4	35.5	35.5	35.3	35.7	35.5	35.5	35.6	35.8	35.5	35.6	35.5	35.5
Professional and business services	34.2	34.1	33.9	34.0	34.1	33.8	34.1	34.2	34.1	34.1	34.2	33.9	34.2	34.2	34.5
Education and health services	32.4	32.3	32.3	32.3	32.4	32.4	32.4	32.4	32.4	32.4	32.5	32.5	32.6	32.5	32.5
Leisure and hospitality	25.8	25.6	25.5	25.6	25.7	25.6	25.7	25.8	25.7	25.7	25.7	25.7	25.6	25.5	25.5
Other services	32.0	31.4	31.2	31.3	31.2	31.0	31.1	31.1	31.2	31.1	31.2	31.0	31.1	31.1	31.1

[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.

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

Industry	Annual average		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
TOTAL PRIVATE															
Current dollars	$14.95	$15.35	$15.41	$15.43	$15.46	$15.45	$15.49	$15.52	$15.55	$15.59	$15.63	$15.66	$15.71	$15.76	$15.78
Constant (1982) dollars	8.24	8.27	8.25	8.28	8.23	8.30	8.27	8.27	8.24	8.25	8.21	8.20	8.23	8.26	8.25
GOODS-PRODUCING	16.33	16.80	16.91	16.90	16.94	16.97	17.00	17.06	17.08	17.13	17.13	17.16	17.19	17.24	17.50
Natural resources and mining	17.19	17.58	17.66	17.72	17.79	17.91	17.95	18.01	18.10	18.08	18.10	18.24	18.15	18.12	18.05
Construction	18.52	18.95	19.05	19.06	19.06	19.04	19.11	19.18	19.17	19.20	19.20	19.19	19.22	19.25	19.28
Manufacturing	15.29	15.74	15.84	15.83	15.89	15.93	15.94	15.99	16.01	16.08	16.08	16.13	16.16	16.23	16.30
Excluding overtime	14.54	14.96	15.06	15.03	15.06	15.09	15.11	15.14	15.16	15.24	15.23	15.27	15.30	15.37	15.43
Durable goods	16.02	16.46	16.57	16.54	16.58	16.64	16.63	16.68	16.69	16.75	16.75	16.78	16.81	16.90	16.99
Nondurable goods	14.15	14.63	14.70	14.72	14.79	14.81	14.85	14.89	14.93	15.00	15.02	15.08	15.12	15.15	15.19
PRIVATE SERVICE-PROVIDING	14.56	14.96	15.01	15.03	15.06	15.05	15.08	15.10	15.13	15.17	15.23	15.26	15.31	15.36	15.38
Trade,transportation, and utilities	14.02	14.34	14.38	14.41	14.44	14.41	14.45	14.49	14.50	14.57	14.61	14.65	14.70	14.73	14.75
Wholesale trade	16.98	17.36	17.44	17.47	17.47	17.46	17.53	17.54	17.54	17.60	17.63	17.67	17.71	17.70	17.76
Retail trade	11.67	11.90	11.94	11.95	11.97	11.95	11.95	11.98	11.99	12.01	12.06	12.10	12.12	12.16	12.16
Transportation and warehousing	15.76	16.25	16.31	16.32	16.35	16.33	16.46	16.52	16.53	16.71	16.75	16.82	16.89	16.99	16.95
Utilities	23.96	24.76	24.96	25.17	25.36	25.13	25.32	25.35	25.38	25.67	25.46	25.44	25.57	25.54	25.73
Information	20.20	21.01	21.21	21.21	21.10	20.99	21.15	21.24	21.25	21.29	21.42	21.30	21.45	21.53	21.61
Financial activities	16.17	17.13	17.27	17.29	17.30	17.30	17.35	17.32	17.41	17.46	17.49	17.50	17.55	17.58	17.62
Professional and business services	16.81	17.20	17.19	17.25	17.29	17.25	17.24	17.25	17.27	17.29	17.36	17.42	17.44	17.56	17.52
Education and health services	15.21	15.64	15.70	15.73	15.77	15.81	15.87	15.90	15.96	15.99	16.06	16.12	16.18	16.19	19.22
Leisure and hospitality	8.58	8.76	8.78	8.78	8.82	8.84	8.85	8.86	8.87	8.86	8.86	8.85	8.87	8.91	8.95
Other services	13.72	13.84	13.81	13.80	13.81	13.80	13.84	13.84	13.87	13.84	13.85	13.88	13.90	13.92	13.96

[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.

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

Industry	Annual average		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[P]	Sept.[P]
TOTAL PRIVATE	$14.95	$15.35	$15.44	$15.42	$15.52	$15.48	$15.56	$15.60	$15.55	$15.59	$15.63	$15.57	$15.59	$15.67	$15.80
Seasonally adjusted	15.18	15.47	15.41	15.41	15.43	15.45	15.49	15.52	15.55	15.59	15.63	15.66	15.71	15.76	15.78
GOODS-PRODUCING	16.33	16.8	17.01	16.95	16.98	17.03	16.94	16.95	17.00	17.09	17.10	17.14	17.18	17.28	17.41
Natural resources and mining	17.19	17.58	17.69	17.69	17.15	17.97	18.00	18.05	18.17	18.14	18.06	18.18	18.07	18.01	18.03
Construction	18.52	18.95	19.19	19.13	19.08	19.19	19.01	19.07	19.07	19.15	19.15	19.12	19.25	19.33	19.42
Manufacturing	15.29	15.74	15.87	15.81	15.92	16.05	15.98	15.99	16.01	16.07	16.05	16.09	16.04	16.17	16.37
Durable goods	16.02	16.46	16.62	16.55	16.64	16.78	16.66	16.68	16.69	16.72	16.71	16.75	16.61	16.85	17.08
Wood products	12.33	12.71	12.83	12.82	12.95	12.93	12.90	12.91	12.93	13.00	13.03	12.98	13.03	13.01	13.13
Nonmetallic mineral products	15.40	15.77	15.84	15.95	15.99	15.98	16.03	16.00	16.02	16.19	16.18	16.24	16.38	16.29	16.51
Primary metals	17.68	18.13	18.30	18.25	18.32	18.39	18.39	18.36	18.33	18.52	18.48	18.51	18.66	18.58	18.91
Fabricated metal products	14.68	15.01	15.09	15.03	15.06	15.23	15.20	15.18	15.25	15.21	15.20	15.23	15.26	15.27	15.43
Machinery	15.92	16.30	16.40	16.35	16.49	16.62	16.53	16.50	16.49	16.53	16.53	16.56	16.68	16.72	16.83
Computer and electronic products	16.20	16.68	16.77	16.77	16.78	16.85	16.81	16.92	16.93	17.01	17.11	17.21	17.29	17.37	17.45
Electrical equipment and appliances	13.98	14.35	14.49	14.37	14.54	14.68	14.50	14.58	14.68	14.80	14.83	14.88	14.88	14.98	15.03
Transportation equipment	20.64	21.25	21.56	21.35	21.48	21.74	21.38	21.37	21.34	21.36	21.29	21.36	20.77	21.54	21.98
Furniture and related products	12.61	12.98	13.10	13.01	13.08	13.08	12.95	12.92	12.96	13.09	13.04	13.10	13.11	13.27	13.37
Miscellaneous manufacturing	12.91	13.30	13.42	13.47	13.53	13.60	13.68	13.75	13.78	13.70	13.76	13.81	13.89	13.87	13.97
Nondurable goods	14.15	14.63	14.73	14.67	14.80	14.88	14.89	14.88	14.90	15.01	14.98	15.03	15.14	15.09	15.24
Food manufacturing	12.55	12.80	12.90	12.77	12.91	12.95	12.91	12.87	12.89	12.96	12.94	13.00	13.05	12.99	13.08
Beverages and tobacco products	17.73	17.96	17.73	18.05	18.64	18.58	18.88	18.76	19.13	19.60	19.55	19.39	19.29	19.10	19.16
Textile mills	11.73	12.00	12.07	12.02	12.08	12.21	12.11	12.13	12.09	12.23	12.08	12.15	12.07	12.08	12.24
Textile product mills	10.96	11.24	11.47	11.37	11.35	11.44	11.45	11.40	11.37	11.33	11.30	11.29	11.48	11.46	11.53
Apparel	9.10	9.56	9.77	9.69	9.71	9.80	9.74	9.58	9.60	9.71	9.55	9.60	9.74	9.73	9.78
Leather and allied products	11.00	11.67	11.63	11.83	11.87	11.90	11.94	11.76	11.64	11.65	11.49	11.59	11.68	11.68	11.55
Paper and paper products	16.85	17.32	17.41	17.44	17.58	17.60	17.63	17.55	17.59	17.84	17.88	17.86	17.91	17.84	18.20
Printing and related support activities	14.93	15.37	15.46	15.41	15.48	15.56	15.53	15.57	15.61	15.54	15.51	15.54	15.71	15.86	15.97
Petroleum and coal products	23.04	23.64	23.45	23.63	24.00	24.06	24.13	24.32	24.82	24.48	24.41	24.24	24.35	24.07	24.52
Chemicals	17.97	18.52	18.66	18.66	18.77	18.79	18.83	18.85	18.87	19.02	19.05	19.20	19.36	19.29	19.51
Plastics and rubber products	13.55	14.18	14.30	14.19	14.27	14.47	14.43	14.45	14.45	14.58	14.55	14.59	14.69	14.66	14.75
PRIVATE SERVICE-PROVIDING	14.56	14.96	15.00	15.01	15.13	15.07	15.19	15.24	15.16	15.20	15.24	15.14	15.17	15.24	15.37
Trade, transportation, and utilities	14.02	14.34	14.42	14.38	14.44	14.31	14.50	14.58	14.53	14.64	14.64	14.61	14.62	14.66	14.79
Wholesale trade	16.98	17.36	17.41	17.42	17.56	17.46	17.56	17.60	17.47	17.60	17.67	17.58	17.66	17.69	17.74
Retail trade	11.67	11.90	11.99	11.91	11.92	11.87	11.98	12.04	12.03	12.08	12.08	12.09	12.07	12.09	12.23
Transportation and warehousing	15.76	16.25	16.31	16.31	16.40	16.33	16.46	16.58	16.51	16.73	16.72	16.80	16.86	16.98	16.94
Utilities	23.96	24.76	25.15	25.23	25.50	25.26	25.38	25.29	25.36	25.69	25.53	25.33	25.43	25.33	25.89
	20.20	21.01	21.35	21.25	21.28	21.10	21.21	21.28	21.17	21.24	21.41	21.18	21.30	21.44	21.73
Financial activities	16.17	17.13	17.27	17.25	17.42	17.26	17.35	17.47	17.37	17.45	17.62	17.38	17.44	17.58	17.60
Professional and business services	16.81	17.20	17.11	17.13	17.41	17.29	17.38	17.47	17.28	17.26	17.45	17.28	17.31	17.46	17.43
Education and health services	15.21	15.64	15.71	15.73	15.79	15.86	15.94	15.95	15.94	15.99	16.00	16.06	16.18	16.16	16.24
Leisure and hospitality	8.58	8.76	8.78	8.78	8.83	8.94	8.89	8.92	8.89	8.84	8.85	8.78	8.78	8.80	8.94
Other services	13.72	13.84	13.82	13.78	13.85	13.88	13.89	13.90	13.85	13.87	13.90	13.82	13.78	13.84	13.98

[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.

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

Industry	Annual average		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
TOTAL PRIVATE	$506.07	$517.36	$520.33	$519.65	$527.68	$520.13	$518.15	$527.28	$520.93	$522.27	$531.42	$524.71	$528.50	$535.91	$530.88
Seasonally adjusted	–	–	517.78	519.99	522.55	519.12	523.56	524.58	525.59	525.38	528.29	526.18	531.00	531.11	533.36
GOODS-PRODUCING	651.61	669.23	685.50	681.39	684.29	682.90	674.21	674.61	681.70	678.47	690.84	689.03	687.20	698.11	691.18
Natural resources and mining	741.97	766.83	780.13	778.36	784.55	781.70	784.80	786.98	797.66	794.53	798.25	809.01	802.31	806.85	796.93
Construction	711.82	727.11	752.25	744.16	730.76	714.34	712.88	711.31	732.29	721.96	741.11	738.03	754.60	755.80	730.19
Manufacturing	618.75	636.07	647.50	643.47	655.90	662.87	650.39	652.39	653.21	652.44	659.66	659.69	646.41	661.35	664.62
Durable goods	652.97	671.53	684.74	680.21	692.22	703.08	688.06	688.88	690.97	687.19	695.14	695.13	674.37	695.91	698.91
Wood products	492.00	513.92	526.03	525.62	537.43	531.42	517.29	521.56	524.96	530.40	544.65	533.48	531.62	538.61	521.26
Nonmetallic mineral products	646.91	665.11	676.37	679.47	681.17	669.56	663.64	664.00	680.85	684.84	684.41	690.20	694.51	700.47	708.28
Primary metals	749.32	767.63	777.75	771.98	785.93	799.97	796.29	787.64	790.02	800.06	803.88	808.89	791.18	798.94	809.35
Fabricated metal products	596.38	610.33	617.18	616.23	621.98	635.09	626.24	623.90	625.25	620.27	627.76	627.48	621.08	627.60	628.00
Machinery	645.55	664.79	672.40	667.08	682.69	696.38	689.30	691.35	690.93	987.65	700.87	698.83	692.22	697.22	698.45
Computer and electronic products	642.87	674.68	684.22	684.22	693.01	695.91	680.81	695.41	690.74	683.80	694.67	698.73	696.79	700.01	701.49
Electrical equipment and appliances	560.24	582.68	588.29	592.04	601.96	616.56	594.50	591.95	596.01	599.40	613.96	611.57	599.66	611.21	604.21
Transportation equipment	877.87	890.32	918.46	905.24	925.79	950.04	915.06	916.77	917.62	905.66	915.47	912.07	841.19	911.14	929.75
Furniture and related products	494.01	505.23	518.76	508.69	523.20	528.43	510.23	505.17	510.62	517.06	517.69	521.38	515.22	529.47	518.76
Miscellaneous manufacturing	499.13	510.69	515.33	515.90	530.38	533.12	532.15	533.50	534.66	524.71	535.26	530.30	527.82	534.00	529.46
Nondurable goods	566.84	582.65	593.62	588.27	600.88	602.64	594.11	595.20	596.00	595.90	602.20	604.21	602.57	606.62	611.12
Food manufacturing	496.91	502.61	517.29	505.69	515.11	514.12	504.78	499.36	498.84	497.66	511.13	512.20	512.87	514.40	521.89
Beverages and tobacco products	698.39	702.75	707.43	707.56	751.19	722.76	728.77	737.27	744.16	780.08	774.18	760.09	760.03	762.09	764.48
Textile mills	476.52	469.47	475.56	469.98	485.62	490.84	485.61	486.41	490.85	484.31	486.82	490.86	481.59	489.24	487.15
Textile product mills	429.01	445.08	467.98	458.21	456.27	464.46	447.70	450.30	441.16	435.07	436.18	444.83	435.09	443.50	445.06
Apparel	333.66	340.22	341.95	348.84	356.36	352.80	343.82	345.84	350.40	347.76	346.67	348.48	348.69	353.20	346.21
Leather and allied products	412.99	458.26	445.43	462.55	465.30	485.52	471.63	464.52	464.44	460.18	441.22	442.74	422.82	441.50	429.66
Paper and paper products	705.62	719.21	726.00	727.25	743.63	751.52	738.70	731.84	731.74	745.71	756.32	748.33	750.43	754.63	773.50
Printing and related support activities	573.05	587.42	599.85	597.91	603.72	602.17	593.25	597.89	600.99	593.63	594.03	593.63	600.12	610.61	611.65
Petroleum and coal products	990.88	1,052.97	1,045.87	1,068.08	1,099.20	1,061.05	1,068.96	1,074.94	1,079.67	1,062.43	1,091.13	1,095.65	1,120.10	1,097.59	1,125.47
Chemicals	759.53	784.56	793.05	785.59	808.99	806.09	804.04	816.21	811.41	814.06	815.34	819.84	816.99	823.68	831.13
Plastics and rubber products	549.85	572.23	583.44	578.95	586.50	596.16	585.86	588.12	589.56	594.86	595.10	599.65	583.19	589.33	590.00
PRIVATE SERVICE-PROVIDING	472.88	484.00	483.00	484.82	493.24	485.25	484.56	496.82	486.64	487.92	496.82	489.02	493.03	501.40	496.45
Trade, transportation, and utilities	471.27	481.10	485.95	483.17	486.63	480.82	477.05	488.43	482.40	486.05	493..37	489.44	494.46	498.44	496.94
Wholesale trade	644.38	657.12	658.10	661.96	676.06	659.99	656.74	670.56	658.62	665.28	674.99	661.01	665.78	672.22	667.02
Retail trade	360.81	367.28	371.69	366.83	365.94	367.97	361.80	368.42	365.71	367.23	372.06	372.37	376.58	378.42	377.91
Transportation and warehousing	579.75	597.79	606.73	603.47	615.00	602.58	597.50	613.46	604.27	610.65	627.00	621.60	627.19	641.84	628.47
Utilities	979.09	1,016.94	1,026.12	1,039.48	1,068.45	1,028.08	1,032.97	1,039.42	1,039.76	1,053.29	1,054.39	1,046.13	1,032.46	1,030.93	1,074.44
Information	738.17	761.13	770.74	769.25	783.10	761.71	763.56	776.72	760.00	764.64	777.18	775.19	773.19	788.99	788.80
Financial activities	575.51	608.87	607.90	608.93	628.86	607.55	612.10	630.67	611.42	615.99	637.84	613.51	617.38	634.64	619.52
Professional and business services	574.66	586.68	578.32	580.71	597.16	582.67	583.97	602.72	587.52	588.57	603.77	587.52	590.27	604.12	592.62
Education and health services	492.74	505.76	505.86	506.51	516.33	512.28	514.86	519.97	513.27	516.48	521.60	520.34	527.47	530.05	526.18
Leisure and hospitality	221.26	224.35	222.13	223.89	226.05	225.29	221.36	230.14	225.80	224.81	229.22	227.40	230.91	234.08	226.18
Other services	439.76	434 49	431.18	431.31	434.89	430.28	429.20	433.68	428.73	428.58	435.07	428.42	429.94	434.58	431.98

[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.

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Dash indicates data not available. p = preliminary.

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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:												
2000	61.9	62.9	63.3	59.5	46.9	61.7	63.1	52.5	51.5	53.4	56.8	53.8
2001	52.2	47.8	50.4	34.4	41.4	39.2	37.1	38.8	38.3	32.4	36.7	34.9
2002	40.1	35.1	41.0	41.5	41.7	47.8	44.1	44.1	42.8	39.0	38.7	34.5
2003	41.2	35.1	38.1	41.4	42.8	40.1	40.5	39.7	49.3	46.0	51.1	49.1
2004	52.3	56.1	68.7	67.6	63.8	60.6	55.2	56.3	59.2			
Over 3-month span:												
2000	69.2	66.2	67.8	68.3	60.1	58.1	56.3	61.5	56.5	53.2	52.9	56.8
2001	52.7	50.4	50.4	43.5	38.8	34.9	36.2	37.9	34.7	35.3	30.8	32.0
2002	34.0	37.4	35.1	36.2	36.7	39.4	39.9	40.8	38.7	37.1	34.4	34.7
2003	36.5	32.6	36.3	35.1	40.5	42.6	37.4	35.4	40.1	45.5	50.5	51.1
2004	54.0	55.2	62.8	70.0	74.5	68.7	64.6	57.2	61.0			
Over 6-month span:												
2000	67.3	69.1	75.2	72.5	67.4	67.8	66.7	60.8	59.0	55.0	59.7	54.0
2001	51.8	50.0	51.8	47.3	43.5	41.5	38.1	35.4	32.2	33.1	31.5	31.1
2002	29.5	30.0	31.1	31.1	31.7	37.1	37.2	39.0	34.7	36.5	35.3	33.3
2003	33.6	31.1	31.7	31.7	33.5	37.8	36.2	36.5	40.5	39.4	42.6	41.7
2004	48.9	54.1	59.6	64.7	67.8	71.2	68.3	71.6	67.3			
Over 12-month span:												
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	30.4	30.2	29.1	32.0	31.3	30.0	29.5	32.9	34.7
2003	34.5	31.5	32.9	33.5	36.2	34.4	34.7	33.1	37.6	37.4	33.1	35.4
2004	37.8	43.2	47.3	50.7	54.9	60.3	64.0	63.8	65.3			
	Manufacturing payrolls, 84 industries											
Over 1-month span:												
2000	48.2	58.3	50.0	50.0	41.1	57.1	60.7	28.6	25.0	35.1	39.9	41.1
2001	22.6	22.0	21.4	16.1	15.5	23.2	13.7	14.3	19.0	17.9	14.9	10.1
2002	21.4	18.5	23.8	35.1	29.8	32.7	40.5	28.0	31.0	11.9	15.5	17.9
2003	26.2	15.5	22.6	13.7	26.2	25.0	28.0	26.2	27.4	28.6	51.2	45.8
2004	42.9	55.4	60.1	66.1	64.9	54.2	57.1	48.2	42.3			
Over 3-month span:												
2000	53.6	53.6	56.0	54.8	44.0	44.0	51.2	47.6	32.7	25.0	23.2	38.7
2001	35.7	21.4	16.1	14.3	13.1	13.7	11.9	8.9	8.3	13.1	8.9	10.1
2002	9.5	10.1	11.3	17.9	17.3	19.0	28.0	22.0	23.8	15.5	6.5	4.8
2003	13.7	13.1	16.7	10.1	13.1	14.9	16.1	16.1	16.1	24.4	27.4	41.7
2004	48.8	51.8	59.5	66.1	71.4	65.5	65.5	51.8	53.0			
Over 6-month span:												
2000	44.0	52.4	55.4	57.7	47.6	51.8	56.0	45.2	39.3	34.5	32.1	27.4
2001	22.0	23.8	22.0	20.8	14.3	13.7	14.3	10.1	10.7	5.4	7.1	4.8
2002	6.5	8.9	7.7	8.3	7.7	14.3	14.9	10.7	12.5	10.1	8.9	8.9
2003	11.3	9.5	6.0	7.1	8.9	13.1	8.9	13.1	13.1	16.7	19.0	19.6
2004	28.6	36.9	46.4	56.5	61.3	64.9	66.7	66.1	58.9			
Over 12-month span:												
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	6.5	7.1	3.6	4.8	6.0	4.8	7.1	4.8	8.3
2003	10.7	6.0	6.5	5.4	8.3	9.5	9.5	9.5	10.7	11.9	9.5	11.3
2004	9.5	19.0	16.7	26.2	29.8	40.5	50.0	50.6	53.6			

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing employment.

See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

Data for the two most recent months are preliminary.

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18. Job openings levels and rates by industry and region, seasonally adjusted

Industry and region	Levels[1] (in thousands)							Rates						
	2004							2004						
	Mar.	Apr.	May	June	July	Aug.	Sept.[P]	Mar.	Apr.	May	June	July	Aug.	Sept.[P]
Total[2]	3,079	3,135	3,105	3,022	3,237	32	3,235	2.3	2.3	2.3	2.3	2.4	2.4	2.4
Industry														
Total private[2]	2,740	2,778	2,746	2,640	2,894	2,859	2,889	2.5	2.5	2.4	2.3	2.6	2.5	2.6
Construction	113	105	108	94	88	121	126	1.6	1.5	1.5	1.3	1.3	1.7	1.8
Manufacturing	232	251	244	247	240	234	246	1.6	1.7	1.7	1.7	1.6	1.6	1.7
Trade, transportation, and utilities	524	531	521	503	567	551	561	2.0	2.0	2.0	1.9	2.2	2.1	2.2
Professional and business services	502	518	530	494	583	594	564	3.0	3.1	3.1	2.9	3.4	3.5	3.3
Education and health services	559	576	542	496	537	536	546	3.2	3.3	3.1	2.9	3.1	3.1	3.1
Leisure and hospitality	370	376	391	421	435	410	411	2.9	3.0	3.1	3.3	3.4	3.2	3.2
Government	353	354	360	380	343	337	339	1.6	1.6	1.6	1..7	1.6	1.5	1.5
Region[3]														
Northeast	569	560	526	546	545	540	547	2.2	2.2	2.0	2.1	2.1	2.1	2.1
South	1,176	1,191	1,164	1,164	1,280	1,259	1,210	2.5	2.5	2.5	2.4	2.7	2.6	2.5
Midwest	663	692	688	631	635	613	696	2.1	2.2	2.2	2.0	2.0	1.9	2.2
West	655	694	765	677	738	771	778	2.2	2.4	2.6	2.3	2.5	2.6	2.6

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.

[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.

[3] **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; **Midwest**: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah Washington, Wyoming.

NOTE: The job openings level is the number of job openings on the last business day of the month; the job openings rate is the number of job openings on the last business day of the month as a percent of total employment plus job openings.

[P] = preliminary.

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

Industry and region	Levels[1] (in thousands)							Rates						
	2004							2004						
	Mar.	Apr.	May	June	July	Aug.	Sept.[P]	Mar.	Apr.	May	June	July	Aug	Sept.[P]
Total[2]	4,603	4,398	4,206	4,433	4,229	4,375	4,297	3.5	3.4	3.2	3.4	3.2	3.3	3.3
Industry														
Total private[2]	4,256	4,090	3,938	4,110	3,930	4,058	3,948	3.9	3.7	3.6	3.7	3.6	3.7	3.6
Construction	437	421	406	436	368	401	388	6.4	6.1	5.9	6.3	5.3	5.8	5.6
Manufacturing	361	354	336	370	352	356	379	2.5	2.5	2.3	2.6	2.4	2.5	2.6
Trade, transportation, and utilities	1,009	1,032	938	945	957	984	879	4.0	4.1	3.7	3.7	3.8	3.9	3.4
Professional and business services	713	609	631	692	621	690	674	4.4	3.7	3.8	4.2	3.8	4.2	4.1
Education and health services	444	460	451	428	418	470	403	2.6	2.7	2.7	2.5	2.5	2.8	62.4
Leisure and hospitality	810	766	739	749	760	760	834	6.6	6.2	6.0	6.1	6.2	6.1	6.7
Government	343	300	272	328	310	322	339	1.6	1.4	1.3	1.5	1.4	1.5	1.6
Region[3]														
Northeast	744	810	708	703	720	763	758	3.0	3.2	2.8	2.8	2.9	3.0	3.0
South	1,781	1,582	1,606	1,709	1,640	1,643	1,659	3.9	3.4	3.5	3.7	3.5	3.5	3.6
Midwest	1,040	991	956	1,009	935	945	939	3.4	3.2	3.1	3.2	3.0	3.0	3.0
West	1,029	1,093	951	1,023	685	1,018	960	3.6	3.8	3.3	3.6	3.0	3.5	3.3

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.

[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.

[3] **Northeast**: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; **Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

NOTE: The hires level is the number of hires during the entire month; the hires rate is the number of hires during the entire month as a percent of total employment.

[P] = preliminary.

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

Industry and region	Levels[1] (in thousands)							Rates						
	2004							2004						
	Mar.	Apr.	May	June	July	Aug.	Sept.[P]	Mar.	Apr	May	June	July	Aug.	Sept.[P]
Total[2]	4,134	4,088	4,040	4,069	4,074	4,134	4,165	3.2	3.1	3.1	3.1	3.1	3.1	3.2
Industry														
Total private[2]	3,868	3,843	3,761	3,789	3,793	3,894	3,876	3.5	3.5	3.4	3.5	3.5	3.5	3.5
Construction	392	391	367	382	364	391	367	5.7	5.7	5.3	5.5	5.3	5.6	5.3
Manufacturing	377	353	377	343	367	379	379	2.6	2.5	2.6	2.4	2.5	2.6	2.6
Trade, transportation, and utilities	978	1,013	917	927	972	951	906	3.8	4.0	3.6	3.6	3.8	3.7	3.6
Professional and business services	597	606	556	607	613	575	588	3.7	3.7	3.4	3.7	3.7	3.5	3.6
Education and health services	382	386	379	362	363	380	386	2.3	2.3	2.2	2.1	2.1	2.2	2.3
Leisure and hospitality	715	679	696	734	694	760	769	5.8	5.5	5.6	5.9	5.6	6.2	6.2
Government	284	245	268	270	273	246	290	1.3	1.1	1.2	1.3	1.3	1.1	1.3
Region[3]														
Northeast	666	716	648	704	674	717	724	2.7	2.9	2.6	2.8	2.7	2.8	2.9
South	1,612	1,524	1,504	1,533	1,545	1,527	1,504	3.5	3.3	3.2	3.3	3.3	3.3	3.2
Midwest	938	877	833	853	935	831	934	3.0	2.8	2.7	2.7	3.0	2.7	3.0
West	1,003	959	1,008	979	945	1,087	991	3.5	3.4	3.5	3.4	3.3	3.8	3.5

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.

[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.

[3] **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; **Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

NOTE: The total separations level is the number of total separations during the entire month; the total separations rate is the number of total separations during the entire month as a percent of total employment.

[P] = preliminary.

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

Industry and region	Levels[1] (in thousands)							Rates						
	2004							2004						
	Mar.	Apr.	May	June	July	Aug.	Sept.[P]	Mar.	Apr.	May	June	July	Aug.	Sept.[P]
Total[2]	2,271	2,278	2,173	2,284	2,265	2,252	2,258	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Industry														
Total private[2]	2,144	2,151	2,026	2,162	2,141	2,140	2,130	2.0	2.0	1.9	2.0	2.0	1.9	1.9
Construction	154	149	144	156	101	147	132	2.3	2.2	2.1	2.3	1.5	2.1	1.9
Manufacturing	176	189	171	171	174	165	186	1.2	1.3	1.2	1.2	1.2	1.1	1.3
Trade, transportation, and utilities	530	563	525	536	559	552	539	2.1	2.2	2.1	2.1	2.2	2.2	2.1
Professional and business services	309	323	259	322	322	308	309	1.9	2.0	1.6	2.0	2.0	1.9	1.9
Education and health services	252	245	223	225	271	239	244	244.0	1.5	1.3	1.3	1.6	1.4	1.4
Leisure and hospitality	465	429	455	480	442	476	457	3.8	3.5	3.7	3.9	3.6	3.9	3.7
Government	129	129	129	123	126	116	129	.6	.6	.6	.6	.6	.5	.6
Region[3]														
Northeast	314	390	318	334	338	339	323	1.3	1.6	1.3	1.3	1.3	1.3	1.3
South	957	888	857	910	901	897	916	2.1	1.9	1.8	2.0	1.9	1.9	2.0
Midwest	474	479	479	485	505	447	464	1.5	1.5	1.5	1.6	1.6	1.4	1.5
West	565	524	521	573	519	566	552	2.0	1.8	1.8	2.0	1.8	2.0	1.9

[1] Detail will not necessarily add to totals because of the independent seasonal adjustment of the various series.

[2] Includes natural resources and mining, information, financial activities, and other services, not shown separately.

[3] **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; **Midwest**: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

NOTE: The quits level is the number of quits during the entire month; the quits rate is the number of quits during the entire month as a percent of total employment.

[P] = preliminary.

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22. Quarterly Census of Employment and Wages: 10 largest counties, fourth quarter 2003.

County by NAICS supersector	Establishments, fourth quarter 2003 (thousands)	Employment		Average weekly wage[1]	
		December 2003 (thousands)	Percent change, December 2002-03[2]	Fourth quarter 2003	Percent change, fourth quarter 2002-03[2]
United States[3]	8,314.1	129,341.5	0.0	$767	3.6
Private industry	8,048.7	108,215.1	.0	769	3.9
Natural resources and mining	123.7	1,557.8	.1	703	4.9
Construction	804.9	6,689.5	1.2	837	2.3
Manufacturing	376.8	14,307.8	-4.2	943	6.7
Trade, transportation, and utilities	1,853.6	25,957.3	-.3	665	3.4
Information	145.2	3,165.9	-4.0	1,139	3.9
Financial activities	767.0	7,874.7	1.2	1,138	5.9
Professional and business services	1,329.4	16,113.2	.6	945	3.8
Education and health services	732.2	15,974.0	2.1	731	3.8
Leisure and hospitality	669.9	12,042.8	1.7	335	3.4
Other services	1,080.6	4,274.1	-.1	494	3.1
Government	265.3	21,126.3	-.2	757	2.4
Los Angeles, CA	356.0	4,075.3	-.5	903	4.2
Private industry	352.2	3,486.3	-.2	898	4.2
Natural resources and mining	.6	11.0	.7	955	16.9
Construction	12.9	133.9	-1.1	883	1.7
Manufacturing	17.8	485.2	-7.1	900	6.5
Trade, transportation, and utilities	53.9	794.6	-1.2	735	2.7
Information	9.2	194.9	-2.0	1,627	5.2
Financial activities	23.0	237.9	.9	1,258	7.0
Professional and business services	40.1	575.0	1.6	1,043	3.7
Education and health services	26.6	456.5	1.9	820	3.9
Leisure and hospitality	25.6	375.9	5.6	766	6.5
Other services	142.1	220.7	3.5	422	5.0
Government	3.8	589.0	-2.3	930	3.3
Cook, IL	126.7	2,539.8	-1.2	922	3.0
Private industry	125.5	2,221.9	-.9	929	3.2
Natural resources and mining	.1	1.3	-3.6	1,037	3.2
Construction	10.5	96.7	.0	1,169	-.8
Manufacturing	7.9	265.7	-5.1	975	6.3
Trade, transportation, and utilities	26.7	499.4	-.8	753	.4
Information	2.5	66.1	-4.1	1,164	.1
Financial activities	13.8	219.4	-.8	1,471	8.1
Professional and business services	26.1	405.5	-1.3	1,206	4.1
Education and health services	12.3	350.8	1.0	791	3.7
Leisure and hospitality	10.5	217.7	2.8	375	-.3
Other services	12.6	95.1	-2.0	655	3.0
Government	1.2	317.9	-3.1	871	.9
New York, NY	111.9	2,253.6	-1.0	1,480	7.2
Private industry	111.7	1,800.4	-.6	1,623	8.1
Natural resources and mining	.0	.1	.0	1,197	-6.5
Construction	2.2	30.0	-4.5	1,567	3.4
Manufacturing	3.5	46.6	-4.9	1,290	6.4
Trade, transportation, and utilities	22.1	247.6	-1.2	1,164	5.5
Information	4.3	130.6	-5.1	1,751	7.9
Financial activities	16.7	352.0	-2.0	3,034	16.1
Professional and business services	22.6	439.7	.5	1,702	2.6
Education and health services	7.8	273.8	2.4	918	7.6
Leisure and hospitality	10.1	188.2	.4	787	6.1
Other services	16.0	82.9	-1.1	871	6.1
Government	.2	453.2	-2.2	912	.1
Harris, TX	89.4	1,841.5	-.9	906	2.1
Private industry	89.0	1,595.2	-1.2	929	2.1
Natural resources and mining	1.2	62.5	8.7	2,185	-.9
Construction	6.3	135.5	-5.0	919	2.6
Manufacturing	4.7	164.0	-4.9	1,106	2.3
Trade, transportation, and utilities	21.1	403.2	-2.1	821	1.0
Information	1.4	33.8	-3.9	1,098	.4
Financial activities	9.7	113.1	1.7	1,181	4.9
Professional and business services	17.0	279.0	-1.7	1,073	3.2
Education and health services	8.8	188.3	1.5	812	1.8
Leisure and hospitality	6.5	155.2	.7	335	-.9
Other services	10.3	56.3	-3.1	539	.4
Government	.4	246.3	1.1	759	3.1
Maricopa, AZ	80.9	1,621.2	([4])	757	4.0
Private industry	80.5	1,401.8	2.2	755	3.9
Natural resources and mining	.5	9.8	-2.6	545	4.4
Construction	8.4	131.7	5.9	779	2.1
Manufacturing	3.3	128.0	-2.5	1,050	8.2
Trade, transportation, and utilities	18.6	336.4	1.5	712	3.2
Information	1.6	36.6	-4.1	872	.5
Financial activities	9.5	133.3	1.5	933	3.7
Professional and business services	18.1	261.5	4.2	776	3.5
Education and health services	7.6	160.5	5.6	842	5.0
Leisure and hospitality	5.6	155.8	.8	364	2.8
Other services	5.7	44.7	-2.6	500	2.2
Government	.5	219.4	1.6	766	3.7

See footnotes at end of table.

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22. Continued—Quarterly Census of Employment and Wages: 10 largest counties, fourth quarter 2003.

County by NAICS supersector	Establishments, fourth quarter 2003 (thousands)	Employment		Average weekly wage[1]	
		December 2003 (thousands)	Percent change, December 2002-03[2]	Fourth quarter 2003	Percent change, fourth quarter 2002-03[2]
Dallas, TX	68.6	1,450.8	-1.4	$952	4.3
Private industry	68.2	1,294.6	-1.4	970	4.8
Natural resources and mining	.5	6.8	-20.5	2,680	22.7
Construction	4.5	73.0	-2.2	909	5.5
Manufacturing	3.5	144.9	-3.1	1,075	6.8
Trade, transportation, and utilities	15.8	326.1	-3.3	898	5.2
Information	1.9	64.0	-5.1	1,272	8.7
Financial activities	8.6	140.0	1.2	1,215	2.9
Professional and business services	14.0	237.7	.0	1,152	4.2
Education and health services	6.3	131.4	2.4	887	2.7
Leisure and hospitality	5.2	127.5	.0	432	4.3
Other services	6.7	40.5	-3.4	587	2.8
Government	.4	156.2	-1.8	800	-.1
Orange, CA	88.8	1,436.6	1.3	874	5.3
Private industry	87.4	1,305.5	2.1	875	5.2
Natural resources and mining	.3	6.1	8.3	579	.2
Construction	6.4	85.5	4.4	969	5.9
Manufacturing	6.1	179.9	-3.0	1,036	11.4
Trade, transportation, and utilities	17.3	278.8	.6	802	2.7
Information	1.5	33.8	-4.4	1,152	5.3
Financial activities	9.7	127.8	9.9	1,354	6.2
Professional and business services	17.4	261.0	1.0	942	2.8
Education and health services	9.1	126.6	6.1	849	3.7
Leisure and hospitality	6.6	159.9	2.5	358	3.8
Other services	12.9	46.0	6.3	518	3.0
Government	1.4	131.1	-5.7	859	6.0
San Diego, CA	85.3	1,278.2	1.3	815	2.6
Private industry	83.9	1,060.2	1.5	809	2.5
Natural resources and mining	.9	11.0	-5.4	491	1.0
Construction	6.4	81.1	4.7	869	.7
Manufacturing	3.6	105.4	-4.2	1,129	11.5
Trade, transportation, and utilities	14.2	220.4	2.2	655	.9
Information	1.4	36.7	-4.5	1,582	-2.0
Financial activities	8.8	81.6	4.8	1,058	.4
Professional and business services	14.9	208.1	1.5	989	2.8
Education and health services	7.6	122.6	1.6	778	5.7
Leisure and hospitality	6.5	141.5	3.5	346	2.4
Other services	19.5	51.6	1.8	449	2.7
Government	1.3	218.0	.1	843	2.9
King, WA	81.6	1,100.6	.2	935	.2
Private industry	81.0	945.5	.1	944	-.3
Natural resources and mining	.4	2.8	-11.3	1,109	.8
Construction	6.2	53.4	-.4	921	1.4
Manufacturing	2.7	101.9	-8.2	1,176	-2.1
Trade, transportation, and utilities	14.8	225.5	1.1	804	2.6
Information	1.5	69.2	.8	1,829	-15.7
Financial activities	6.1	77.5	2.4	1,114	3.5
Professional and business services	11.7	158.3	.7	1,160	8.4
Education and health services	5.9	108.3	1.5	746	4.8
Leisure and hospitality	5.4	100.5	2.9	390	3.7
Other services	26.4	48.1	1.2	463	.4
Government	.6	155.1	1.0	882	3.6
Miami-Dade, FL	80.2	980.8	-.5	765	3.5
Private industry	79.9	827.5	-.7	742	3.6
Natural resources and mining	.5	9.9	-1.8	421	4.0
Construction	4.9	40.7	.3	788	2.7
Manufacturing	2.8	49.4	-9.8	695	5.8
Trade, transportation, and utilities	23.2	247.2	-1.7	689	4.2
Information	1.7	28.5	-3.2	990	1.7
Financial activities	8.2	65.5	.7	1,062	-1.1
Professional and business services	15.9	132.0	-.2	948	5.2
Education and health services	7.8	123.4	1.4	748	2.3
Leisure and hospitality	5.3	92.8	2.1	432	9.9
Other services	7.5	34.5	-1.8	450	3.0
Government	.3	153.3	.5	886	2.8

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

[2] Percent changes were computed from quarterly employment and pay data adjusted for noneconomic county reclassifications. See Notes on Current Labor Statistics.

[3] Totals for the United States do not include data for Puerto Rico or the Virgin Islands.

[4] Data do not meet BLS or State agency disclosure standards.

NOTE: Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. Data are preliminary.

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23. Quarterly Census of Employment and Wages: by State, fourth quarter 2003.

State	Establishments, fourth quarter 2003 (thousands)	Employment		Average weekly wage[1]	
		December 2003 (thousands)	Percent change, December 2002-03	Fourth quarter 2003	Percent change, fourth quarter 2002-03
United States[2]	8,314.1	129,341.5	0.0	$767	3.6
Alabama	111.8	1,838.1	-.1	657	4.0
Alaska	20.0	282.7	1.1	746	1.1
Arizona	126.9	2,352.1	2.2	710	3.8
Arkansas	75.2	1,133.6	.5	587	4.1
California	1,190.8	14,922.3	.0	869	3.8
Colorado	160.0	2,134.6	-1.1	784	2.0
Connecticut	109.1	1,648.9	-.7	992	3.8
Delaware	27.1	408.4	.5	825	5.0
District of Columbia	30.0	654.8	-.4	1,238	3.9
Florida	504.1	7,424.5	.8	685	3.8
Georgia	245.6	3,845.6	.2	734	2.8
Hawaii	37.4	583.0	1.3	678	3.7
Idaho	48.5	577.5	.6	579	1.8
Illinois	325.7	5,738.7	-1.2	827	3.2
Indiana	152.1	2,852.2	-.3	675	3.5
Iowa	90.6	1,418.5	.0	626	4.7
Kansas	82.2	1,298.3	-.9	631	2.8
Kentucky	105.7	1,740.6	.3	645	3.5
Louisiana	114.0	1,870.9	.5	628	2.4
Maine	47.4	595.8	.7	631	4.6
Maryland	150.4	2,466.4	.7	831	3.6
Massachusetts	206.6	3,154.6	-1.9	954	5.2
Michigan	251.3	4,365.8	-1.1	806	3.9
Minnesota	159.0	2,591.9	-.5	777	3.2
Mississippi	65.6	1,108.1	.4	559	3.7
Missouri	165.4	2,633.6	-.7	676	2.4
Montana	42.0	396.6	1.1	549	4.0
Nebraska	55.3	884.4	.6	613	3.2
Nevada	60.3	1,111.2	4.4	721	5.1
New Hampshire	47.0	614.9	.6	788	4.0
New Jersey	268.1	3,912.8	.1	945	3.4
New Mexico	50.4	757.1	1.4	612	4.1
New York	550.3	8,379.2	-.4	959	5.2
North Carolina	227.8	3,759.6	-.1	679	4.5
North Dakota	24.0	317.6	.9	563	4.3
Ohio	294.2	5,322.4	-.7	713	3.8
Oklahoma	91.6	1,423.4	-1.3	597	4.2
Oregon	118.8	1,579.8	.2	694	3.3
Pennsylvania	326.9	5,524.5	-.2	750	4.7
Rhode Island	34.7	480.5	1.2	738	5.1
South Carolina	108.4	1,781.0	.3	623	3.1
South Dakota	28.1	365.4	.3	559	4.1
Tennessee	128.4	2,648.0	.4	689	4.2
Texas	505.3	9,300.1	-.3	754	3.1
Utah	73.9	1,066.2	1.2	630	2.3
Vermont	24.1	300.7	.3	661	5.1
Virginia	202.6	3,477.5	1.2	786	5.2
Washington	222.7	2,654.7	1.0	759	1.3
West Virginia	47.2	685.2	.1	587	2.1
Wisconsin	157.6	2,715.4	.0	683	4.1
Wyoming	22.0	241.6	1.7	616	4.1
Puerto Rico	50.2	1,074.1	3.5	450	4.7
Virgin Islands	3.2	42.5	-.2	629	2.4

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

[2] Totals for the United States do not include data for Puerto Rico or the Virgin Islands.

NOTE: Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. Data are preliminary.

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24. Annual data: Quarterly Census of Employment and Wages, by ownership

Year	Average establishments	Average annual employment	Total annual wages (in thousands)	Average annual wage per employee	Average weekly wage
	Total covered (UI and UCFE)				
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
2002	8,101,872	128,233,919	4,714,374,741	36,764	707
	UI covered				
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
2002	8,051,117	125,475,293	4,570,787,218	36,428	701
	Private industry covered				
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
2002	7,839,903	107,577,281	3,930,767,025	36,539	703
	State government covered				
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
2002	64,447	4,485,071	175,866,492	39,212	754
	Local government covered				
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
2002	146,767	13,412,941	464,153,701	34,605	665
	Federal Government covered (UCFE)				
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
2002	50,755	2,758,627	143,587,523	52,050	1,001

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.

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25. Annual data: Quarterly Census of Employment and Wages, establishment size and employment, private ownership, by supersector, first quarter 2003

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	7,933,974	4,768,812	1,331,834	872,241	597,662	203,030	115,598	28,856	10,454	5,487
Employment, March	105,583,548	7,095,128	8,810,097	11,763,253	18,025,655	13,970,194	17,299,058	9,864,934	7,090,739	11,664,490
Natural resources and mining										
Establishments, first quarter	124,527	72,088	23,248	14,773	9,226	2,893	1,593	501	161	44
Employment, March	1,526,176	110,155	153,629	198,895	275,811	198,122	241,559	171,063	108,563	68,379
Construction										
Establishments, first quarter	795,029	523,747	129,201	76,215	46,096	12,837	5,604	1,006	262	61
Employment, March	6,285,841	746,296	846,521	1,021,722	1,371,071	872,274	823,846	338,107	172,944	93,060
Manufacturing										
Establishments, first quarter	381,159	148,469	65,027	57,354	54,261	25,927	19,813	6,506	2,565	1,237
Employment, March	14,606,928	252,443	436,028	788,581	1,685,563	1,815,385	3,043,444	2,245,183	1,732,368	2,607,933
Trade, transportation, and utilities										
Establishments, first quarter	1,851,662	992,180	378,157	239,637	149,960	51,507	31,351	6,681	1,619	570
Employment, March	24,683,356	1,646,304	2,514,548	3,204,840	4,527,709	3,564,316	4,661,898	2,277,121	1,070,141	1,216,479
Information										
Establishments, first quarter	147,062	84,906	20,744	16,130	13,539	5,920	3,773	1,223	575	252
Employment, March	3,208,667	112,409	138,076	220,618	416,670	410,513	576,674	418,113	399,366	516,228
Financial activities										
Establishments, first quarter	753,064	480,485	135,759	76,733	39,003	11,743	6,195	1,794	883	469
Employment, March	7,753,717	788,607	892,451	1,017,662	1,162,498	801,140	934,618	620,183	601,549	935,009
Professional and business services										
Establishments, first quarter	1,307,697	887,875	180,458	111,532	73,599	28,471	17,856	5,153	1,919	834
Employment, March	15,648,435	1,230,208	1,184,745	1,501,470	2,232,506	1,969,466	2,707,203	1,762,251	1,307,870	1,752,716
Education and health services										
Establishments, first quarter	720,207	338,139	164,622	103,683	65,173	24,086	17,122	3,929	1,761	1,692
Employment, March	15,680,834	629,968	1,092,329	1,392,099	1,955,861	1,679,708	2,558,300	1,337,188	1,220,921	3,814,460
Leisure and hospitality										
Establishments, first quarter	657,359	260,149	110,499	118,140	122,168	34,166	9,718	1,609	599	311
Employment, March	11,731,379	411,192	744,144	1,653,470	3,683,448	2,285,550	1,372,780	545,304	404,831	630,660
Other services										
Establishments, first quarter	1,057,236	851,231	116,940	56,238	24,235	5,451	2,561	454	109	17
Employment, March	4,243,633	1,037,360	761,518	740,752	703,957	371,774	376,832	150,421	71,453	29,566

[1] Includes establishments that reported no workers in March 2003.

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

NOTE: Details may not add to totals due to rounding. Data are only produced for first quarter. Data are preliminary.

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26. Annual data: Quarterly Census of Employment and Wages, by metropolitan area, 2001-02

Metropolitan area[1]	Average annual wage[2]		
	2001	2002	Percent change, 2001-02
Metropolitan areas[3]	$37,908	$38,423	1.4
Abilene, TX	25,141	25,517	1.5
Akron, OH	32,930	34,037	3.4
Albany, GA	28,877	29,913	3.6
Albany-Schenectady-Troy, NY	35,355	35,994	1.8
Albuquerque, NM	31,667	32,475	2.6
Alexandria, LA	26,296	27,300	3.8
Allentown-Bethlehem-Easton, PA	33,569	34,789	3.6
Altoona, PA	26,869	27,360	1.8
Amarillo, TX	27,422	28,274	3.1
Anchorage, AK	37,998	39,112	2.9
Ann Arbor, MI	37,582	39,220	4.4
Anniston, AL	26,486	27,547	4.0
Appleton-Oshkosh-Neenah, WI	32,652	33,020	1.1
Asheville, NC	28,511	28,771	.9
Athens, GA	28,966	29,942	3.4
Atlanta, GA	40,559	41,123	1.4
Atlantic-Cape May, NJ	31,268	32,201	3.0
Auburn-Opelika, AL	25,753	26,405	2.5
Augusta-Aiken, GA-SC	30,626	31,743	3.6
Austin-San Marcos, TX	40,831	39,540	-3.2
Bakersfield, CA	30,106	31,192	3.6
Baltimore, MD	37,495	38,718	3.3
Bangor, ME	27,850	28,446	2.1
Barnstable-Yarmouth, MA	31,025	32,028	3.2
Baton Rouge, LA	30,321	31,366	3.4
Beaumont-Port Arthur, TX	31,798	32,577	2.4
Bellingham, WA	27,724	28,284	2.0
Benton Harbor, MI	31,140	32,627	4.8
Bergen-Passaic, NJ	44,701	45,185	1.1
Billings, MT	27,889	28,553	2.4
Biloxi-Gulfport-Pascagoula, MS	28,351	28,515	.6
Binghamton, NY	31,187	31,832	2.1
Birmingham, AL	34,519	35,940	4.1
Bismarck, ND	27,116	27,993	3.2
Bloomington, IN	28,013	28,855	3.0
Bloomington-Normal, IL	35,111	36,133	2.9
Boise City, ID	31,624	31,955	1.0
Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH	45,766	45,685	-.2
Boulder-Longmont, CO	44,310	44,037	-.6
Brazoria, TX	35,655	36,253	1.7
Bremerton, WA	31,525	33,775	7.1
Brownsville-Harlingen-San Benito, TX	22,142	22,892	3.4
Bryan-College Station, TX	25,755	26,051	1.1
Buffalo-Niagara Falls, NY	32,054	32,777	2.3
Burlington, VT	34,363	35,169	2.3
Canton-Massillon, OH	29,020	29,689	2.3
Casper, WY	28,264	28,886	2.2
Cedar Rapids, IA	34,649	34,730	.2
Champaign-Urbana, IL	30,488	31,995	4.9
Charleston-North Charleston, SC	28,887	29,993	3.8
Charleston, WV	31,530	32,136	1.9
Charlotte-Gastonia-Rock Hill, NC-SC	37,267	38,413	3.1
Charlottesville, VA	32,427	33,328	2.8
Chattanooga, TN-GA	29,981	30,631	2.2
Cheyenne, WY	27,579	28,827	4.5
Chicago, IL	42,685	43,239	1.3
Chico-Paradise, CA	26,499	27,190	2.6
Cincinnati, OH-KY-IN	36,050	37,168	3.1
Clarksville-Hopkinsville, TN-KY	25,567	26,940	5.4
Cleveland-Lorain-Elyria, OH	35,514	36,102	1.7
Colorado Springs, CO	34,391	34,681	.8
Columbia, MO	28,490	29,135	2.3
Columbia, SC	29,904	30,721	2.7
Columbus, GA-AL	28,412	29,207	2.8
Columbus, OH	35,028	36,144	3.2
Corpus Christi, TX	29,361	30,168	2.7
Corvallis, OR	35,525	36,766	3.5
Cumberland, MD-WV	25,504	26,704	4.7
Dallas, TX	42,706	43,000	.7
Danville, VA	25,465	26,116	2.6

See footnotes at end of table.

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26. Continued—Annual data: Quarterly Census of Employment and Wages, by metropolitan area, 2001-02

Metropolitan area[1]	Average annual wage[2]		
	2001	2002	Percent change, 2001-02
Davenport-Moline-Rock Island, IA-IL	$31,275	$32,118	2.7
Dayton-Springfield, OH	33,619	34,327	2.1
Daytona Beach, FL	25,953	26,898	3.6
Decatur, AL	30,891	30,370	-1.7
Decatur, IL	33,354	33,215	-.4
Denver, CO	42,351	42,133	-.5
Des Moines, IA	34,303	35,641	3.9
Detroit, MI	42,704	43,224	1.2
Dothan, AL	28,026	29,270	4.4
Dover, DE	27,754	29,818	7.4
Dubuque, IA	28,402	29,208	2.8
Duluth-Superior, MN-WI	29,415	30,581	4.0
Dutchess County, NY	38,748	38,221	-1.4
Eau Claire, WI	27,680	28,760	3.9
El Paso, TX	25,847	26,604	2.9
Elkhart-Goshen, IN	30,797	32,427	5.3
Elmira, NY	28,669	29,151	1.7
Enid, OK	24,836	25,507	2.7
Erie, PA	29,293	29,780	1.7
Eugene-Springfield, OR	28,983	29,427	1.5
Evansville-Henderson, IN-KY	31,042	31,977	3.0
Fargo-Moorhead, ND-MN	27,899	29,053	4.1
Fayetteville, NC	26,981	28,298	4.9
Fayetteville-Springdale-Rogers, AR	29,940	31,090	3.8
Flagstaff, AZ-UT	25,890	26,846	3.7
Flint, MI	35,995	36,507	1.4
Florence, AL	25,639	26,591	3.7
Florence, SC	28,800	29,563	2.6
Fort Collins-Loveland, CO	33,248	34,215	2.9
Fort Lauderdale, FL	33,966	34,475	1.5
Fort Myers-Cape Coral, FL	29,432	30,324	3.0
Fort Pierce-Port St. Lucie, FL	27,742	29,152	5.1
Fort Smith, AR-OK	26,755	27,075	1.2
Fort Walton Beach, FL	26,151	27,242	4.2
Fort Wayne, IN	31,400	32,053	2.1
Fort Worth-Arlington, TX	36,379	37,195	2.2
Fresno, CA	27,647	28,814	4.2
Gadsden, AL	25,760	26,214	1.8
Gainesville, FL	26,917	27,648	2.7
Galveston-Texas City, TX	31,067	31,920	2.7
Gary, IN	31,948	32,432	1.5
Glens Falls, NY	27,885	28,931	3.8
Goldsboro, NC	25,398	25,821	1.7
Grand Forks, ND-MN	24,959	25,710	3.0
Grand Junction, CO	27,426	28,331	3.3
Grand Rapids-Muskegon-Holland, MI	33,431	34,214	2.3
Great Falls, MT	24,211	25,035	3.4
Greeley, CO	30,066	31,104	3.5
Green Bay, WI	32,631	33,698	3.3
Greensboro–Winston-Salem–High Point, NC	31,730	32,369	2.0
Greenville, NC	28,289	29,055	2.7
Greenville-Spartanburg-Anderson, SC	30,940	31,726	2.5
Hagerstown, MD	29,020	30,034	3.5
Hamilton-Middletown, OH	32,325	32,985	2.0
Harrisburg-Lebanon-Carlisle, PA	33,408	34,497	3.3
Hartford, CT	43,880	44,387	1.2
Hattiesburg, MS	25,145	26,051	3.6
Hickory-Morganton-Lenoir, NC	27,305	27,996	2.5
Honolulu, HI	32,531	33,978	4.4
Houma, LA	30,343	30,758	1.4
Houston, TX	42,784	42,712	-.2
Huntington-Ashland, WV-KY-OH	27,478	28,321	3.1
Huntsville, AL	36,727	38,571	5.0
Indianapolis, IN	35,989	36,608	1.7
Iowa City, IA	31,663	32,567	2.9
Jackson, MI	32,454	33,251	2.5
Jackson, MS	29,813	30,537	2.4
Jackson, TN	29,414	30,443	3.5
Jacksonville, FL	32,367	33,722	4.2
Jacksonville, NC	21,395	22,269	4.1

See footnotes at end of table.

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26. Continued—Annual data: Quarterly Census of Employment and Wages, by metropolitan area, 2001-02

Metropolitan area[1]	Average annual wage[2]		
	2001	2002	Percent change, 2001-02
Jamestown, NY	$25,913	$26,430	2.0
Janesville-Beloit, WI	31,482	32,837	4.3
Jersey City, NJ	47,638	49,562	4.0
Johnson City-Kingsport-Bristol, TN-VA	28,543	29,076	1.9
Johnstown, PA	25,569	26,161	2.3
Jonesboro, AR	25,337	26,165	3.3
Joplin, MO	26,011	26,594	2.2
Kalamazoo-Battle Creek, MI	32,905	34,237	4.0
Kankakee, IL	29,104	30,015	3.1
Kansas City, MO-KS	35,794	36,731	2.6
Kenosha, WI	31,562	32,473	2.9
Killeen-Temple, TX	26,193	27,299	4.2
Knoxville, TN	30,422	31,338	3.0
Kokomo, IN	39,599	40,778	3.0
La Crosse, WI-MN	27,774	28,719	3.4
Lafayette, LA	29,693	30,104	1.4
Lafayette, IN	31,484	31,700	.7
Lake Charles, LA	29,782	30,346	1.9
Lakeland-Winter Haven, FL	28,890	29,505	2.1
Lancaster, PA	31,493	32,197	2.2
Lansing-East Lansing, MI	34,724	35,785	3.1
Laredo, TX	24,128	24,739	2.5
Las Cruces, NM	24,310	25,256	3.9
Las Vegas, NV-AZ	32,239	33,280	3.2
Lawrence, KS	25,923	26,621	2.7
Lawton, OK	24,812	25,392	2.3
Lewiston-Auburn, ME	27,092	28,435	5.0
Lexington, KY	31,593	32,776	3.7
Lima, OH	29,644	30,379	2.5
Lincoln, NE	29,352	30,614	4.3
Little Rock-North Little Rock, AR	30,858	31,634	2.5
Longview-Marshall, TX	28,029	28,172	.5
Los Angeles-Long Beach, CA	40,891	41,709	2.0
Louisville, KY-IN	33,058	33,901	2.6
Lubbock, TX	26,577	27,625	3.9
Lynchburg, VA	28,859	29,444	2.0
Macon, GA	30,595	31,884	4.2
Madison, WI	34,097	35,410	3.9
Mansfield, OH	28,808	30,104	4.5
McAllen-Edinburg-Mission, TX	22,313	23,179	3.9
Medford-Ashland, OR	27,224	28,098	3.2
Melbourne-Titusville-Palm Bay, FL	32,798	33,913	3.4
Memphis, TN-AR-MS	34,603	35,922	3.8
Merced, CA	25,479	26,771	5.1
Miami, FL	34,524	35,694	3.4
Middlesex-Somerset-Hunterdon, NJ	49,950	50,457	1.0
Milwaukee-Waukesha, WI	35,617	36,523	2.5
Minneapolis-St. Paul, MN-WI	40,868	41,722	2.1
Missoula, MT	26,181	27,249	4.1
Mobile, AL	28,129	28,742	2.2
Modesto, CA	29,591	30,769	4.0
Monmouth-Ocean, NJ	37,056	37,710	1.8
Monroe, LA	26,578	27,614	3.9
Montgomery, AL	29,150	30,525	4.7
Muncie, IN	28,374	29,017	2.3
Myrtle Beach, SC	24,029	24,672	2.7
Naples, FL	30,839	31,507	2.2
Nashville, TN	33,989	35,036	3.1
Nassau-Suffolk, NY	39,662	40,396	1.9
New Haven-Bridgeport-Stamford-Waterbury-Danbury, CT	52,198	51,170	-2.0
New London-Norwich, CT	38,505	38,650	.4
New Orleans, LA	31,089	32,407	4.2
New York, NY	59,097	57,708	-2.4
Newark NJ	47,715	48,781	2.2
Newburgh, NY-PA	29,827	30,920	3.7
Norfolk-Virginia Beach-Newport News, VA-NC	29,875	30,823	3.2
Oakland, CA	45,920	46,877	2.1
Ocala, FL	26,012	26,628	2.4
Odessa-Midland, TX	31,278	31,295	.1
Oklahoma City, OK	28,915	29,850	3.2

See footnotes at end of table.

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26. Continued—Annual data: Quarterly Census of Employment and Wages, by metropolitan area, 2001-02

Metropolitan area[1]	Average annual wage[2]		
	2001	2002	Percent change, 2001-02
Olympia, WA	$32,772	$33,765	3.0
Omaha, NE-IA	31,856	33,107	3.9
Orange County, CA	40,252	41,219	2.4
Orlando, FL	31,276	32,461	3.8
Owensboro, KY	27,306	28,196	3.3
Panama City, FL	26,433	27,448	3.8
Parkersburg-Marietta, WV-OH	27,920	29,529	5.8
Pensacola, FL	28,059	28,189	.5
Peoria-Pekin, IL	33,293	34,261	2.9
Philadelphia, PA-NJ	40,231	41,121	2.2
Phoenix-Mesa, AZ	35,514	36,045	1.5
Pine Bluff, AR	27,561	28,698	4.1
Pittsburgh, PA	35,024	35,625	1.7
Pittsfield, MA	31,561	32,707	3.6
Pocatello, ID	24,621	25,219	2.4
Portland, ME	32,327	33,309	3.0
Portland-Vancouver, OR-WA	37,285	37,650	1.0
Providence-Warwick-Pawtucket, RI	33,403	34,610	3.6
Provo-Orem, UT	28,266	28,416	.5
Pueblo, CO	27,097	27,763	2.5
Punta Gorda, FL	25,404	26,119	2.8
Racine, WI	33,319	34,368	3.1
Raleigh-Durham-Chapel Hill, NC	38,691	39,056	.9
Rapid City, SD	25,508	26,434	3.6
Reading, PA	32,807	33,912	3.4
Redding, CA	28,129	28,961	3.0
Reno, NV	34,231	34,744	1.5
Richland-Kennewick-Pasco, WA	33,370	35,174	5.4
Richmond-Petersburg, VA	35,879	36,751	2.4
Riverside-San Bernardino, CA	30,510	31,591	3.5
Roanoke, VA	30,330	31,775	4.8
Rochester, MN	37,753	39,036	3.4
Rochester, NY	34,327	34,827	1.5
Rockford, IL	32,104	32,827	2.3
Rocky Mount, NC	28,770	28,893	.4
Sacramento, CA	38,016	39,354	3.5
Saginaw-Bay City-Midland, MI	35,429	35,444	.0
St. Cloud, MN	28,263	29,535	4.5
St. Joseph, MO	27,734	28,507	2.8
St. Louis, MO-IL	35,928	36,712	2.2
Salem, OR	28,336	29,210	3.1
Salinas, CA	31,735	32,463	2.3
Salt Lake City-Ogden, UT	31,965	32,600	2.0
San Angelo, TX	26,147	26,321	.7
San Antonio, TX	30,650	31,336	2.2
San Diego, CA	38,418	39,305	2.3
San Francisco, CA	59,654	56,602	-5.1
San Jose, CA	65,931	63,056	-4.4
San Luis Obispo-Atascadero-Paso Robles, CA	29,092	29,981	3.1
Santa Barbara-Santa Maria-Lompoc, CA	33,626	34,382	2.2
Santa Cruz-Watsonville, CA	35,022	35,721	2.0
Santa Fe, NM	30,671	32,269	5.2
Santa Rosa, CA	36,145	36,494	1.0
Sarasota-Bradenton, FL	27,958	28,950	3.5
Savannah, GA	30,176	30,796	2.1
Scranton--Wilkes-Barre--Hazleton, PA	28,642	29,336	2.4
Seattle-Bellevue-Everett, WA	45,299	46,093	1.8
Sharon, PA	26,707	27,872	4.4
Sheboygan, WI	30,840	32,148	4.2
Sherman-Denison, TX	30,397	30,085	-1.0
Shreveport-Bossier City, LA	27,856	28,769	3.3
Sioux City, IA-NE	26,755	27,543	2.9
Sioux Falls, SD	28,962	29,975	3.5
South Bend, IN	30,769	31,821	3.4
Spokane, WA	29,310	30,037	2.5
Springfield, IL	36,061	37,336	3.5
Springfield, MO	27,338	27,987	2.4
Springfield, MA	32,801	33,972	3.6
State College, PA	29,939	30,910	3.2
Steubenville-Weirton, OH-WV	28,483	29,129	2.3

See footnotes at end of table.

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26. Continued—Annual data: Quarterly Census of Employment and Wages, by metropolitan area, 2001-02

Metropolitan area[1]	Average annual wage[2]		
	2001	2002	Percent change, 2001-02
Stockton-Lodi, CA	$30,818	$31,958	3.7
Sumter, SC	24,450	24,982	2.2
Syracuse, NY	32,254	33,752	4.6
Tacoma, WA	31,261	32,507	4.0
Tallahassee, FL	29,708	30,895	4.0
Tampa-St. Petersburg-Clearwater, FL	31,678	32,458	2.5
Terre Haute, IN	27,334	28,415	4.0
Texarkana, TX-Texarkana, AR	26,492	27,717	4.6
Toledo, OH	32,299	33,513	3.8
Topeka, KS	30,513	31,707	3.9
Trenton, NJ	46,831	47,969	2.4
Tucson, AZ	30,690	31,673	3.2
Tulsa, OK	31,904	32,241	1.1
Tuscaloosa, AL	29,972	30,745	2.6
Tyler, TX	30,551	31,050	1.6
Utica-Rome, NY	27,777	28,500	2.6
Vallejo-Fairfield-Napa, CA	33,903	34,543	1.9
Ventura, CA	37,783	38,195	1.1
Victoria, TX	29,068	29,168	.3
Vineland-Millville-Bridgeton, NJ	32,571	33,625	3.2
Visalia-Tulare-Porterville, CA	24,732	25,650	3.7
Waco, TX	28,245	28,885	2.3
Washington, DC-MD-VA-WV	47,589	48,430	1.8
Waterloo-Cedar Falls, IA	29,119	29,916	2.7
Wausau, WI	29,402	30,292	3.0
West Palm Beach-Boca Raton, FL	35,957	36,550	1.6
Wheeling, WV-OH	26,282	26,693	1.6
Wichita, KS	32,983	33,429	1.4
Wichita Falls, TX	25,557	26,387	3.2
Williamsport, PA	27,801	27,988	.7
Wilmington-Newark, DE-MD	42,177	43,401	2.9
Wilmington, NC	29,287	29,157	-.4
Yakima, WA	24,204	24,934	3.0
Yolo, CA	35,352	35,591	.7
York, PA	31,936	32,609	2.1
Youngstown-Warren, OH	28,789	29,799	3.5
Yuba City, CA	27,781	28,967	4.3
Yuma, AZ	22,415	23,429	4.5
Aguadilla, PR	18,061	19,283	6.8
Arecibo, PR	16,600	18,063	8.8
Caguas, PR	18,655	19,706	5.6
Mayaguez, PR	17,101	17,500	2.3
Ponce, PR	17,397	18,187	4.5
San Juan-Bayamon, PR	20,948	21,930	4.7

[1] Includes data for Metropolitan Statistical Areas (MSA) and Primary Metropolitan Statistical Areas (PMSA) as defined by OMB Bulletin No. 99-04. In the New England areas, the New England County Metropolitan Area (NECMA) definitions were used.

[2] Each year's total is based on the MSA definition for the specific year. Annual changes include differences resulting from changes in MSA definitions.

[3] Totals do not include the six MSAs within Puerto Rico.

NOTE: Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs.

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27. 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.

28. 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	108,828	108,356
Total nonfarm employment	110,844	114,291	117,298	119,708	122,770	125,930	128,993	131,785	131,826	130,341	129,931
Goods-producing	22,219	22,774	23,156	23,410	23,886	24,354	24,465	24,649	23,873	22,557	21,817
Natural resources and mining	666	659	641	637	654	645	598	599	606	583	571
Construction	4,779	5,095	5,274	5,536	5,813	6,149	6,545	6,787	6,826	6,716	6,722
Manufacturing	16,744	17,021	17,241	17,237	17,419	17,560	17,322	17,263	16,441	15,259	14,525
Private service-providing	69,636	72,242	74,710	76,759	79,227	81,667	84,221	86,346	86,834	86,271	86,538
Trade, transportation, and utilities	22,378	23,128	23,834	24,239	24,700	25,186	25,771	26,225	25,983	25,497	25,275
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	5,652.3	5,605.6
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	15,025.1	14,911.5
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	4,223.6	4,176.7
Utilities	710.7	689.3	666.2	639.6	620.9	613.4	608.5	601.3	599.4	596.2	580.8
Information	2,668	2,738	2,843	2,940	3,084	3,218	3,419	3,631	3,629	3,395	3,198
Financial activities	6,709	6,867	6,827	6,969	7,178	7,462	7,648	7,687	7,807	7,847	7,974
Professional and business services	11,495	12,174	12,844	13,462	14,335	15,147	15,957	16,666	16,476	15,976	15,997
Education and health services	12,303	12,807	13,289	13,683	14,087	14,446	14,798	15,109	15,645	16,199	16,577
Leisure and hospitality	9,732	10,100	10,501	10,777	11,018	11,232	11,543	11,862	12,036	11,986	12,125
Other services	4,350	4,428	4,572	4,690	4,825	4,976	5,087	5,168	5,258	5,372	5,393
Government	18,989	19,275	19,432	19,539	19,664	19,909	20,307	20,790	21,118	21,513	21,575

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.

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29. 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	33.7
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	15.35
Average weekly earnings (in dollars)	378.40	390.73	399.53	412.74	431.25	448.04	462.49	480.41	493.20	506.07	517.36
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	651.61	669.23
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	17.19	17.58
Average weekly earnings (in dollars)	634.77	653.14	670.32	695.07	720.11	727.28	721.74	734.92	757.92	741.97	766.83
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	18.52	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	711.82	727.11
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	618.75	636.07
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	14.96
Average weekly earnings (in dollars)	345.03	354.97	364.14	376.72	394.77	412.78	427.30	445.00	460.32	472.88	484.00
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	33.6
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	471.27	481.10
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	37.8
Average hourly earnings (in dollars)	12.57	12.93	13.34	13.80	14.41	15.07	15.62	16.28	16.77	16.98	17.36
Average weekly earnings (in dollars)	484.46	501.17	515.14	533.29	559.39	582.21	602.77	631.40	643.45	644.38	657.12
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	30.9
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	11.90
Average weekly earnings (in dollars)	484.46	501.17	515.14	533.29	559.39	582.21	602.77	631.40	643.45	644.38	657.12
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	36.8
Average hourly earnings (in dollars)	12.71	12.84	13.18	13.45	13.78	14.12	14.55	15.05	15.33	15.76	16.25
Average weekly earnings (in dollars)	494.36	507.27	513.37	525.60	542.55	546.86	547.97	562.31	562.70	579.75	597.79
Utilities:											
Average weekly hours	42.1	42.3	42.3	42.0	42.0	42.0	42.0	42.0	41.4	40.9	41.1
Average hourly earnings (in dollars)	17.95	18.66	19.19	19.78	20.59	21.48	22.03	22.75	23.58	23.96	24.76
Average weekly earnings (in dollars)	756.35	789.98	811.52	830.74	865.26	902.94	924.59	955.66	977.18	979.09	1,016.94
Information:											
Average weekly hours	36.0	36.0	36.0	36.4	36.3	36.6	36.7	36.8	36.9	36.5	36.2
Average hourly earnings (in dollars)	14.86	15.32	15.68	16.30	17.14	17.67	18.40	19.07	19.80	20.20	21.01
Average weekly earnings (in dollars)	535.25	551.28	564.98	592.68	622.40	646.52	675.32	700.89	731.11	738.17	761.13
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	17.13
Average weekly earnings (in dollars)	403.02	419.20	436.12	451.49	472.37	500.95	517.57	537.37	558.02	575.51	608.87
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	17.20
Average weekly earnings (in dollars)	406.20	414.16	426.44	442.81	465.51	490.00	510.99	535.07	557.84	574.66	586.68
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	32.3
Average hourly earnings (in dollars)	11.21	11.50	11.80	12.17	12.56	13.00	13.44	13.95	14.64	15.21	15.64
Average weekly earnings (in dollars)	359.08	368.14	377.73	388.27	404.65	418.82	431.35	449.29	473.39	492.74	505.76
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	8.58	8.76
Average weekly earnings (in dollars)	163.45	168.00	171.43	176.48	185.81	195.82	202.87	211.79	215.19	221.26	224.25
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	31.4
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	13.84
Average weekly earnings (in dollars)	322.69	332.44	342.36	352.62	368.63	384.25	398.77	413.41	428.64	439.76	434.49

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.

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30. Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	2002		2003				2004			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2004	
Civilian workers[2]	161.3	162.2	164.5	165.8	167.6	168.4	170.7	172.2	173.9	1.0	3.8
Workers, by occupational group:											
White-collar workers	163.5	164.3	166.7	167.9	169.9	170.7	172.7	174.0	175.8	1.0	3.5
Professional specialty and technical	161.4	162.4	164.1	165.0	167.0	168.0	170.2	171.2	173.6	1.4	4.0
Executive, adminitrative, and managerial	166.3	166.7	171.1	172.0	174.0	174.9	175.8	177.1	178.2	.6	2.4
Administrative support, including clerical	164.9	166.1	168.3	170.0	171.7	172.5	175.3	177.2	178.7	.8	4.1
Blue-collar workers	156.4	157.5	159.8	161.4	162.9	163.7	166.9	168.8	170.1	.8	4.4
Service occupations	161.3	162.2	164.1	165.0	166.8	167.9	169.7	170.9	172.7	1.1	3.5
Workers, by industry division:											
Goods-producing	158.7	169.2	163.1	164.6	165.8	166.8	170.4	171.9	173.4	.9	4.6
Manufacturing	159.1	160.5	164.0	165.4	166.5	167.1	171.7	173.2	174.9	1.0	5.0
Service-producing	162.2	162.8	165.0	166.2	168.2	169.1	170.8	172.3	174.0	1.0	3.4
Services	163.2	163.9	165.3	166.3	168.5	169.5	171.2	172.3	174.5	1.3	3.6
Health services	163.1	164.5	166.4	167.6	169.3	170.7	173.0	174.4	176.7	1.3	4.4
Hospitals	165.7	167.6	169.9	170.8	173.1	174.8	176.8	178.2	180.5	1.3	4.3
Educational services	161.6	162.8	163.6	164.2	166.9	167.6	168.5	168.9	171.8	1.7	2.9
Public administration[3]	160.2	161.7	163.4	164.3	167.3	168.1	170.1	171.4	174.1	1.6	4.1
Nonmanufacturing	161.7	162.4	164.5	165.8	167.8	168.6	170.4	171.8	173.5	1.0	3.4
Private industry workers	161.6	162.3	165.0	166.4	168.1	168.8	171.4	173.0	174.4	.8	3.7
Excluding sales occupations	161.6	162.4	165.1	166.6	168.1	169.0	171.6	173.2	174.6	.9	3.9
Workers, by occupational group:											
White-collar workers	164.6	165.2	168.1	169.4	171.2	172.0	174.2	175.7	177.3	.8	3.6
Excluding sales occupations	165.3	165.9	169.1	170.4	172.1	173.0	175.3	176.7	178.3	.9	3.6
Professional specialty and technical occupations	163.6	164.4	166.5	167.7	169.4	170.5	173.4	174.7	176.8	.9	4.4
Executive, adminitrative, and managerial occupations	167.0	167.2	172.1	173.1	175.0	175.9	176.8	178.1	179.2	1.2	2.4
Sales occupations	161.6	161.9	163.5	165.1	167.2	167.1	169.2	171.2	173.1	.6	3.5
Administrative support occupations, including clerical	165.6	166.7	169.0	170.9	172.3	173.2	176.1	178.1	179.4	1.1	4.1
Blue-collar workers	156.3	157.3	159.7	161.4	162.8	163.6	166.9	168.8	170.1	.7	4.5
Precision production, craft, and repair occupations	156.9	157.8	160.0	162.0	163.1	164.2	167.1	169.1	170.2	.8	4.4
Machine operators, assemblers, and inspectors	155.4	156.7	159.9	161.1	162.6	163.2	168.7	170.5	172.2	.7	5.9
Transportation and material moving occupations	151.0	151.8	153.2	155.1	156.7	156.9	158.5	160.6	161.8	1.0	3.3
Handlers, equipment cleaners, helpers, and laborers	161.4	162.9	164.9	166.8	168.6	169.5	171.7	173.2	174.3	.7	3.4
Service occupations	159.0	159.8	161.7	162.6	163.8	164.3	166.9	168.2	168.9	.6	3.1
Production and nonsupervisory occupations[4]	159.7	160.5	162.6	164.1	165.7	166.6	169.3	171.0	172.4	.4	4.0
Workers, by industry division:											
Goods-producing	158.6	160.1	163.0	164.5	165.7	166.5	170.3	171.8	173.3	.8	4.6
Excluding sales occupations	157.9	159.2	162.4	163.8	165.0	165.9	169.8	171.2	172.5	.9	4.5
White-collar occupations	162.9	164.3	167.8	169.2	170.1	170.5	173.5	174.7	176.4	.8	3.3
Excluding sales occupations	161.1	162.3	166.3	167.5	168.5	169.2	172.2	173.3	174.5	1.0	3.6
Blue-collar occupations	155.9	157.3	159.9	161.5	162.9	163.9	168.1	169.8	171.3	.7	5.2
Construction	156.3	157.9	159.1	161.1	162.3	163.3	164.6	165.9	167.0	.9	2.9
Manufacturing	159.1	160.5	164.0	165.4	166.5	167.1	171.7	173.2	174.9	.7	5.0
White-collar occupations	162.2	163.3	167.1	168.7	169.5	169.6	173.2	174.6	176.4	1.0	4.1
Excluding sales occupations	159.6	160.7	165.1	166.4	167.4	167.8	171.3	172.6	174.1	.9	4.0
Blue-collar occupations	156.7	158.3	161.6	162.8	164.1	165.1	170.4	172.0	173.7	1.0	5.9
Durables	158.9	160.6	164.4	165.5	166.6	167.3	172.4	174.0	175.8	1.0	5.5
Nondurables	159.2	160.3	163.1	164.9	166.0	166.6	170.4	171.7	173.1	.8	4.3
Service-producing	162.7	163.1	165.6	167.0	168.8	169.7	171.6	173.3	174.7	.8	3.5
Excluding sales occupations	163.5	164.0	166.6	168.0	169.7	170.6	172.5	174.2	175.6	.8	3.5
White-collar occupations	164.7	165.1	167.9	169.2	171.2	172.0	174.1	175.7	177.3	.9	3.6
Excluding sales occupations	166.5	167.0	169.9	171.3	173.1	174.2	176.2	177.8	179.4	.9	3.6
Blue-collar occupations	156.6	156.9	158.7	160.8	162.2	162.6	164.1	166.4	167.4	.6	3.2
Service occupations	158.5	159.3	161.1	162.0	163.2	164.3	166.1	167.4	168.1	.4	3.0
Transportation and public utilities	160.8	161.7	163.2	165.4	166.5	167.0	169.8	172.5	173.6	.6	4.3
Transportation	155.4	156.1	157.8	158.9	159.4	159.6	162.0	164.7	166.2	.9	4.3
Public utilities	168.2	169.2	170.5	174.2	176.4	177.0	180.4	183.1	183.6	.3	4.1
Communications	169.0	170.1	171.3	175.5	178.4	179.0	182.2	183.6	183.6	.1	3.0
Electric, gas, and sanitary services	167.2	168.1	169.5	172.6	173.8	174.6	178.2	182.4	183.3	.5	5.5
Wholesale and retail trade	159.6	159.7	161.3	162.5	164.3	165.0	166.3	168.1	169.1	.6	2.9
Excluding sales occupations	160.3	160.4	161.8	162.7	165.0	165.9	167.4	168.6	169.6	.6	2.8
Wholesale trade	165.9	166.7	169.5	171.3	172.0	172.0	173.8	175.9	177.8	1.1	3.4
Excluding sales occupations	166.1	167.2	168.4	169.9	171.2	171.3	173.7	174.0	175.3	.7	2.4
Retail trade	156.0	155.8	156.6	157.4	159.9	161.0	162.1	163.7	164.2	.3	2.7
General merchandise stores	156.1	155.1	156.4	159.2	161.2	165.6	165.8	166.2	168.8	1.6	4.7
Food stores	156.3	156.3	157.5	158.6	159.3	160.3	162.1	163.5	163.5	.0	2.6

See footnotes at end of table.

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30. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	2002		2003				2004			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2004	
Finance, insurance, and real estate	168.0	168.5	176.7	178.3	180.2	180.9	182.5	183.6	184.8	0.7	2.6
Excluding sales occupations	172.1	173.1	182.0	184.0	1,853.0	186.1	186.6	188.7	190.9	.7	2.5
Banking, savings and loan, and other credit agencies	184.6	185.3	204.3	206.3	207.6	209.0	207.2	208.9	210.5	.8	1.4
Insurance	167.1	167.9	172.1	173.9	175.1	176.2	177.8	180.5	182.1	.9	4.0
Services	164.9	165.4	167.1	168.4	170.4	171.4	173.5	175.1	176.9	1.0	3.8
Business services	167.2	167.5	168.5	169.2	171.9	172.6	174.8	176.9	178.5	.9	3.8
Health services	163.2	164.4	166.5	167.9	169.4	170.8	173.3	174.8	177.0	1.3	4.5
Hospitals	166.2	168.1	170.8	171.9	173.9	175.9	178.1	179.7	181.8	1.2	4.5
Educational services	173.5	175.2	176.3	177.1	180.2	181.3	183.1	184.2	187.0	1.5	3.8
Colleges and universities	172.0	173.7	174.5	175.4	178.4	179.4	181.2	182.5	185.2	1.5	3.8
Nonmanufacturing	162.0	162.5	164.9	166.4	168.1	169.0	170.9	172.5	173.9	.8	3.5
White-collar workers	164.8	165.3	168.0	169.3	171.2	172.1	174.1	175.7	177.2	.9	3.5
Excluding sales occupations	166.6	167.1	170.0	171.4	173.2	174.2	176.2	177.7	179.3	.9	3.5
Blue-collar occupations	155.4	155.9	157.5	159.7	161.1	161.7	163.4	165.5	166.4	.5	3.3
Service occupations	158.4	159.2	161.1	162.0	163.2	162.4	166.0	167.3	168.0	.4	2.9
State and local government workers	160.1	161.5	162.6	163.2	165.9	166.8	168.0	168.7	171.5	1.7	3.4
Workers, by occupational group:											
White-collar workers	159.3	160.7	161.7	162.2	164.9	165.7	166.8	167.5	170.0	1.5	3.1
Professional specialty and technical	158.1	159.4	160.2	160.8	163.4	164.1	165.1	165.6	168.4	1.7	3.1
Executive, administrative, and managerial	162.3	163.8	165.3	165.7	168.0	169.1	170.1	171.0	172.1	.6	2.4
Administrative support, including clerical	161.0	162.4	163.8	164.4	167.9	168.5	170.4	171.8	174.3	1.5	3.8
Blue-collar workers	158.4	159.8	161.3	161.7	163.6	165.2	166.7	167.5	169.9	1.4	3.9
Workers, by industry division:											
Services	159.7	160.9	161.8	162.3	164.9	165.7	166.5	166.8	169.7	1.7	2.9
Services excluding schools[5]	161.0	162.8	164.0	164.2	166.8	168.2	169.4	170.1	173.0	1.7	3.7
Health services	163.5	165.5	166.4	166.7	169.5	171.0	172.2	172.9	175.7	1.6	3.7
Hospitals	164.1	166.2	167.0	167.3	170.3	171.4	172.4	173.2	176.3	1.8	3.5
Educational services	159.2	160.3	161.1	161.7	164.3	165.0	165.7	165.9	168.8	1.7	2.7
Schools	159.6	160.7	161.4	162.0	164.7	165.3	166.0	166.3	169.2	1.7	2.7
Elementary and secondary	157.7	158.8	159.4	160.0	163.0	163.7	164.4	164.6	168.0	2.1	3.1
Colleges and universities	164.7	165.8	167.0	167.5	169.2	170.0	170.7	171.0	172.4	.8	1.9
Public administration[3]	160.2	161.7	163.4	164.3	167.3	168.1	170.1	171.4	174.1	1.6	4.1

[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.

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31. Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	2002		2003				2004			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2004	
Civilian workers[1]	157.2	157.8	159.3	160.3	161.8	162.3	163.3	164.3	165.7	0.9	2.4
Workers, by occupational group:											
White-collar workers	159.6	160.1	161.9	162.9	164.5	165.1	166.1	167.1	168.7	1.0	2.6
Professional specialty and technical	158.0	158.6	159.3	160.1	161.8	162.5	163.8	164.4	166.5	1.3	2.9
Executive, administrative, and managerial	163.5	163.8	167.9	169.0	170.5	171.2	171.4	172.4	173.4	.6	1.7
Administrative support, including clerical	159.6	160.6	161.8	163.1	164.3	164.9	166.3	167.5	168.8	.8	2.7
Blue-collar workers	151.9	152.6	153.8	154.8	155.8	156.3	157.3	158.4	159.7	.8	2.5
Service occupations	156.2	156.9	158.0	158.7	159.8	160.6	161.2	161.9	162.8	.6	1.9
Workers, by industry division:											
Goods-producing	153.9	155.1	156.3	157.5	158.3	160.6	159.9	161.0	162.3	.8	2.5
Manufacturing	155.4	156.5	158.0	159.0	159.7	160.1	161.3	162.4	163.8	.9	2.6
Service-producing	156.4	158.8	160.5	161.4	163.0	163.6	164.6	165.5	167.0	.9	2.5
Services	160.7	161.1	161.9	162.8	164.7	165.4	166.5	167.4	167.3	1.1	2.8
Health services	159.6	160.9	162.0	163.2	164.7	165.9	167.7	168.6	170.8	1.3	3.7
Hospitals	160.3	162.2	163.5	164.4	166.3	167.7	169.0	169.9	171.8	1.1	3.3
Educational services	159.3	160.1	160.4	160.7	162.7	163.2	163.6	163.8	166.0	1.3	2.0
Public administration[2]	154.8	155.8	157.2	158.0	159.4	160.0	161.1	161.4	162.6	.7	2.0
Nonmanufacturing	157.5	158.0	159.6	160.5	162.1	162.7	163.7	164.6	166.0	.9	2.4
Private industry workers	157.0	157.5	159.3	160.4	161.7	162.3	163.4	164.5	165.9	.9	2.6
Excluding sales occupations	157.0	157.9	159.4	160.5	161.7	162.4	163.5	164.5	165.8	.8	2.5
Workers, by occupational group:											
White-collar workers	160.0	160.4	162.6	163.8	165.3	165.9	167.1	168.2	169.7	.9	2.7
Excluding sales occupations	169.8	160.8	163.6	164.8	166.2	167.0	168.1	169.2	170.6	.8	2.6
Professional specialty and technical occupations	158.2	158.5	159.5	160.5	162.1	163.0	164.7	165.5	167.6	1.3	3.4
Executive, administrative, and managerial occupations	164.3	164.5	169.1	170.3	171.8	172.5	172.7	173.9	174.9	.6	1.8
Sales occupations	156.9	156.8	158.1	159.3	161.6	161.1	162.6	163.9	165.9	1.2	2.7
Administrative support occupations, including clerical	160.3	161.3	162.6	164.0	165.1	165.7	167.2	168.6	169.7	.7	2.8
Blue-collar workers	151.7	152.4	153.6	154.6	155.6	156.1	157.2	158.3	159.5	.8	2.5
Precision production, craft, and repair occupations	151.8	152.3	153.4	154.7	155.5	156.2	157.1	158.3	159.3	.6	2.4
Machine operators, assemblers, and inspectors	152.0	153.2	154.7	155.3	156.8	156.9	158.6	159.8	161.6	1.1	3.1
Transportation and material moving occupations	146.3	146.9	147.8	149.0	149.8	149.8	150.4	151.8	152.9	.7	2.1
Handlers, equipment cleaners, helpers, and laborers	156.0	157.2	158.4	159.0	159.9	160.6	161.8	162.7	163.6	.6	2.3
Service occupations	153.9	154.4	155.5	156.1	157.1	157.8	158.4	159.3	159.8	.3	1.7
Production and nonsupervisory occupations[3]	154.7	155.2	156.4	157.4	158.8	159.4	160.7	161.7	163.1	.9	2.7
Workers, by industry division:											
Goods-producing	153.9	155.0	156.3	157.4	158.3	158.7	159.9	160.9	162.3	.9	2.5
Excluding sales occupations	153.0	154.0	155.4	156.5	157.4	158.0	159.2	160.2	161.2	.6	2.4
White-collar occupations	157.9	158.6	160.0	161.4	161.9	162.1	163.2	164.5	166.0	.9	2.5
Excluding sales occupations	155.4	156.3	158.0	159.2	159.9	160.4	161.5	162.7	163.6	.6	2.3
Blue-collar occupations	151.5	152.6	153.8	154.8	155.9	156.4	157.7	158.6	159.8	.8	2.5
Construction	149.0	150.2	150.6	152.4	153.6	154.0	155.1	155.9	157.1	.8	2.3
Manufacturing	155.4	156.5	158.0	159.0	159.7	160.1	161.3	162.4	163.8	.9	2.6
White-collar occupations	157.7	158.6	160.1	161.6	162.0	162.1	163.3	164.7	166.1	.9	2.5
Excluding sales occupations	155.0	155.9	157.7	158.9	159.5	160.0	161.2	162.5	163.5	.6	2.5
Blue-collar occupations	153.5	154.7	156.3	156.9	157.9	158.5	159.8	160.6	162.1	.9	2.7
Durables	156.0	157.3	158.8	159.7	160.6	160.9	161.9	162.9	164.5	1.0	2.4
Nondurables	154.4	155.2	156.6	157.8	158.3	158.7	160.4	161.6	162.8	.7	2.8
Service-producing	158.4	158.6	160.6	161.7	163.3	163.9	165.0	166.1	167.5	.8	2.6
Excluding sales occupations	159.3	159.6	161.7	162.8	164.2	165.0	166.0	167.1	168.5	.8	2.6
White-collar occupations	160.5	160.7	163.0	164.1	166.0	166.6	167.8	168.9	170.4	.9	2.7
Excluding sales occupations	162.5	162.8	165.3	166.5	168.2	169.0	170.2	171.2	172.8	.9	2.7
Blue-collar occupations	151.8	152.0	153.2	154.3	155.1	155.4	156.2	157.8	158.9	.7	2.5
Service occupations	153.5	154.1	155.1	155.6	156.6	157.4	158.0	158.8	159.4	.4	1.8
Transportation and public utilities	153.4	154.1	154.8	155.6	156.0	156.5	157.6	159.1	160.4	.8	2.8
Transportation	149.6	150.1	150.5	150.6	150.4	150.8	151.7	153.4	155.0	1.0	3.1
Public utilities	158.2	159.3	160.4	162.1	163.4	164.1	165.3	166.4	167.5	.7	2.5
Communications	159.6	160.7	161.9	163.4	165.4	165.9	167.0	167.5	168.8	.8	2.1
Electric, gas, and sanitary services	156.5	157.4	158.6	160.4	161.0	161.8	163.3	165.1	165.9	.5	3.0
Wholesale and retail trade	155.5	155.5	156.7	157.5	159.2	159.5	160.3	161.6	162.5	.6	2.1
Wholesale trade	160.4	161.0	163.4	164.7	164.8	165.3	166.2	167.8	169.7	1.1	3.0
Excluding sales occupations	162.6	163.7	163.9	165.2	165.7	166.3	167.8	167.6	168.6	.6	1.8
Retail trade	152.9	152.7	153.1	153.8	156.3	156.5	157.3	158.4	158.7	.2	1.5
General merchandise stores	150.1	149.2	149.8	152.0	153.1	153.6	154.1	154.9	157.5	1.7	2.9
Food stores	150.1	150.3	151.0	151.6	152.2	152.8	153.8	154.3	154.5	.1	1.5

See footnotes at end of table.

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31. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	2002		2003				2004			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2004	
Finance, insurance, and real estate	162.4	162.6	171.1	172.4	174.1	174.5	175.2	175.3	176.5	0.7	1.4
Excluding sales occupations	166.1	167.3	176.7	178.5	179.2	210.2	179.2	180.5	181.8	.7	1.5
Banking, savings and loan, and other credit agencies	182.7	183.9	206.4	208.7	209.1	164.5	206.7	207.6	209.5	.9	.2
Insurance	159.6	159.1	161.6	163.0	163.9	164.5	165.1	167.2	168.9	1.0	3.1
Services	161.5	161.7	162.8	164.0	165.9	166.7	168.1	169.3	171.1	1.1	3.1
Business services	164.6	164.8	165.6	166.4	169.1	169.8	171.0	172.7	174.3	.9	3.1
Health services	159.9	160.7	161.9	163.2	164.6	135.8	167.8	168.8	170.9	1.2	3.8
Hospitals	160.2	162.1	163.6	164.6	166.5	167.9	169.4	170.5	172.4	1.1	3.5
Educational services	165.2	166.5	167.1	167.5	170.3	171.0	171.9	172.6	175.5	1.7	3.1
Colleges and universities	163.1	164.3	164.4	165.1	167.6	168.4	169.5	170.0	172.9	1.7	3.2
Nonmanufacturing	157.2	157.5	159.4	160.5	162.1	162.6	163.7	164.8	166.2	.8	2.5
White-collar workers	160.2	160.5	162.8	163.9	165.7	166.3	167.5	168.6	170.1	.9	2.7
Excluding sales occupations	162.1	162.5	164.9	166.1	167.7	168.5	169.7	170.7	172.3	.9	2.7
Blue-collar occupations	149.8	150.2	151.1	152.4	153.4	153.8	154.7	156.1	157.1	.6	2.4
Service occupations	153.4	154.0	155.0	155.5	156.5	157.3	157.9	158.7	159.2	.3	1.7
State and local government workers	160.1	161.5	162.6	163.2	165.9	166.8	168.0	168.7	171.5	1.0	2.0
Workers, by occupational group:											
White-collar workers	157.4	158.4	158.9	159.2	161.0	161.5	162.1	162.4	164.1	1.0	1.9
Professional specialty and technical	157.5	158.4	158.8	159.1	161.0	161.4	162.1	162.3	164.4	1.3	2.1
Executive, administrative, and managerial	159.0	160.1	160.9	161.0	162.5	163.3	163.5	163.8	164.3	.3	1.1
Administrative support, including clerical	155.1	156.0	156.9	157.2	159.1	159.5	160.4	160.8	162.6	1.1	2.2
Blue-collar workers	154.5	155.1	156.2	156.5	157.6	158.3	158.9	159.2	160.7	.9	2.0
Workers, by industry division:											
Services	158.4	159.2	159.5	159.8	161.6	162.1	162.6	162.7	164.8	1.3	2.0
Services excluding schools[4]	159.1	160.3	161.4	161.8	163.2	164.5	165.1	165.6	167.5	1.1	2.6
Health services	160.5	162.2	162.9	163.5	165.1	166.7	167.4	167.8	169.6	1.1	2.7
Hospitals	160.6	162.5	163.1	163.8	165.5	166.7	167.4	167.9	169.9	1.2	2.7
Educational services	158.1	158.9	159.1	159.3	161.2	161.6	162.0	162.1	164.2	1.3	1.9
Schools	158.3	159.0	159.2	159.5	161.4	161.8	162.1	162.3	164.3	1.2	1.8
Elementary and secondary	157.4	158.1	158.2	158.5	160.6	160.9	161.3	161.5	163.8	1.4	2.0
Colleges and universities	160.7	161.6	162.1	162.1	163.5	164.0	164.3	164.4	165.4	.6	1.2
Public administration[2]	154.8	155.8	157.2	158.0	159.4	160.0	161.1	161.4	162.6	.7	2.0

[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.

32. Employment Cost Index, benefits, private industry workers by occupation and industry group

[June 1989 = 100]

Series	2002		2003				2004			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept .2004	
Private industry workers	173.1	174.6	179.6	182.0	184.3	185.8	192.2	195.3	196.9	0.8	6.8
Workers, by occupational group:											
White-collar workers	177.2	178.5	183.6	185.5	187.7	189.2	194.4	197.4	199.1	.9	6.1
Blue-collar workers	166.2	167.8	172.7	176.1	178.4	179.9	188.3	191.8	193.3	.8	8.4
Workers, by industry division:											
Goods-producing	168.8	171.0	178.0	180.2	182.3	183.8	193.7	196.2	198.1	1.0	8.7
Service-producing	174.9	175.9	179.9	182.3	184.7	186.2	190.6	194.1	195.5	.7	5.8
Manufacturing	166.8	168.9	176.9	179.0	181.1	182.3	194.4	196.9	199.2	1.2	10.0
Nonmanufacturing	175.2	176.3	180.3	182.8	185.1	186.7	190.9	194.3	195.7	.7	5.7

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33. Employment Cost Index, private nonfarm workers by bargaining status, region, and area size

[June 1989 = 100]

Series	2002		2003				2004			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 2004	
COMPENSATION											
Workers, by bargaining status[1]											
Union	158.1	159.5	162.1	164.1	165.7	166.8	171.4	173.9	175.3	0.8	5.8
Goods-producing	156.2	157.8	161.4	163.4	164.7	165.9	172.3	174.6	176.0	.8	6.9
Service-producing	159.9	161.1	162.6	164.6	166.5	167.5	170.2	172.9	174.4	.9	4.7
Manufacturing	155.9	157.9	162.3	163.8	165.0	166.3	175.0	177.0	178.4	.8	8.1
Nonmanufacturing	158.8	159.9	161.4	163.7	165.5	166.5	168.8	171.6	173.0	.8	4.5
Nonunion	162.5	162.8	165.4	166.8	168.4	169.1	171.3	172.7	174.2	.9	3.4
Goods-producing	159.5	160.8	163.6	164.9	166.1	166.7	169.7	170.9	172.4	.9	3.8
Service-producing	162.9	163.3	165.9	167.2	169.0	169.8	171.6	173.2	174.6	.8	3.3
Manufacturing	160.1	161.3	164.5	165.8	166.9	167.3	170.6	172.0	173.8	1.0	4.1
Nonmanufacturing	162.4	162.9	165.4	166.7	168.5	139.3	171.1	172.6	174.0	.8	3.3
Workers, by region[1]											
Northeast	160.5	161.3	163.8	165.2	166.9	167.9	170.2	172.3	173.7	.8	4.1
South	158.9	159.0	160.6	161.6	163.2	163.9	166.4	167.9	169.5	1.0	3.9
Midwest (formerly North Central)	163.5	164.6	169.0	170.4	171.7	172.5	174.7	176.2	177.6	.8	3.4
West	163.8	165.0	167.3	169.5	171.4	172.2	175.3	176.8	178.1	.7	3.9
Workers, by area size[1]											
Metropolitan areas	161.8	162.5	165.2	166.6	168.3	169.1	171.5	173.1	174.6	.9	3.7
Other areas	160.0	169.8	163.5	165.0	166.1	166.9	170.2	172.1	173.3	.7	4.3
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	151.3	152.5	153.3	154.3	155.3	156.2	157.2	158.7	160.0	.8	3.0
Goods-producing	150.0	151.2	152.4	153.9	154.8	155.4	156.3	157.5	158.7	.8	2.5
Service-producing	152.9	154.1	154.6	155.1	156.3	157.3	158.5	160.3	161.7	.9	3.5
Manufacturing	151.6	153.1	154.6	155.9	156.7	157.1	158.1	159.2	160.5	.8	2.4
Nonmanufacturing	151.1	152.1	152.5	153.5	154.6	155.6	156.6	158.4	159.6	.8	3.2
Nonunion	158.1	158.5	160.4	161.5	163.0	163.4	164.6	165.6	167.0	.8	2.5
Goods-producing	155.5	156.6	157.8	158.9	159.7	160.1	161.4	162.4	163.8	.9	2.6
Service-producing	158.9	159.0	161.2	162.3	164.0	164.5	165.6	166.6	168.0	.8	2.4
Manufacturing	156.8	157.8	159.3	160.2	160.9	161.3	162.6	163.7	165.2	.9	2.7
Nonmanufacturing	158.1	158.3	160.4	161.5	163.1	163.7	164.7	165.7	167.1	.8	2.5
Workers, by region[1]											
Northeast	155.1	155.7	157.3	158.4	160.0	160.9	162.0	163.6	164.9	.8	3.1
South	154.7	154.6	155.3	156.1	157.4	157.9	159.1	160.1	161.6	.9	2.7
Midwest (formerly North Central)	159.2	160.2	164.1	165.0	166.1	166.5	166.9	167.7	169.2	.9	1.9
West	159.3	160.1	161.3	163.1	164.7	165.2	166.8	167.9	169.1	.7	2.7
Workers, by area size[1]											
Metropolitan areas	157.4	157.9	159.6	160.7	162.2	162.7	163.8	164.9	163.3	.8	2.5
Other areas	153.8	154.8	156.8	158.0	158.9	159.5	160.8	162.1	162.1	.7	2.8

[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.

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34. 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.

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35. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, small private establishments and State and local governments, 1987, 1990, 1992, 1994, and 1996

Item	Small private establishments				State and local governments			
	1990	1992	1994	1996	1987	1990	1992	1994
Scope of survey (in 000's)	32,466	34,360	35,910	39,816	10,321	12,972	12,466	12,907
Number of employees (in 000's):								
With medical care	22,402	24,396	23,536	25,599	9,599	12,064	11,219	11,192
With life insurance	20,778	21,990	21,955	24,635	8,773	11,415	11,095	11,194
With defined benefit plan	6,493	7,559	5,480	5,883	9,599	11,675	10,845	11,708
Time-off plans								
Participants with:								
Paid lunch time	8	9	–	–	17	11	10	–
Average minutes per day	37	37	–	–	34	36	34	–
Paid rest time	48	49	–	–	58	56	53	–
Average minutes per day	27	26	–	–	29	29	29	–
Paid funeral leave	47	50	50	51	56	63	65	62
Average days per occurrence	2.9	3.0	3.1	3.0	3.7	3.7	3.7	3.7
Paid holidays	84	82	82	80	81	74	75	73
Average days per year[1]	9.5	9.2	7.5	7.6	10.9	13.6	14.2	11.5
Paid personal leave	11	12	13	14	38	39	38	38
Average days per year	2.8	2.6	2.6	3.0	2.7	2.9	2.9	3.0
Paid vacations	88	88	88	86	72	67	67	66
Paid sick leave[2]	47	53	50	50	97	95	95	94
Unpaid leave	17	18	–	–	57	51	59	–
Unpaid paternity leave	8	7	–	–	30	33	44	–
Unpaid family leave	–	–	47	48	–	–	–	93
Insurance plans								
Participants in medical care plans	69	71	66	64	93	93	90	87
Percent of participants with coverage for:								
Home health care	79	80	–	–	76	82	87	84
Extended care facilities	83	84	–	–	78	79	84	81
Physical exam	26	28	–	–	36	36	47	55
Percent of participants with employee contribution required for:								
Self coverage	42	47	52	52	35	38	43	47
Average monthly contribution	$25.13	$36.51	$40.97	$42.63	$15.74	$25.53	$28.97	$30.20
Family coverage	67	73	76	75	71	65	72	71
Average monthly contribution	$109.34	$150.54	$159.63	$181.53	$71.89	$117.59	$139.23	$149.70
Participants in life insurance plans	64	64	61	62	85	88	89	87
Percent of participants with:								
Accidental death and dismemberment insurance	78	76	79	77	67	67	74	64
Survivor income benefits	1	1	2	1	1	1	1	2
Retiree protection available	19	25	20	13	55	45	46	46
Participants in long-term disability insurance plans	19	23	20	22	31	27	28	30
Participants in sickness and accident insurance plans	6	26	26	–	14	21	22	21
Participants in short-term disability plans[2]	–	–	–	29	–	–	–	–
Retirement plans								
Participants in defined benefit pension plans	20	22	15	15	93	90	87	91
Percent of participants with:								
Normal retirement prior to age 65	54	50	–	47	92	89	92	92
Early retirement available	95	95	–	92	90	88	89	87
Ad hoc pension increase in last 5 years	7	4	–	–	33	16	10	13
Terminal earnings formula	58	54	–	53	100	100	100	99
Benefit coordinated with Social Security	49	46	–	44	18	8	10	49
Participants in defined contribution plans	31	33	34	38	9	9	9	9
Participants in plans with tax-deferred savings arrangements	17	24	23	28	28	45	45	24
Other benefits								
Employees eligible for:								
Flexible benefits plans	1	2	3	4	5	5	5	5
Reimbursement accounts[3]	8	14	19	12	5	31	50	64
Premium conversion plans	–	–	–	7	–	–	–	–

[1] Methods used to calculate the average number of paid holidays were revised in 1994 to count partial days more precisely. Average holidays for 1994 are not comparable with those reported in 1990 and 1992.

[2] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1996 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-term 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.

[3] Prior to 1996, 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.

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36. Work stoppages involving 1,000 workers or more

Measure	Annual totals		2003				2004[P]								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Number of stoppages:															
Beginning in period	19	14	0	5	0	0	0	1	1	0	2	3	0	2	2
In effect during period	20	15	2	5	3	2	1	2	1	1	2	4	1	2	3
Workers involved:															
Beginning in period (in thousands)	46	129.2	.0	82.2	8.0	.0	.0	6.5	2.2	.0	103.0	27.6	.0	3.7	6.0
In effect during period (in thousands)	47	130.5	3.2	82.2	76.7	70.5	61.3	66.5	2.2	2.2	103.0	28.6	1.6	3.7	8.0
Days idle:															
Number (in thousands)	6,596	4,091.2	51.3	1,168.5	1,219.0	1,473.4	1,203.9	1,146.5	44.0	26.4	204.0	94.0	3.2	52.5	60.0
Percent of estimated working time[1]	([2])	.01	.04	.04	.05	.05	.05	.05	.00	.00	.01	.00	.00	.00	.00

[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.

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37. 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		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS															
All items	179.9	184.0	185.2	185.0	184.5	184.3	185.2	186.2	187.4	188.0	189.1	189.7	189.4	189.5	189.9
All items (1967 = 100)	538.8	551.1	554.7	554.3	552.7	552.1	554.9	557.9	561.5	563.2	566.4	568.2	567.5	567.6	568.7
Food and beverages	176.8	180.5	181.3	182.2	182.9	184.7	184.3	184.5	184.9	185.0	186.5	186.8	187.2	187.3	187.2
Food	176.2	180.0	180.7	181.7	182.4	180.0	183.8	184.1	184.4	184.5	186.1	186.3	186.8	186.8	186.7
Food at home	175.6	179.4	180.1	181.5	182.4	184.1	184.0	184.0	184.3	184.1	186.6	186.8	187.1	186.7	186.1
Cereals and bakery products	198.0	202.8	203.5	203.1	202.5	202.9	203.9	204.4	204.8	205.5	206.1	206.8	207.2	207.2	206.4
Meats, poultry, fish, and eggs	162.1	169.3	171.1	174.0	179.3	181.1	179.9	179.7	179.5	179.2	181.1	182.3	183.7	183.7	183.4
Dairy and related products[1]	168.1	167.9	170.3	171.8	171.2	173.0	172.4	172.1	171.9	174.0	185.9	188.8	187.7	184.9	181.6
Fruits and vegetables	220.9	225.9	224.4	226.3	227.5	232.4	232.4	229.7	230.1	228.3	231.7	226.7	224.5	224.0	226.0
Nonalcoholic beverages and beverage materials	139.2	139.8	139.2	140.5	137.9	139.3	140.7	141.4	140.8	139.7	169.9	139.8	140.5	140.3	140.3
Other foods at home	160.8	162.6	163.1	163.0	162.0	163.0	162.8	163.7	165.1	165.0	165.4	165.8	166.0	166.2	165.2
Sugar and sweets	159.0	162.0	162.3	162.5	161.7	161.0	163.0	163.9	163.3	162.6	163.5	162.8	163.8	164.4	163.5
Fats and oils	155.4	157.4	157.6	159.7	157.3	157.7	160.7	162.3	166.2	166.2	169.4	171.3	171.9	169.7	170.4
Other foods	177.1	178.8	179.4	178.7	177.9	179.6	178.0	178.9	180.4	180.4	180.1	180.5	180.3	180.9	179.4
Other miscellaneous foods[1,2]	109.2	110.3	111.0	110.7	109.0	109.8	109.1	109.5	111.7	110.5	110.8	110.9	109.4	111.5	110.5
Food away from home[1]	178.3	182.1	182.8	183.3	183.8	184.3	184.9	185.5	185.8	186.2	186.7	187.0	187.8	188.4	188.9
Other food away from home[1,2]	117.7	121.3	121.8	122.3	122.7	122.9	123.9	124.0	124.1	124.7	124.8	124.8	125.1	125.4	125.9
Alcoholic beverages	183.6	187.2	187.9	188.1	188.6	188.7	189.4	189.9	190.8	191.8	191.7	192.4	192.2	192.5	193.4
Housing	180.3	184.8	185.8	185.7	185.1	185.1	186.3	187.0	187.9	188.4	188.9	190.3	190.9	191.2	191.0
Shelter	208.1	213.1	213.8	214.7	214.2	213.1	215.2	216.0	217.8	218.4	218.7	219.2	220.0	220.3	220.2
Rent of primary residence	199.7	205.5	206.6	206.9	207.5	205.5	208.3	208.8	209.2	209.7	210.2	210.7	211.2	211.9	212.4
Lodging away from home	118.3	119.3	118.5	120.9	115.0	119.3	117.2	120.0	128.1	129.1	128.2	129.1	132.2	130.6	127.0
Owners' equivalent rent of primary residence[3]	214.7	219.9	220.7	221.4	221.9	219.9	222.6	222.9	223.3	223.9	224.3	224.7	225.1	225.7	226.1
Tenants' and household insurance[1,2]	108.7	114.8	115.9	116.0	114.3	114.8	114.8	115.0	115.1	115.7	116.1	116.2	116.1	116.3	116.6
Fuels and utilities	143.6	154.5	159.6	155.0	152.9	154.5	156.3	156.9	155.2	155.6	158.1	165.5	166.6	167.7	166.7
Fuels	127.2	138.2	143.4	138.2	135.7	138.7	139.2	139.5	137.6	138.0	140.4	148.5	149.5	150.5	149.3
Fuel oil and other fuels	115.5	139.5	130.5	131.4	134.8	139.1	149.9	155.1	152.5	149.6	150.4	150.7	151.1	157.4	161.6
Gas (piped) and electricity	134.4	145.0	151.5	145.6	142.6	145.0	145.5	145.5	143.5	144.2	146.8	155.8	156.9	157.6	156.0
Household furnishings and operations	128.3	126.1	125.2	125.1	124.9	124.7	125.3	125.7	125.7	125.6	125.4	125.6	125.2	124.8	125.0
Apparel	124.0	120.9	122.0	124.8	123.1	119.0	115.8	118.6	123.5	124.3	123.4	120.1	115.9	116.5	121.2
Men's and boys' apparel	121.7	118.0	117.3	120.8	121.4	118.0	115.5	117.1	119.8	120.3	120.3	117.7	115.2	113.8	116.2
Women's and girls' apparel	115.8	113.1	115.5	118.8	115.7	110.9	105.7	110.3	117.6	118.7	116.9	112.3	106.1	107.5	114.4
Infants' and toddlers' apparel[1]	126.4	122.1	124.1	125.2	123.0	119.2	117.7	119.3	121.9	120.5	118.1	116.2	114.5	115.0	119.5
Footwear	121.4	119.6	120.3	121.8	121.0	118.5	115.9	117.0	120.1	121.0	120.3	118.4	115.1	117.3	121.7
Transportation	152.9	157.6	159.4	157.1	155.7	154.7	157.0	158.8	160.5	161.8	165.2	165.7	164.0	162.9	162.9
Private transportation	148.8	153.6	155.4	153.0	151.7	150.8	153.2	154.9	156.6	157.9	161.5	161.9	160.0	159.1	159.4
New and used motor vehicles[2]	99.2	96.5	95.1	94.6	94.6	94.4	94.3	94.4	94.2	94.1	94.0	93.6	93.5	93.4	93.9
New vehicles	140.0	137.9	136.4	136.5	137.5	138.0	138.0	138.3	137.9	137.6	137.4	137.2	135.9	134.9	134.9
Used cars and trucks[1]	152.0	142.9	139.0	135.1	132.0	131.0	130.8	131.0	131.2	131.3	131.8	130.6	132.1	133.8	136.5
Motor fuel	116.6	135.8	147.1	136.6	131.2	127.8	136.7	143.1	150.5	155.9	170.5	173.3	165.2	162.0	161.2
Gasoline (all types)	116.0	135.1	146.5	136.0	130.6	127.2	136.1	142.5	149.8	155.3	169.8	172.7	164.5	161.2	160.5
Motor vehicle parts and equipment	106.9	107.8	107.7	107.9	107.9	107.8	108.0	108.0	107.8	107.9	107.9	108.2	108.8	109.0	109.3
Motor vehicle maintenance and repair	190.2	195.6	196.2	196.9	197.2	198.0	198.2	198.2	198.5	198.6	199.0	199.7	200.3	200.8	201.7
Public transportation	207.4	209.3	211.2	211.3	207.9	205.6	206.3	208.1	209.9	211.5	210.7	212.3	214.4	209.7	205.3
Medical care	285.6	297.1	299.2	299.9	300.8	302.1	303.6	306.0	307.5	308.3	309.0	310.0	311.0	311.6	312.3
Medical care commodities	256.4	262.8	264.9	264.7	264.0	265.0	265.5	266.7	267.3	268.5	269.1	269.6	269.9	270.0	270.9
Medical care services	292.9	306.0	308.2	309.1	310.6	311.9	313.8	316.6	318.4	319.2	319.8	321.0	322.3	323.1	323.7
Professional services	253.9	261.2	262.2	263.0	263.0	261.2	262.5	268.0	269.7	270.6	270.9	271.6	272.3	273.3	273.3
Hospital and related services	367.8	394.8	399.6	400.7	405.6	407.0	409.7	412.5	413.8	413.6	414.6	416.9	419.1	418.8	420.3
Recreation[2]	106.2	107.5	107.7	107.6	107.8	107.7	107.9	108.4	108.8	109.0	108.8	108.9	108.7	108.5	108.6
Video and audio[1,2]	102.6	103.6	103.5	103.5	103.8	103.3	103.6	104.1	104.3	104.7	104.6	104.4	104.4	104.1	104.0
Education and communication[2]	107.9	109.8	110.9	110.9	110.8	110.9	111.1	111.2	111.1	110.9	110.6	110.8	110.9	111.7	112.9
Education[2]	126.0	134.4	138.7	139.1	139.0	139.4	140.1	140.4	140.6	140.7	140.9	141.6	142.1	145.1	147.9
Educational books and supplies	317.6	335.4	338.2	339.7	336.0	342.8	345.4	348.6	348.9	349.5	349.6	350.6	349.5	353.3	352.8
Tuition, other school fees, and child care	362.1	362.1	400.0	401.1	401.2	401.7	403.6	404.2	404.7	404.9	405.6	407.6	409.4	418.3	427.4
Communication[1,2]	92.3	89.7	88.6	88.4	88.2	88.2	88.1	88.1	87.7	87.4	86.9	86.8	86.5	86.1	86.2
Information and information processing[1,2]	90.8	87.8	86.7	86.4	86.2	86.2	86.1	86.1	85.7	85.4	84.8	84.7	84.5	84.0	84.1
Telephone services[1,2]	99.7	98.3	97.4	97.1	97.2	97.2	97.0	97.1	96.7	96.5	95.9	95.8	95.6	95.0	95.3
Information and information processing other than telephone services[1,4]	18.3	16.1	15.6	15.6	15.4	15.3	15.3	15.2	15.2	15.0	14.9	14.9	14.8	14.7	14.7
Personal computers and peripheral equipment[1,2]	22.2	17.6	16.3	16.5	16.3	16.2	16.2	16.0	15.8	15.9	15.7	15.5	15.3	15.1	15.0
Other goods and services	293.2	298.7	299.9	300.2	300.0	300.2	301.4	302.3	303.1	303.6	303.8	304.1	305.1	305.5	306.3
Tobacco and smoking products	461.5	469.0	468.7	469.5	469.1	470.4	473.0	472.6	473.6	473.3	473.5	476.0	480.5	481.6	482.9
Personal care[1]	174.7	178.0	179.0	179.1	179.0	179.0	179.7	180.4	180.9	181.3	181.4	181.4	181.7	181.9	182.3
Personal care products[1]	154.7	153.5	153.4	153.6	153.2	153.4	153.8	154.5	154.5	154.5	154.6	153.8	153.4	152.8	153.5
Personal care services[1]	188.4	193.2	195.4	195.6	194.2	194.3	194.6	195.2	195.8	196.1	196.6	196.9	197.5	198.9	199.1

See footnotes at end of table.

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37. 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		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Miscellaneous personal services	274.4	283.5	285.3	285.8	287.0	287.1	288.8	290.4	291.6	292.7	293.1	293.6	294.4	295.2	295.9
Commodity and service group:															
Commodities	149.7	151.2	152.0	151.4	150.9	150.4	151.1	152.3	153.7	154.3	156.0	155.8	154.5	154.2	154.9
Food and beverages	176.8	180.5	181.3	182.2	182.9	184.1	184.3	184.5	184.9	185.0	186.5	186.8	187.2	187.3	187.2
Commodities less food and beverages	134.2	134.5	135.4	134.1	132.9	131.7	132.6	134.2	136.0	136.9	138.6	138.2	136.1	135.6	136.7
Nondurables less food and beverages	145.1	149.7	153.1	151.2	149.0	146.7	148.4	151.4	155.3	157.2	160.9	160.5	156.7	156.1	157.8
Apparel	124.0	120.9	122.0	124.8	123.1	119.0	115.8	118.6	123.5	124.3	123.4	120.1	115.9	116.5	121.2
Nondurables less food, beverages, and apparel	162.2	171.5	176.4	171.6	169.1	167.7	172.3	175.6	179.1	181.7	188.2	189.5	185.8	184.4	184.4
Durables	121.4	117.5	115.7	115.2	115.1	115.0	115.1	115.3	115.1	115.0	114.8	114.5	114.1	113.7	114.1
Services	209.8	216.5	218.1	218.4	217.9	217.9	219.1	219.9	221.0	221.5	221.9	223.3	224.1	224.5	224.5
Rent of shelter[3]	216.7	221.9	222.6	223.5	223.0	222.9	224.1	224.9	226.8	227.4	227.7	228.3	229.2	229.4	229.3
Transporatation services	209.1	216.3	216.8	218.9	218.6	217.7	218.7	219.3	219.7	220.0	220.0	220.5	221.6	220.8	220.1
Other services	246.4	254.4	257.0	257.2	257.3	257.4	258.4	259.2	259.5	259.7	259.6	260.2	260.5	261.9	263.8
Special indexes:															
All items less food	180.5	184.7	186.0	185.6	184.9	184.4	185.5	186.6	188.0	188.6	189.6	190.3	189.9	189.9	190.4
All items less shelter	170.8	174.6	176.0	175.5	174.9	174.7	175.6	176.7	177.6	178.2	179.6	180.2	179.6	179.5	180.1
All items less medical care	174.3	178.1	179.2	179.1	178.5	178.2	179.1	180.1	181.3	181.8	182.9	183.5	183.2	183.2	183.6
Commodities less food	136.0	136.5	137.3	136.1	135.0	133.8	134.7	136.3	138.0	138.9	140.6	140.3	138.2	137.7	138.8
Nondurables less food	147.4	151.9	155.2	153.3	151.3	149.2	150.8	153.7	157.5	159.3	162.8	162.4	158.8	158.2	159.9
Nondurables less food and apparel	163.3	172.1	176.6	172.2	170.0	168.8	173.0	176.1	179.4	181.7	187.7	189.0	185.6	184.3	184.4
Nondurables	161.1	165.3	167.4	166.8	166.1	165.4	166.4	168.1	170.3	171.4	174.1	174.0	172.2	171.9	172.8
Services less rent of shelter[3]	217.5	226.4	229.2	228.7	228.2	228.4	229.7	230.6	230.7	231.1	231.7	234.2	235.0	235.6	235.9
Services less medical care services	202.5	208.7	210.3	210.5	209.9	209.9	211.0	211.7	212.7	213.2	213.6	215.0	215.8	216.2	216.1
Energy	121.7	136.5	144.6	136.9	133.1	131.8	137.4	140.6	143.1	145.9	154.1	159.7	156.3	155.3	154.3
All items less energy	187.7	190.6	191.0	191.7	191.6	191.5	191.9	192.7	193.7	194.1	194.3	194.4	194.5	194.7	195.2
All items less food and energy	190.5	193.2	193.6	194.3	193.9	193.6	194.0	194.9	196.1	196.5	196.5	196.6	196.6	196.8	197.4
Commodities less food and energy	143.7	140.9	140.2	140.4	139.9	139.0	138.5	139.3	140.3	140.5	140.2	139.4	138.2	138.1	139.4
Energy commodities	117.1	136.7	146.9	137.0	132.1	129.0	138.2	144.6	151.3	156.3	170.1	172.8	165.1	162.5	162.0
Services less energy	217.5	223.8	224.9	225.8	225.6	225.5	226.6	227.5	228.9	229.4	229.6	230.2	231.0	231.4	231.6
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items	175.9	179.8	181.0	180.7	180.2	179.9	180.9	181.9	182.9	183.5	184.7	185.3	184.9	185.0	185.4
All items (1967 = 100)	523.9	535.6	539.2	538.2	536.7	536.0	538.7	541.7	544.8	546.5	550.2	551.9	550.8	551.0	552.4
Food and beverages	176.1	179.9	180.7	181.7	182.4	183.6	183.8	184.0	184.4	184.5	186.0	186.4	186.8	186.9	186.8
Food	176.5	179.4	180.2	181.2	181.9	183.1	183.3	183.5	183.8	183.9	185.6	185.9	186.3	186.4	186.2
Food at home	175.1	178.5	179.4	180.7	181.6	183.3	183.2	183.2	183.5	183.3	185.8	186.1	186.3	186.1	185.5
Cereals and bakery products	198.0	202.8	203.5	203.2	202.4	202.4	203.8	204.4	204.9	205.5	206.0	206.7	207.2	207.0	206.3
Meats, poultry, fish, and eggs	162.0	169.2	170.9	173.8	179.2	181.0	179.9	179.7	179.6	179.1	181.1	182.4	183.7	183.7	183.4
Dairy and related products[1]	167.2	167.6	170.2	171.7	171.0	172.7	172.2	171.7	171.3	173.6	186.1	189.0	187.8	184.9	181.4
Fruits and vegetables	222.9	224.3	223.4	224.9	225.3	229.7	229.7	227.5	227.8	225.5	228.9	224.3	222.3	222.2	223.9
Nonalcoholic beverages and beverage materials	138.6	139.1	138.5	139.8	137.3	138.6	140.0	140.8	140.1	139.1	139.3	139.3	139.8	139.6	139.7
Other foods at home	160.4	162.2	162.8	162.5	161.6	162.5	162.3	163.3	164.7	164.6	165.1	165.5	165.6	165.8	164.8
Sugar and sweets	158.8	161.6	162.1	162.1	161.4	160.5	162.4	163.2	162.6	161.9	162.9	162.2	162.9	163.8	163.1
Fats and oils	155.3	157.4	157.6	159.6	157.3	157.7	160.7	162.2	166.0	166.1	169.4	171.4	172.0	169.9	170.3
Other foods	177.6	179.2	180.0	179.0	178.3	180.0	178.4	179.4	180.8	180.8	180.5	180.8	180.7	181.4	179.7
Other miscellaneous foods[1,2]	109.7	110.8	111.3	111.2	109.5	110.3	109.6	110.1	112.2	111.0	111.2	111.4	109.7	112.0	111.0
Food away from home[1]	178.2	182.0	182.7	183.3	183.7	184.2	184.8	185.3	185.6	186.1	186.6	186.8	187.6	188.2	188.8
Other food away from home[1,2]	118.1	121.5	122.0	122.5	122.9	123.1	123.6	123.8	123.8	124.3	124.6	124.7	124.9	125.2	125.8
Alcoholic beverages	183.3	187.1	187.7	188.1	188.8	188.9	189.5	190.0	191.2	192.1	192.0	192.7	192.2	192.8	194.0
Housing	175.7	180.4	181.6	181.3	180.9	181.0	182.1	182.6	183.2	183.6	184.1	185.6	186.2	186.6	186.5
Shelter	201.9	206.9	207.6	208.3	208.2	208.2	209.2	209.8	211.0	211.5	211.8	212.2	213.0	213.4	213.4
Rent of primary residence	199.0	204.7	205.8	206.1	206.6	207.0	207.4	208.0	208.4	208.9	209.4	209.9	210.3	211.0	211.6
Lodging away from home[2]	118.4	119.8	119.8	121.7	116.2	113.4	118.5	121.1	128.8	129.8	128.2	128.8	133.0	131.6	127.7
Owners' equivalent rent of primary residence[3]	195.1	199.7	200.4	201.0	201.4	201.7	202.1	202.3	202.7	203.1	203.6	203.9	204.2	204.7	205.1
Tenants' and household insurance[1,2]	108.7	114.7	115.8	116.0	114.4	114.4	114.9	115.1	115.2	116.0	116.4	116.5	116.3	116.5	116.8
Fuels and utilities	142.9	153.9	159.1	154.3	152.3	153.0	155.6	156.2	154.7	155.1	157.4	165.0	166.1	167.2	166.2
Fuels	126.1	137.0	142.3	137.0	134.7	135.4	138.0	138.3	136.6	137.0	139.3	147.4	148.4	149.3	148.2
Fuel oil and other fuels	115.0	138.7	129.4	130.7	134.4	136.2	149.6	154.5	152.0	148.9	149.6	149.8	150.2	156.8	161.1
Gas (piped) and electricity	133.4	144.1	150.6	144.6	141.9	142.5	144.7	144.7	142.9	143.5	146.1	155.1	156.2	156.8	155.3
Household furnishings and operations	124.4	121.9	121.0	120.9	120.7	120.4	121.0	121.4	121.4	121.3	121.1	121.3	120.7	120.4	120.6
Apparel	123.1	120.0	121.0	123.9	122.6	118.7	115.7	118.3	122.9	123.8	122.8	119.6	115.6	115.9	120.6
Men's and boys' apparel	121.7	117.5	116.5	120.0	121.1	117.8	115.6	117.4	120.0	120.6	120.3	117.8	115.2	113.3	115.6
Women's and girls' apparel	114.6	112.1	114.5	118.2	115.3	110.5	105.5	109.8	117.4	118.4	116.7	112.2	106.0	106.9	114.0
Infants' and toddlers' apparel[1]	128.6	124.1	126.5	127.7	125.0	121.4	120.1	122.2	125.2	123.4	120.9	118.8	117.0	117.6	122.3
Footwear	121.2	119.1	119.6	121.1	120.4	117.8	115.6	116.4	118.6	119.6	119.0	117.0	114.4	116.3	120.4
Transportation	151.8	156.3	158.1	155.4	153.6	152.5	154.9	156.8	158.5	159.9	163.6	164.0	162.2	161.4	161.6
Private transportation	149.0	153.5	155.3	152.5	150.8	149.7	152.2	154.0	155.7	157.1	160.9	161.3	159.3	158.6	159.1
New and used motor vehicles[2]	99.4	96.0	94.4	93.5	93.1	92.8	92.7	92.8	92.6	92.6	92.5	92.1	92.1	92.2	92.3

See footnotes at end of table.

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37. 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		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
New vehicles	141.1	139.0	137.6	137.8	138.7	139.2	139.2	139.5	139.0	138.7	138.5	138.2	137.0	136.0	136.0
Used cars and trucks[1]	152.8	143.7	139.8	135.9	132.8	131.7	131.6	131.7	132.0	132.1	132.6	131.4	133.0	134.6	137.3
Motor fuel	117.0	136.1	147.5	136.9	131.5	128.1	137.1	143.6	150.9	156.5	171.1	173.8	165.6	162.4	161.7
Gasoline (all types)	116.4	135.5	147.0	136.4	130.9	127.6	136.6	143.0	150.3	155.8	170.4	173.2	165.0	161.7	161.0
Motor vehicle parts and equipment	106.1	107.3	107.2	107.5	107.5	107.3	107.6	107.6	107.4	107.5	107.5	107.8	108.2	108.4	108.7
Motor vehicle maintenance and repair	191.7	197.3	197.9	198.6	198.9	199.8	199.9	200.1	200.3	200.4	200.8	201.5	202.1	202.7	202.7
Public transportation	202.6	206.0	208.4	208.7	205.8	203.6	204.6	206.2	208.0	209.4	208.8	210.0	212.1	208.0	203.1
Medical care	284.6	296.3	298.3	299.1	300.1	301.4	302.8	305.4	306.9	307.7	308.4	309.4	310.4	311.0	311.7
Medical care commodities	251.1	257.4	259.4	259.2	258.5	259.4	259.8	260.9	261.5	262.5	263.3	263.8	263.7	263.8	264.8
Medical care services	292.5	305.9	307.9	309.1	310.6	311.9	313.8	316.8	318.6	319.4	320.0	321.2	322.4	323.2	323.9
Professional services	256.0	263.4	264.4	265.2	265.2	266.5	267.8	270.6	272.3	273.2	273.5	274.1	274.8	275.8	275.9
Hospital and related services	363.2	391.2	395.8	397.5	402.4	403.4	405.9	408.7	409.9	409.8	410.7	413.0	415.2	414.9	416.4
Recreation[2]	104.6	105.5	105.5	105.4	105.6	105.5	105.6	106.2	106.5	106.7	106.6	106.7	106.3	106.1	106.2
Video and audio[1,2]	102.0	102.9	102.7	102.8	103.0	102.5	102.7	103.2	103.5	103.9	103.9	103.7	103.7	103.4	103.3
Education and communication[2]	107.6	109.0	109.7	109.7	109.6	109.7	109.8	110.0	109.8	109.6	109.2	109.4	109.4	109.9	110.8
Education[2]	125.9	133.8	137.8	138.1	138.0	138.0	139.1	139.4	139.6	139.7	139.9	140.6	141.0	143.6	146.3
Educational books and supplies	318.5	336.5	339.6	340.6	337.5	343.8	346.1	349.5	349.9	350.4	350.4	351.5	350.4	354.7	354.8
Tuition, other school fees, and child care	354.8	377.3	389.2	390.1	390.2	390.7	392.8	393.3	393.8	394.1	394.6	396.7	398.1	405.8	414.0
Communication[1,2]	93.7	91.2	90.2	89.9	89.8	89.7	89.6	89.6	89.3	89.0	88..4	88.4	88.1	87.6	87.8
Information and information processing[1,2]	92.7	89.9	89.1	88.5	88.4	88.3	88.2	88.2	87.9	87.5	87.0	86.9	86.7	86.2	86.3
Telephone services[1,2]	99.9	98.5	97.6	97.3	97.4	97.4	97.2	97.3	96.9	96.7	96.1	96.1	95.8	95.2	95.5
Information and information processing other than telephone services[1,4]	19.0	16.7	16.1	16.2	15.9	15.8	15.8	15.8	15.7	15.5	15.4	15.4	15.3	15.3	15.2
Personal computers and peripheral equipment[1,2]	21.8	17.3	16.0	16.2	16.0	15.9	15.8	15.7	15.5	15.6	15.4	15.2	15.0	14.9	14.8
Other goods and services	302.0	307.0	307.9	308.2	307.7	308.1	309.3	310.0	310.8	311.3	311.5	311.8	313.2	313.5	314.4
Tobacco and smoking products	463.2	470.5	469.9	470.7	470.2	471.5	473.8	473.2	474.2	474.1	474.4	476.9	481.6	482.6	483.9
Personal care[1]	174.1	177.0	177.9	178.0	177.7	177.8	177.4	179.1	179.7	180.1	180.2	180.0	180.3	180.5	180.9
Personal care products[1]	155.5	154.2	154.0	154.1	153.8	154. 2	154.3	155.0	155.0	155.1	155.1	154.3	153.9	153.1	154.0
Personal care services[1]	189.1	193.9	196.1	196.3	194.8	194.9	195.1	195.7	196.3	196.6	197.1	197.5	198.1	199.5	199.7
Miscellaneous personal services	274.0	283.3	285.2	285.6	286.7	286.6	288.4	290.2	291.6	292.9	293.1	293.5	294.7	295.4	296.2
Commodity and service group:															
Commodities	150.4	151.8	152.7	151.9	151.3	150.7	151.5	152.7	154.1	154.8	156.7	156.6	155.2	154.9	155.7
Food and beverages	176.1	179.9	180.7	181.7	182.4	183.6	183.8	184.0	184.4	184.5	186.0	186.4	186.8	186.9	186.8
Commodities less food and beverages	135.5	135.8	136.7	135.2	133.8	132.5	133.5	135.2	137.0	138.0	140.0	139.6	137.5	137.1	138.2
Nondurables less food and beverages	147.0	152.1	155.9	153.6	151.4	149.0	151.0	154.3	158.4	160.5	164.7	164.4	160.4	159.5	161.2
Apparel	123.1	120.0	121.0	123.9	122.6	118.7	115.7	118.3	122.9	123.8	122.8	119.6	115.6	115.9	120.6
Nondurables less food, beverages, and apparel	165.3	175.6	181.2	175.7	172.9	171.6	176.5	180.2	184.1	187.0	194.5	196.0	191.8	190.2	190.1
Durables	121.8	117.4	115.5	114.7	114.2	114.0	114.0	1142.0	114.0	113.9	113.9	113.5	113.2	113.1	113.7
Services	205.9	212.6	214.3	214.4	214.1	214.2	215.3	216.0	216.7	217.1	217.6	219.0	219.7	220.2	220.3
Rent of shelter[3]	194.5	199.2	199.9	200.6	200.5	200.6	201.4	202.0	203.2	203.7	203.9	204.4	205.1	205.5	205.5
Transporatation services	207.7	216.2	216.8	219.0	218.8	218.0	219.1	219.7	220.0	220.2	220.3	220.7	221.6	221.0	220.5
Other services	241.6	248.5	250.6	250.7	250.7	250.9	251.8	252.6	252.9	253.0	252.7	253.3	253.5	254.4	256.0
Special indexes:															
All items less food	175.8	179.7	181.0	180.4	179.7	179.2	180.2	181.4	182.6	183.2	184.4	185.0	184.5	184.5	185.1
All items less shelter	168.3	171.9	173.3	172.6	171.9	171.6	172.5	173.7	174.7	175.3	176.8	177.5	176.7	176.6	177.3
All items less medical care	171.1	174.8	176.0	175.6	175.0	174.7	175.6	176.6	177.6	178.2	179.4	180.0	179.6	179.6	180.0
Commodities less food	137.3	137.7	138.6	137.0	135.8	134.5	135.5	137.1	138.9	139.9	141.8	141.5	139.4	139.0	140.2
Nondurables less food	149.2	154.2	157.9	155.7	153.7	151.4	153.3	156.4	160.4	162.4	166.4	166.2	162.3	161.5	163.2
Nondurables less food and apparel	166.1	175.9	181.1	176.1	173.6	172.1	176.9	180.2	184.0	186.6	193.5	194.8	191.0	189.6	189.7
Nondurables	161.4	166.4	168.8	168.1	167.3	166.6	167.8	169.5	171.8	173.0	175.9	175.9	174.0	173.6	174.5
Services less rent of shelter[3]	193.1	201.3	203.7	203.2	202.7	202.9	204.1	204.9	204.9	205.2	205.8	208.2	208.9	209.3	209.5
Services less medical care services	198.9	205.2	206.8	206.9	206.5	206.6	207.6	208.2	208.8	209.2	209.7	211.1	211.8	212.2	212.3
Energy	120.9	135.9	144.2	136.3	132.4	131.1	136.9	140.2	143.0	146.0	154.5	159.9	156.2	155.1	154.2
All items less energy	183.6	186.1	186.4	187.0	187.0	186.9	187.2	187.9	188.7	189.0	189.3	189.3	189.3	189.5	190.2
All items less food and energy	185.6	187.9	188.1	188.6	188.4	188.0	188.3	189.1	190.1	190.4	190.4	190.3	190.3	190.5	191.4
Commodities less food and energy	144.4	141.1	140.2	140.3	139.7	141.1	138.2	139.0	140.0	140.1	139.9	139.0	138.0	138.0	139.5
Energy commodities	17.3	136.8	147.2	137.2	132.1	136.8	138.3	144.7	151.5	156.7	170.7	173.3	165.5	162.8	162.3
Services less energy	213.9	220.2	221.3	222.1	222.1	222.1	223.1	223.9	224.9	225.3	225.5	226.0	226.7	227.1	227.4

[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.

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38. 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 2004						Urban Wage Earners 2004					
		Apr.	May	June	July	Aug.	Sept.	Apr.	May	June	July	Aug.	Sept.
U.S. city average	M	188.0	189.1	189.7	189.4	189.5	189.9	183.5	184.7	185.3	184.9	185.0	185.4
Region and area size[2]													
Northeast urban	M	199.4	199.9	201.1	201.0	201.0	201.2	195.7	196.4	197.5	197.3	197.2	197.7
Size A—More than 1,500,000	M	201.4	202.0	203.3	203.0	203.1	203.2	196.3	197.1	198.3	198.0	198.1	198.4
Size B/C—50,000 to 1,500,000[3]	M	118.1	118.3	118.7	119.2	118.9	119.2	118.1	118.4	118.8	119.1	118.7	119.2
Midwest urban[4]	M	181.5	182.9	183.3	183.2	183.3	183.6	176.3	177.8	178.2	178	178.2	178.6
Size A—More than 1,500,000	M	183.7	185.0	185.3	185.4	185.6	189.5	177.9	179.4	179.4	179.5	179.8	180.2
Size B/C—50,000 to 1,500,000[3]	M	115.6	116.4	116.8	116.3	116.5	116.8	114.6	115.5	116.0	115.5	115.7	115.9
Size D—Nonmetropolitan (less than 50,000)	M	173.9	176.0	176.9	177.1	176.3	176.4	171.2	173.2	174.1	173.7	173.4	173.7
South urban	M	180.9	182.0	182.9	182.6	182.6	185.8	180.9	178.9	179.7	179.3	179.4	179.7
Size A—More than 1,500,000	M	182.5	183.4	184.3	183.7	183.7	184.0	179.7	180.8	181.9	181.2	181.2	181.4
Size B/C—50,000 to 1,500,000[3]	M	115.6	116.4	117.0	116.9	116.9	116.9	114.0	114.8	115.3	115.2	115.3	115.4
Size D—Nonmetropolitan (less than 50,000)	M	178.7	179.4	180.5	180.1	180.0	181.2	177.8	179	180	179.4	179.5	180.7
West urban	M	192.3	193.4	193.3	192.9	193.0	193.8	187.3	188.6	188.6	188.0	188.0	188.8
Size A—More than 1,500,000	M	194.6	195.9	195.9	195.4	195.5	196.4	188.2	189.6	189.7	188.9	188.9	189.9
Size B/C—50,000 to 1,500,000[3]	M	117.8	118.2	117.9	117.9	118.1	118.4	117.2	117.8	117.6	117.4	117.6	117.8
Size classes:													
A[5]	M	172.0	172.9	173.4	173.1	173.2	173.6	170.0	171.2	171.7	171.3	171.4	171.8
B/C[3]	M	116.3	117.0	117.3	117.3	117.3	117.4	115.3	116.0	116.4	116.2	116.2	116.5
D	M	179.3	180.9	181.8	181.3	181.0	181.8	177.2	178.8	179.7	179.0	178.8	179.7
Selected local areas[6]													
Chicago–Gary–Kenosha, IL–IN–WI	M	187.2	188.7	189.1	189.2	190.2	190.0	180.6	182.2	182.5	182.4	183.2	183.1
Los Angeles–Riverside–Orange County, CA	M	191.9	193.3	193.7	193.4	193.1	194.5	185.2	186.8	187.4	186.8	186.5	187.8
New York, NY–Northern NJ–Long Island, NY–NJ–CT–PA	M	204.0	204.4	206.0	205.5	205.7	205.9	198.5	199.1	200.4	200.1	200.3	200.6
Boston–Brockton–Nashua, MA–NH–ME–CT	1	–	181.3	–	208.9	–	209.8	–	207.9	–	207.9	–	208.8
Cleveland–Akron, OH	1	–	179.1	–	181.7	–	183.8	–	172.6	–	172.8	–	174.8
Dallas–Ft Worth, TX	1	–	118.9	–	179.1	–	179.7	–	179.5	–	179.4	–	180.0
Washington–Baltimore, DC–MD–VA–WV[7]	1	–	118.9	–	120.2	–	120.8	–	118.4	–	119.7	–	120.4
Atlanta, GA	2	182.3	–	185.7	–	184.1	–	180.0	–	184.0	–	182.5	–
Detroit–Ann Arbor–Flint, MI	2	184.7	–	185.8	–	186.8	–	179.3	–	180.4	–	181.5	–
Houston–Galveston–Brazoria, TX	2	169.7	–	169.3	–	169.1	–	166.8	–	167.6	–	167.4	–
Miami–Ft. Lauderdale, FL	2	185.2	–	185.6	–	185.1	–	182.6	–	183.4	–	182.9	–
Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD	2	194.8	–	198.0	–	199.1	–	194.0	–	197.3	–	198.0	–
San Francisco–Oakland–San Jose, CA	2	198.3	–	199.0	–	198.7	–	194.7	–	195.4	–	195.0	–
Seattle–Tacoma–Bremerton, WA	2	194.3	–	195.3	–	194.6	–	189.1	–	190.4	–	189.6	–

[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.

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39. 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

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40. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		2003				2004								
	2002	2003	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July[p]	Aug.[p]	Sept.[p]
Finished goods	138.9	143.3	144.0	145.5	144.5	144.5	145.4	145.3	146.3	147.3	148.9	148.7	148.7	148.6	148.7
Finished consumer goods	139.4	145.3	146.4	147.7	146.5	146.7	147.8	147.8	149.0	150.4	152.5	152.0	152.0	151.9	152.0
Finished consumer foods	140.1	145.9	148.0	151.0	150.1	150.3	148.1	148.4	150.7	152.7	155.5	155.0	152.1	152.2	152.2
Finshed consumer goods excluding foods	138.8	144.7	145.5	146.2	144.8	145.0	147.4	147.3	148.0	149.1	150.9	150.5	151.7	151.4	151.5
Nondurable goods less food	139.8	148.4	150.4	149.4	147.6	148.2	151.7	151.6	152.4	154.3	156.7	156.0	157.9	158.0	158.1
Durable goods	133.0	133.1	131.1	135.6	135.0	134.3	134.3	134.2	134.7	134.4	134.8	134.9	134.6	133.7	133.8
Capital equipment	139.1	139.5	138.9	140.8	140.5	140.2	140.5	140.2	140.5	140.6	140.8	141.1	141.2	141.1	141.3
Intermediate materials, supplies, and components	127.8	133.7	134.1	134.1	134.1	134.5	136.2	137.3	138.3	140.2	142.0	142.8	143.8	144.9	145.3
Materials and components for manufacturing	126.1	129.7	129.8	130.5	130.7	130.9	131.9	133.2	134.3	136.2	137.4	137.7	138.6	139.6	140.8
Materials for food manufacturing	123.2	134.4	137.4	141.8	141.6	140.7	138.4	139.3	141.7	146.6	152.2	152.0	147.9	145.4	144.2
Materials for nondurable manufacturing	129.2	137.2	136.4	137.5	137.2	137.9	140.2	141.0	141.4	143.5	144.5	145.9	147.2	149.5	152.1
Materials for durable manufacturing	124.7	127.9	128.6	129.5	130.5	131.2	132.9	137.3	140.7	144.3	146.9	145.8	149.4	151.0	153.3
Components for manufacturing	126.1	125.9	125.8	125.8	125.8	125.8	125.9	126.2	126.5	127.1	127.3	127.6	127.8	128.1	128.0
Materials and components for construction	151.3	153.6	155.0	155.2	155.6	155.6	156.2	159.0	161.9	164.7	166.9	166.9	167.8	170.0	171.1
Processed fuels and lubricants	96.3	112.6	113.7	111.5	110.3	111.7	116.8	116.8	116.5	118.4	122.3	124.9	126.5	128.5	127.1
Containers	152.1	153.7	153.5	153.2	153.4	153.5	153.9	153.7	154.1	154.9	156.7	158.9	159.5	161.4	162.5
Supplies	138.9	141.5	141.7	141.9	142.6	142.8	143.2	143.8	144.8	146.4	147.2	147.3	148.1	147.5	147.7
Crude materials for further processing	108.1	135.3	134.7	138.3	137.0	141.1	147.8	150.1	152.9	155.7	161.8	163.0	162.0	160.7	153.8
Foodstuffs and feedstuffs	99.5	113.5	119.0	128.1	125.7	124.7	117.1	122.2	131.7	135.4	141.1	137.4	131.0	124.7	121.7
Crude nonfood materials	111.4	148.2	142.8	141.1	141.4	149.5	167.3	167.3	164.8	166.6	172.9	178.0	181.3	183.9	174.1
Special groupings:															
Finished goods, excluding foods	138.3	142.4	142.7	143.8	142.8	142.8	144.5	144.3	144.9	145.7	147.0	146.8	147.6	147.4	147.5
Finished energy goods	88.8	102.0	105.2	103.2	100.4	101.0	106.0	105.7	107.0	109.5	113.6	112.5	115.1	115.1	114.9
Finished goods less energy	147.3	149.0	149.0	151.4	151.0	150.9	150.6	150.5	151.3	151.9	152.7	152.7	152.1	151.9	152.1
Finished consumer goods less energy	150.8	153.1	153.3	156.1	155.5	155.5	154.9	155.0	156.1	156.9	158.0	157.9	156.8	156.6	156.8
Finished goods less food and energy	150.2	150.5	149.7	152.0	151.7	151.4	151.8	151.7	152.0	152.1	152.2	152.3	152.4	152.2	152.5
Finished consumer goods less food and energy	157.6	157.9	157.0	159.5	159.2	159.0	159.4	159.4	159.7	159.8	159.9	160.0	160.0	159.7	160.0
Consumer nondurable goods less food and energy	177.5	177.9	177.8	178.6	178.5	178.9	179.7	179.8	179.8	180.5	180.2	180.2	180.5	180.8	181.3
Intermediate materials less foods and feeds	128.5	134.2	134.5	134.4	134.2	134.7	136.5	137.6	138.4	140.2	141.9	142.8	144.0	145.4	146.0
Intermediate foods and feeds	115.5	125.9	128.4	131.9	134.8	134.1	132.2	133.7	137.0	143.2	147.7	144.9	143.2	136.0	133.8
Intermediate energy goods	95.9	111.9	112.8	110.7	109.5	110.9	115.8	115.8	115.6	117.3	121.1	123.7	125.4	127.1	126.0
Intermediate goods less energy	134.5	137.7	138.0	138.5	138.8	139.0	139.8	141.1	142.4	144.4	145.7	146.0	146.8	147.7	148.5
Intermediate materials less foods and energy	135.8	138.5	138.7	139.0	139.2	139.5	140.4	141.7	142.9	144.6	145.7	146.2	147.1	148.5	149.5
Crude energy materials	102.0	147.2	138.2	134.3	132.5	141.8	163.5	158.9	153.0	158.8	172.1	180.0	178.3	178.1	166.3
Crude materials less energy	108.7	123.4	128.2	135.9	135.5	136.2	133.2	139.8	148.0	148.7	150.1	147.0	146.5	144.5	140.9
Crude nonfood materials less energy	135.7	152.5	155.5	159.5	164.8	170.1	179.3	189.9	195.2	187.6	177.9	176.3	191.6	200.9	195.4

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41. Producer Price Indexes for the net output of major industry groups

[December 2003 = 100, unless otherwise indicated]

NAICS	Industry	2003	2004								
		Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July[P]	Aug.[P]	Sept.[P]
–	**Total mining industries (December 1984=100)**	129.0	144.6	140.3	136.6	140.9	149.5	155.5	155.2	157.2	148.8
211	Oil and gas extraction(December 1985=100)	155.1	181.1	172.5	165.4	171.7	188.1	198.0	196.9	198.7	182.8
212	Mining, except oil and gas	100.0	103.3	105.2	105.9	108.5	107.3	108.1	108.5	110.2	111.6
213	Mining support activities	100.0	101.2	100.8	100.8	101.0	101.3	102.2	103.5	105.5	107.5
–	**Total manufacturing industries (December 1984=100)**	137.7	138.9	139.3	140.3	141.8	143.3	142.9	143.4	143.7	144.1
311	Food manufacturing (December 1984=100)	141.1	139.3	140.4	142.4	146.1	149.1	148.6	146.7	144.4	143.3
312	Beverage and tobacco manufacturing	100.0	101.4	101.2	100.7	101.5	100.2	101.2	100.9	101.4	101.0
313	Textile mills	100.0	100.4	100.3	100.2	100.7	101.1	101.3	101.6	101.6	101.2
315	Apparel manufacturing	100.0	99.9	99.7	99.8	99.9	100.0	99.8	99.6	99.6	99.9
316	Leather and allied product manufacturing (December 1984=100)	143.4	143.3	143.6	143.8	143.5	143.4	143.5	143.6	143.7	143.5
321	Wood products manufacturing	100.0	99.3	102.7	105.9	108.1	110.2	108.3	106.7	109.9	110.8
322	Paper manufacturing	100.0	99.3	99.4	99.5	100.1	101.1	102.3	103.4	104.2	104.9
323	Printing and related support activities	100.0	100.2	100.2	100.4	100.8	100.8	101.0	101.3	101.5	102.0
324	Petroleum and coal products manufacturing (December 1984=100)	117.5	131.5	130.7	134.3	141.9	152.0	144.1	152.0	155.6	158.9
325	Chemical manufacturing (December 1984=100)	165.3	167.0	167.9	168.8	169.7	170.3	171.6	172.0	173.2	175.6
326	Plastics and rubber products manufacturing (December 1984=100)	128.8	128.9	129.4	129.6	130.0	130.4	130.8	131.4	131.8	132.5
331	Primary metal manufacturing (December 1984=100)	121.4	124.0	128.5	132.3	138.4	142.2	142.3	147.6	149.1	150.9
332	Fabricated metal product manufacturing (December 1984=100)	133.7	134.6	135.7	137.5	139.4	140.8	141.9	142.6	143.7	144.2
333	Machinery manufacturing	100.0	100.3	100.6	100.9	101.3	101.6	101.8	102.1	102.2	102.5
334	Computer and electronic products manufacturing	100.0	99.8	99.5	99.3	99.5	99.3	99.1	99.0	98.9	98.9
335	Electrical equipment, appliance, and components manufacturing	100.0	100.2	100.7	101.8	102.7	103.3	103.5	103.7	103.8	104.1
336	Transportation equipment manufacturing	100.0	100.2	100.1	100.4	100.2	100.4	100.6	100.4	99.9	99.9
337	Furniture and related product manufacturing(December 1984=100)	147.6	147.4	148.7	149.0	149.7	151.4	151.7	152.1	152.7	152.7
339	Miscellaneous manufacturing	100.0	100.5	100.9	100.8	101.0	100.9	101.2	101.3	101.0	101.6
	Retail trade										
441	Motor vehicle and parts dealers	100.0	101.6	101.7	103.2	103.8	103.7	103.7	104.0	103.4	103.5
442	Furniture and home furnishings stores	100.0	99.5	100.8	101.8	102.0	101.4	102.8	102.5	103.0	103.6
443	Electronics and appliance stores	100.0	101.4	99.7	99.9	101.2	101.2	98.8	99.9	98.8	101.6
446	Health and personal care stores	100.0	99.6	99.9	96.9	97.4	97.5	98.7	99.5	101.5	107.3
447	Gasoline stations (June 2001=100)	47.9	45.5	46.6	55.4	56.6	53.2	59.3	46.0	47.0	45.8
454	Nonstore retailers	100.0	102.9	105.4	113.2	108.6	107.0	108.7	106.1	103.6	107.5
	Transportation and warehousing										
481	Air transportation (December 1992=100)	162.7	163.3	163.6	162.0	162.3	162.2	162.8	163.4	165.1	160.6
483	Water transportation	100.0	99.0	98.9	99.4	100.1	100.3	100.3	100.4	100.5	103.0
491	Postal service (June 1989=100)	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0
	Utilities										
221	Utilities	100.0	101.7	102.5	101.2	101.8	103.1	106.9	107.1	107.5	105.1
	Health care and social assistance										
6211	Office of physicians (December 1996=100)	112.8	114.1	114.3	114.3	114.4	114.4	114.3	114.5	114.5	114.5
6215	Medical and diagnostic laboratories	100.0	100.3	99.8	99.8	99.8	100.0	100.0	100.0	100.0	100.1
6216	Home health care services (December 1996=100)	119.0	119.5	119.6	119.6	119.7	119.7	119.7	119.9	119.8	119.7
622	Hospitals (December 1992=100)	137.6	139.5	140.1	140.3	140.7	140.8	140.9	142.3	142.1	142.4
6231	Nursing care facilities	100.0	101.2	101.4	101.6	101.9	102.0	102.0	102.1	102.9	103.1
62321	Residential mental retardation facilities	100.0	100.1	99.9	99.9	99.9	100.5	100.5	99.9	100.6	100.6
	Other services industries										
511	Publishing industries, except Internet	100.0	100.9	101.3	101.3	101.4	101.3	101.4	101.8	101.2	101.0
515	Broadcasting, except Internet	100.0	97.8	99.1	100.3	101.6	103.1	102.7	100.5	100.1	101.9
517	Telecommunications	100.0	100.4	100.0	100.2	100.1	99.9	99.9	99.7	100.0	99.5
5182	Data processing and related services	100.0	99.9	98.9	98.4	98.5	98.9	99.0	99.0	99.0	98.8
523	Security, commodity contracts, and like activity	100.0	101.8	102.0	101.7	102.3	102.4	102.7	102.5	102.3	103.2
53112	Lessors or nonresidental buildings (except miniwarehouse)	100.0	99.1	99.4	99.6	101.0	102.6	102.1	103.2	105.2	104.7
5312	Offices of real estate agents and brokers	100.0	100.0	100.2	100.7	100.8	100.8	101.0	101.1	101.1	101.1
5313	Real estate support activities	100.0	100.1	100.6	101.1	101.3	101.9	98.5	101.5	102.7	100.7
5321	Automotive equipment rental and leasing (June 2001=100)	109.1	107.9	109.8	107.4	106.0	104.5	105.6	109.7	111.0	108.2
5411	Legal services (December 1996=100)	126.5	131.4	131.7	131.7	131.8	131.8	131.8	132.0	131.9	132.3
541211	Offices of certified public accountants	100.0	100.8	100.7	100.8	101.1	101.2	101.1	101.3	101.6	101.8
5413	Architectural, engineering, and related services (December 1996=100)	125.3	125.7	125.9	126.5	126.6	126.5	126.6	126.9	126.9	127.2
54181	Advertising agencies	100.0	99.6	99.6	99.8	99.9	99.9	99.9	100.3	100.7	100.4
5613	Employment services (December 1996=100)	112.1	112.1	112.5	113.2	113.1	113.4	113.8	114.0	114.8	114.8
56151	Travel agencies	100.0	99.0	98.7	98.7	98.7	98.7	97.4	96.1	95.4	94.8
56172	Janitorial services	100.0	100.3	100.3	100.4	100.5	100.6	101.0	100.8	101.6	100.9
5621	Waste collection	100.0	100.8	101.3	100.8	101.3	101.5	101.5	101.3	101.3	101.3
721	Accommodation (December 1996=100)	120.5	122.2	123.6	124.9	124.8	124.4	125.6	128.6	128.6	125.4

NOTE: Data reflect the conversion to the 2002 version of the North American Industry Classification System (NAICS), replacing the Standard Industrial Classification (SIC) system.

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42. 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

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43. U.S. export price indexes by Standard International Trade Classification

[2000 = 100]

SITC Rev. 3	Industry	2003				2004								
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
0	**Food and live animals**	112.1	112.2	115.2	116.5	117.0	119.9	122.7	126.1	126.7	123.9	119.8	116.5	117.8
01	Meat and meat preparations	117.2	123.5	125.6	123.0	122.8	125.0	127.1	127.6	127.7	127.3	123.0	126.1	124.6
04	Cereals and cereal preparations	124.2	119.4	125.6	130.8	131.6	135.2	139.6	147.7	146.0	141.2	128.0	120.6	122.0
05	Vegetables, fruit, and nuts, prepared fresh or dry	101.4	103.2	102.8	103.2	103.1	108.4	110.1	109.5	113.3	111.1	110.0	113.2	120.2
2	**Crude materials, inedible, except fuels**	106.2	111.2	116.3	116.9	120.2	122.3	129.0	132.8	132.5	125.7	132.1	117.9	119.1
22	Oilseeds and oleaginous fruits	121.1	136.7	150.9	152.5	157.2	160.9	181.6	197.1	199.0	168.5	184.5	117.4	125.1
24	Cork and wood	91.6	92.0	92.5	93.7	94.5	95.6	96.5	97.6	98.2	98.3	98.9	98.8	99.1
25	Pulp and waste paper	88.8	90.8	91.9	91.7	91.7	92.5	94.2	98.8	100.4	100.8	100.1	99.5	98.7
26	Textile fibers and their waste	109.6	121.4	128.5	121.2	123.7	122.2	121.9	115.9	114.9	108.7	102.9	101.1	102.1
28	Metalliferous ores and metal scrap	119.9	121.1	129.6	136.6	148.9	156.8	171.4	176.2	170.6	167.5	190.2	183.0	177.2
3	**Mineral fuels, lubricants, and related products**	108.7	108.2	106.3	110.7	120.5	119.3	123.0	123.2	135.1	131.8	137.5	139.3	141.2
32	Coal, coke, and briquettes	111.6	111.6	111.6	112.9	–	–	–	–	–	–	–	–	–
33	Petroleum, petroleum products, and related materials	104.2	104.1	101.2	106.2	116.8	114.7	120.1	119.8	135.0	129.7	134.5	136.2	138.0
5	**Chemicals and related products, n.e.s.**	100.3	100.7	100.9	101.4	102.9	104.0	104.9	105.5	105.6	105.8	107.0	108.7	109.6
54	Medicinal and pharmaceutical products	105.4	105.9	106.5	105.8	105.4	105.3	105.5	105.7	105.7	105.8	107.9	108.1	108.0
55	Essential oils; polishing and cleaning preparations	98.2	98.9	99.4	100.1	104.3	104.2	104.3	104.1	104.4	104.3	104.1	105.0	105.5
57	Plastics in primary forms	95.4	95.5	95.8	96.5	98.3	100.9	102.1	102.2	102.9	103.2	104.8	107.5	109.6
58	Plastics in nonprimary forms	98.2	98.3	97.1	97.2	96.8	97.2	97.4	96.9	96.7	96.5	97.2	97.2	97.5
59	Chemical materials and products, n.e.s.	101.9	102.4	102.5	102.6	105.0	105.2	104.8	104.8	104.8	104.9	104.6	106.3	105.5
6	**Manufactured goods classified chiefly by materials**	100.2	100.3	100.7	100.8	101.7	103.0	104.1	105.6	106.6	107.0	108.5	109.6	110.5
62	Rubber manufactures, n.e.s.	109.2	109.2	109.5	109.9	110.4	110.9	110.4	110.9	110.8	111.2	111.8	112.0	111.2
64	Paper, paperboard, and articles of paper, pulp, and paperboard	98.3	97.4	97.9	97.6	97.9	97.8	97.9	98.7	99.0	99.2	101.2	101.9	102.7
66	Nonmetallic mineral manufactures, n.e.s.	99.5	99.5	99.7	99.8	99.7	99.6	99.7	99.7	99.5	99.9	99.9	100.2	100.5
68	Nonferrous metals	81.6	81.9	83.4	84.5	85.9	90.9	94.1	98.1	97.6	95.4	95.4	96.7	98.5
7	**Machinery and transport equipment**	97.9	97.7	97.7	97.8	97.9	98.1	98.2	98.4	98.4	98.2	98.2	98.2	98.3
71	Power generating machinery and equipment	107.5	107.9	108.5	108.7	109.3	109.4	109.4	108.7	108.7	108.7	108.9	109.0	109.0
72	Machinery specialized for particular industries	103.1	103.1	103.3	103.4	103.9	104.0	104.2	105.1	105.4	105.4	105.7	105.9	106.1
74	General industrial machines and parts, n.e.s., and machine parts	102.6	102.6	102.8	102.8	103.3	103.5	104.0	104.5	104.8	104.9	105.2	105.3	105.3
75	Computer equipment and office machines	87.8	87.9	88.0	88.6	87.7	88.2	88.4	88.8	88.6	87.2	86.6	86.4	86.2
76	Telecommunications and sound recording and reproducing apparatus and equipment	93.3	92.8	92.2	92.0	92.6	92.5	92.4	92.2	92.0	91.8	91.5	90.7	90.7
77	Electrical machinery and equipment	89.4	88.6	88.2	88.1	88.0	88.3	88.6	88.5	88.6	88.2	88.3	88.2	88.2
78	Road vehicles	101.4	101.5	101.6	101.5	101.7	101.9	101.9	102.3	102.3	102.4	102.5	102.5	102.8
87	**Professional, scientific, and controlling instruments and apparatus**	102.2	102.1	102.3	102.3	102.2	102.3	102.3	102.2	102.1	102.0	101.7	101.9	101.8

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44. U.S. import price indexes by Standard International Trade Classification

[2000 = 100]

SITC Rev. 3	Industry	2003				2004								
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
0	**Food and live animals**	100.0	100.3	100.0	101.0	102.2	104.7	105.4	106.4	106.1	106.9	107.4	107.4	109.2
01	Meat and meat preparations	112.8	115.2	117.2	120.4	117.7	118.0	120.4	121.7	124.4	128.9	133.7	134.2	135.1
03	Fish and crustaceans, mollusks, and other aquatic invertebrates	82.2	79.8	79.3	79.2	78.2	80.0	83.3	85.1	84.1	84.1	86.1	86.9	86.1
05	Vegetables, fruit, and nuts, prepared fresh or dry	105.0	106.4	108.9	109.4	112.3	115.7	111.3	109.5	106.1	105.9	102.1	100.6	109.2
07	Coffee, tea, cocoa, spices, and manufactures thereof	98.6	95.5	93.1	96.0	100.1	101.9	101.7	103.6	102.4	107.0	102.7	103.3	105.6
1	**Beverages and tobacco**	104.0	104.3	104.4	104.4	104.7	105.0	105.3	105.3	105.4	105.3	105.9	106.1	106.2
11	Beverages	103.9	104.2	104.2	104.3	104.9	105.2	105.5	105.5	105.7	105.6	106.4	106.6	106.7
2	**Crude materials, inedible, except fuels**	106.1	104.2	104.5	107.9	109.5	114.1	120.0	122.9	127.3	125.8	125.7	134.1	135.1
24	Cork and wood	113.0	106.2	103.2	108.0	108.9	115.7	123.3	127.8	139.0	136.1	132.1	149.0	151.1
25	Pulp and waste paper	90.4	90.8	91.9	92.8	93.3	91.9	95.4	100.8	103.4	106.5	108.0	107.7	105.5
28	Metalliferous ores and metal scrap	103.7	104.3	108.7	115.3	124.2	134.6	148.0	148.2	143.5	140.4	145.3	160.8	162.4
29	Crude animal and vegetable materials, n.e.s.	95.7	95.1	94.8	99.6	98.9	99.5	99.7	99.3	102.1	98.0	101.2	97.6	98.7
3	**Mineral fuels, lubricants, and related products**	101.5	101.3	103.3	108.2	117.3	117.7	120.8	121.1	131.6	131.5	133.9	144.1	146.1
33	Petroleum, petroleum products, and related materials	99.4	100.1	102.3	106.9	114.0	114.5	120.0	120.3	131.5	130.0	133.0	144.6	148.7
34	Gas, natural and manufactured	114.4	106.2	106.6	113.9	138.0	137.1	122.9	123.3	129.5	140.0	134.8	136.3	122.0
5	**Chemicals and related products, n.e.s.**	99.2	100.2	100.8	101.1	103.0	103.4	103.8	103.5	103.5	103.8	104.6	105.1	105.7
52	Inorganic chemicals	105.4	108.8	111.9	114.0	119.3	120.6	120.5	115.9	117.5	119.8	122.2	124.0	124.4
53	Dying, tanning, and coloring materials	97.7	98.1	99.0	99.6	99.9	99.7	99.5	100.6	100.8	100.3	98.3	98.4	98.4
54	Medicinal and pharmaceutical products	101.9	102.3	103.4	103.4	107.2	107.7	108.1	107.7	107.3	107.1	107.3	107.0	106.5
55	Essential oils; polishing and cleaning preparations	91.6	91.2	91.6	91.6	92.7	93.3	93.7	93.5	93.4	93.5	93.5	96.4	93.4
57	Plastics in primary forms	102.7	105.6	105.6	105.5	104.4	105.2	106.9	105.5	105.8	104.6	107.8	108.4	109.2
58	Plastics in nonprimary forms	101.4	101.7	101.7	101.8	102.1	102.4	102.9	102.9	102.9	102.3	103.0	103.3	103.6
59	Chemical materials and products, n.e.s.	91.8	92.3	93.1	93.3	94.3	94.9	95.8	95.4	95.1	95.2	94.7	94.1	94.5
6	**Manufactured goods classified chiefly by materials**	95.7	96.5	97.4	97.8	98.9	101.4	103.6	105.6	106.9	106.1	106.1	107.5	108.7
62	Rubber manufactures, n.e.s.	98.5	98.5	98.6	98.8	99.0	99.2	99.7	99.9	100.0	100.5	100.5	100.8	100.8
64	Paper, paperboard, and articles of paper, pulp, and paperboard	94.5	94.7	94.2	93.7	94.1	94.5	95.0	94.8	95.5	95.5	96.4	96.8	97.9
66	Nonmetallic mineral manufactures, n.e.s.	97.8	97.9	98.1	98.1	98.5	98.9	99.0	99.3	99.4	99.4	99.3	100.2	100.3
68	Nonferrous metals	80.7	82.0	85.1	87.7	92.3	97.0	102.6	105.8	106.1	101.6	102.3	105.2	105.7
69	Manufactures of metals, n.e.s.	98.5	98.7	99.1	99.5	99.7	100.3	101.1	102.3	102.4	102.4	102.7	103.3	103.9
7	**Machinery and transport equipment**	95.5	95.3	95.4	95.3	95.4	95.5	95.5	95.2	95.2	95.1	95.0	95.0	95.0
72	Machinery specialized for particular industries	102.2	102.4	103.3	103.6	104.9	106.4	106.7	106.5	106.7	106.6	107.2	107.6	107.5
74	General industrial machines and parts, n.e.s., and machine parts	100.2	100.4	100.9	101.2	101.8	102.5	103.3	103.5	103.6	103.5	104.0	104.2	104.4
75	Computer equipment and office machines	80.5	78.6	78.5	78.2	78.0	78.0	77.7	76.5	76.4	75.5	74.9	74.3	74.0
76	Telecommunications and sound recording and reproducing apparatus and equipment	88.6	87.7	87.5	86.7	86.4	85.4	85.1	84.9	84.9	84.7	84.3	84.0	83.8
77	Electrical machinery and equipment	96.0	95.9	96.0	95.3	95.4	95.7	95.6	94.9	94.8	94.7	94.6	94.7	94.6
78	Road vehicles	100.6	101.3	101.4	101.6	101.9	102.0	102.0	102.2	102.3	102.4	102.6	102.8	103.0
85	Footwear	99.9	100.0	100.1	100.1	100.5	100.5	100.6	100.6	100.6	100.4	100.4	100.1	100.5
88	Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.	99.2	99.3	99.8	99.9	99.9	100.3	100.0	99.4	99.3	99.0	98.2	98.2	98.2

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45. U.S. export price indexes by end-use category

[2000 = 100]

Category	2003				2004								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
ALL COMMODITIES	99.8	100.0	100.5	100.8	101.5	102.2	103.0	103.7	104.1	103.4	103.9	103.4	103.8
Foods, feeds, and beverages	115.3	117.2	121.4	122.4	123.1	125.6	130.5	134.8	135.6	129.1	128.0	116.5	118.8
Agricultural foods, feeds, and beverages	116.3	118.4	122.8	123.8	124.6	127.2	132.4	137.0	138.0	131.1	129.9	117.0	119.2
Nonagricultural (fish, beverages) food products	106.5	105.6	107.5	108.5	109.5	110.7	112.1	113.4	112.7	110.7	110.1	111.6	114.4
Industrial supplies and materials	100.2	101.0	101.7	102.5	105.1	106.4	108.1	109.1	110.2	109.9	112.0	113.1	113.8
Agricultural industrial supplies and materials	107.3	113.3	119.0	117.5	118.6	116.6	117.2	114.8	113.7	110.7	109.0	108.4	109.4
Fuels and lubricants	97.6	97.5	96.4	99.0	106.1	106.5	108.9	109.6	117.5	114.9	118.6	120.4	120.8
Nonagricultural supplies and materials, excluding fuel and building materials	100.5	101.1	101.7	102.5	104.7	106.4	108.1	109.4	109.9	110.0	112.4	113.5	114.3
Selected building materials	98.4	98.8	99.1	99.5	98.7	100.9	102.3	103.4	103.9	103.4	102.8	103.3	104.0
Capital goods	97.5	97.3	97.3	97.5	97.5	97.8	98.0	98.1	98.1	97.8	97.8	97.8	97.9
Electric and electrical generating equipment	101.7	101.7	101.7	101.7	102.0	101.9	102.0	101.7	101.7	102.0	102.2	102.3	102.3
Nonelectrical machinery	94.3	93.9	93.9	94.1	93.9	94.3	94.5	94.6	94.6	94.1	94.0	94.0	94.0
Automotive vehicles, parts, and engines	101.8	101.9	101.9	101.8	101.9	102.0	101.9	102.2	102.3	102.3	102.4	102.6	102.6
Consumer goods, excluding automotive	99.4	99.8	100.0	99.9	100.2	100.1	100.2	100.4	100.5	100.4	100.9	101.1	101.0
Nondurables, manufactured	98.5	99.0	99.4	99.2	99.9	99.9	99.9	100.1	100.1	100.0	100.8	101.0	101.0
Durables, manufactured	100.1	100.3	100.3	100.3	100.1	100.0	100.1	100.5	100.6	100.7	100.8	101.0	100.9
Agricultural commodities	114.7	117.5	122.2	122.7	123.5	125.3	129.7	133.0	133.7	127.4	126.1	115.5	117.5
Nonagricultural commodities	98.6	98.7	98.8	99.1	99.8	100.4	100.9	101.4	101.7	101.5	102.2	102.6	102.8

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46. U.S. import price indexes by end-use category

[2000 = 100]

Category	2003				2004								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
ALL COMMODITIES	96.2	96.3	96.8	97.5	99.0	99.4	100.2	100.4	101.9	101.7	102.1	103.5	104.0
Foods, feeds, and beverages	101.8	101.9	102.4	103.2	103.7	105.3	105.9	107.2	106.8	106.9	107.5	107.3	108.7
Agricultural foods, feeds, and beverages	108.3	109.0	109.7	110.9	112.0	113.4	113.0	114.2	114.0	114.3	114.5	114.0	116.4
Nonagricultural (fish, beverages) food products	87.6	86.3	86.0	86.0	85.1	87.2	90.1	91.7	90.6	90.3	91.8	92.3	91.5
Industrial supplies and materials	98.9	99.5	100.7	103.6	108.5	110.0	112.7	113.9	119.7	119.3	120.6	126.4	128.1
Fuels and lubricants	99.4	100.1	102.0	107.2	116.5	117.0	120.2	120.6	131.0	130.9	133.2	143.2	145.4
Petroleum and petroleum products	97.2	98.8	100.9	106.0	113.7	114.3	120.1	119.9	131.2	129.7	132.7	144.2	148.3
Paper and paper base stocks	94.0	94.0	93.9	93.9	94.1	94.2	95.6	96.8	98.2	99.0	100.0	100.4	101.2
Materials associated with nondurable supplies and materials	102.5	103.4	104.2	104.4	104.7	104.8	105.4	105.1	105.4	106.0	106.5	107.7	107.9
Selected building materials	110.3	109.5	108.1	108.0	106.8	113.7	118.4	120.2	123.6	120.5	117.6	124.0	125.6
Unfinished metals associated with durable goods	93.4	94.4	96.4	99.2	104.5	109.5	114.9	121.7	126.2	124.4	126.1	129.2	132.3
Nonmetals associated with durable goods	97.5	97.7	98.1	98.2	98.5	99.2	99.3	99.3	99.1	98.7	98.5	98.5	98.8
Capital goods	93.5	93.0	93.3	92.9	93.1	93.1	93.1	92.6	92.6	92.2	92.2	92.1	92.0
Electric and electrical generating equipment	95.8	96.2	96.5	96.8	97.4	97.9	97.8	97.2	97.1	97.0	97.5	97.5	97.4
Nonelectrical machinery	92.1	91.4	91.6	91.1	91.2	91.2	91.2	90.6	90.5	90.1	90.0	89.9	89.8
Automotive vehicles, parts, and engines	100.5	101.2	101.2	101.4	101.6	101.7	101.8	102.0	102.0	102.2	102.3	102.5	102.6
Consumer goods, excluding automotive	97.9	97.9	98.1	98.1	98.6	98.7	98.7	98.6	98.5	98.5	98.5	98.4	98.4
Nondurables, manufactured	99.7	99.8	100.0	100.1	101.1	101.2	101.3	101.1	101.0	100.9	101.0	100.9	100.8
Durables, manufactured	96.2	96.1	96.2	96.2	96.3	96.3	96.3	96.3	96.0	96.1	95.9	95.9	95.9
Nonmanufactured consumer goods	95.7	95.8	95.8	96.2	95.9	96.2	96.4	96.4	97.3	96.8	97.4	97.9	97.9

47. U.S. international price indexes for selected categories of services

[2000 = 100, unless indicated otherwise]

Category	2002		2003				2004		
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Air freight (inbound)	100.3	105.9	108.8	109.4	112.5	112.9	116.2	116.6	118.7
Air freight (outbound)	97.3	95.4	97.2	95.4	95.5	94.9	96.1	99.0	100.7
Inbound air passenger fares (Dec. 2003 = 100)	–	–	–	–	–	100.0	105.1	106.1	110.1
Outbound air passenger fares (Dec. 2003 = 100))	–	–	–	–	–	100.0	99.3	114.2	114.2
Ocean liner freight (inbound)	93.5	93.3	94.0	116.1	116.2	117.7	119.1	121.1	120.3

NOTE: Dash indicates data not available.

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48. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	2001		2002				2003				2004		
	III	IV	I	II	III	IV	I	II	III	IV	I	II	III
Business													
Output per hour of all persons	118.8	120.9	122.7	123.2	124.7	125.0	126.2	128.6	131.2	132.0	133.3	134.2	135.0
Compensation per hour	140.4	141.5	143.2	144.4	145.0	145.5	147.4	149.6	151.7	153.2	154.2	155.9	157.3
Real compensation per hour	113.2	114.2	115.2	115.2	115.0	114.8	115.3	116.8	117.7	118.7	118.4	118.3	118.9
Unit labor costs	118.2	117.0	116.7	117.2	116.3	116.3	116.8	116.4	115.6	116.0	115.7	116.1	116.6
Unit nonlabor payments	110.2	113.1	113.4	113.6	115.7	116.8	117.7	119.0	120.8	120.7	122.9	124.8	124.8
Implicit price deflator	115.2	115.6	115.5	115.9	116.1	116.5	117.1	117.3	117.5	117.8	118.4	119.4	119.6
Nonfarm business													
Output per hour of all persons	118.5	120.4	122.4	122.8	124.1	124.6	125.8	127.8	130.6	131.7	132.8	134.1	134.7
Compensation per hour	139.6	140.7	142.6	143.8	144.3	144.7	146.6	148.7	150.9	152.5	153.3	155.2	156.5
Real compensation per hour	112.5	113.5	114.7	114.7	114.4	114.3	114.7	116.1	117.1	118.2	117.7	117.8	118.3
Unit labor costs	117.8	116.8	116.4	117.1	116.2	116.1	116.6	116.3	115.5	115.9	115.4	115.7	116.2
Unit nonlabor payments	111.9	114.7	115.1	115.4	117.7	118.9	119.6	120.4	122.3	121.9	124.3	126.1	126.6
Implicit price deflator	115.6	116.0	116.0	116.5	116.8	117.2	117.7	117.8	118.0	118.1	118.7	119.6	120.0
Nonfinancial corporations													
Output per hour of all employees	123.0	123.9	126.3	127.9	129.2	130.2	131.3	134.1	137.2	138.9	138.9	139.9	–
Compensation per hour	137.9	139.3	139.9	141.3	142.1	142.9	144.1	146.3	148.5	150.0	150.9	152.6	–
Real compensation per hour	111.1	112.5	112.6	112.7	112.7	112.8	112.7	114.2	115.3	116.2	115.9	115.8	–
Total unit costs	112.8	113.4	111.6	111.2	110.7	110.4	110.7	109.7	109.0	108.7	108.8	109.4	–
Unit labor costs	112.1	112.4	1,110.8	110.5	110.0	109.7	109.8	109.1	108.2	108.0	108.6	109.1	–
Unit nonlabor costs	114.7	116.2	114.0	112.9	112.7	112.3	113.2	111.4	111.1	110.5	109.5	110.0	–
Unit profits	79.4	75.8	89.1	94.7	95.7	101.8	99.2	111.0	118.7	123.2	128.1	134.5	–
Unit nonlabor payments	105.2	105.4	107.4	108.1	108.2	109.5	109.4	111.3	113.1	113.9	114.5	116.6	–
Implicit price deflator	109.8	110.1	109.6	109.7	109.4	109.6	109.7	109.8	109.9	110.0	110.6	111.6	–
Manufacturing													
Output per hour of all persons	136.9	140.4	143.8	145.7	147.8	148.8	151.0	152.1	155.9	157.2	158.3	161.5	163.2
Compensation per hour	137.3	139.4	144.1	147.0	148.6	149.9	155.7	158.5	161.6	163.9	162.2	163.7	165.5
Real compensation per hour	110.6	112.5	115.9	117.2	117.8	118.3	121.8	123.8	125.4	127.0	124.5	124.3	125.0
Unit labor costs	100.3	99.3	100.2	100.8	100.5	100.7	103.1	104.2	103.6	104.2	102.5	101.4	101.4

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49. 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	65.5	87.2	87.0	88.4	91.0	94.3	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	114.0	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	103.1	105.7	108.7	111.3	110.3
Output	64.3	83.2	81.5	85.5	88.3	92.9	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	86.5	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

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50. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[1992 = 100]

Item	1960	1970	1980	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003
Business													
Output per hour of all persons	48.7	66.0	79.0	94.4	101.7	104.5	106.5	109.3	112.4	115.7	118.3	124.0	129.6
Compensation per hour	13.8	23.5	54.0	90.5	106.0	109.5	113.0	119.7	125.4	134.2	139.7	147.8	147.9
Real compensation per hour	60.5	78.4	88.9	96.1	98.9	99.5	100.5	105.0	107.8	111.6	113.0	113.7	115.1
Unit labor costs	28.4	35.6	68.4	95.9	104.3	104.8	106.1	109.5	111.6	116.0	118.1	115.2	114.1
Unit nonlabor payments	24.9	31.5	61.3	93.9	108.2	111.9	113.9	109.9	109.2	107.2	109.5	117.0	123.0
Implicit price deflator	27.1	34.1	65.8	95.1	105.7	107.4	109.0	109.7	110.7	112.7	114.9	115.8	117.4
Nonfarm business													
Output per hour of all persons	51.6	67.7	80.3	94.4	102.1	104.7	106.4	109.2	112.2	115.3	117.8	123.6	129.1
Compensation per hour	14.4	23.6	54.2	90.3	106.0	109.4	112.8	119.4	124.9	133.7	138.9	142.1	147.0
Real compensation per hour	63.0	78.8	89.2	95.9	98.9	99.4	100.3	104.7	107.3	111.2	112.4	113.2	114.4
Unit labor costs	27.9	34.9	67.5	95.6	103.8	104.5	106.0	109.3	111.3	116.0	118.0	115.0	113.9
Unit nonlabor payments	24.3	31.1	60.4	93.6	109.2	112.1	114.6	110.9	110.8	108.8	111.1	119.0	124.8
Implicit price deflator	26.6	33.5	64.9	94.9	105.8	107.3	109.1	109.9	111.1	113.3	115.4	116.4	117.9
Nonfinancial corporations													
Output per hour of all employees	56.6	70.4	81.0	95.5	103.4	107.1	109.8	112.8	116.4	120.6	122.7	128.9	136.3
Compensation per hour	16.1	25.6	57.0	91.0	105.4	108.4	111.7	117.9	123.3	131.7	137.0	140.1	145.9
Real compensation per hour	70.3	85.3	93.8	96.7	98.3	98.5	99.3	103.4	105.9	109.5	110.8	111.5	113.5
Total unit costs	26.9	35.1	68.8	95.4	101.8	100.9	101.2	103.2	104.6	108.0	111.2	109.4	107.4
Unit labor costs	28.4	36.3	70.4	95.3	102.0	101.2	101.7	104.5	106.0	109.2	111.6	108.6	107.0
Unit nonlabor costs	23.0	31.7	64.5	97.1	101.3	99.9	99.8	99.9	101.0	104.8	110.2	111.5	108.4
Unit profits	49.5	43.7	66.5	96.7	136.9	149.9	154.4	137.5	129.8	109.3	91.4	111.4	134.2
Unit nonlabor payments	30.1	34.9	65.1	97.0	110.8	113.3	114.4	109.9	108.7	106.1	105.2	111.5	115.3
Implicit price deflator	28.9	35.9	68.6	95.9	104.9	105.3	105.9	106.3	106.9	108.1	109.5	109.6	109.8
Manufacturing													
Output per hour of all persons	41.8	54.2	70.1	92.9	110.1	113.9	117.9	123.5	128.2	134.2	137.1	147.1	154.6
Compensation per hour	14.9	23.7	55.6	90.1	107.7	109.9	112.0	118.8	123.8	135.0	138.3	143. 8	151.9
Real compensation per hour	65.0	79.2	91.4	95.7	100.5	99.8	99.7	104.2	106.3	112.3	111.8	114.5	118.2
Unit labor costs	35.6	43.8	79.3	97.0	97.8	96.5	95.0	96.2	96.6	100.6	100.8	97.8	98.2
Unit nonlabor payments	26.8	29.3	80.2	101.1	107.6	110.4	110.5	104.1	105.0	107.0	105.8	–	–
Implicit price deflator	30.2	35.0	79.9	99.5	103.9	105.2	104.6	101.1	101.8	104.6	103.9	–	–

Dash indicates data not available.

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51. Annual indexes of output per hour for selected NAICS industries, 1990-2002

[1997=100]

NAICS	Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	Mining													
21	Mining	86.0	86.8	95.2	96.2	99.6	101.8	101.7	100.0	103.4	111.1	109.5	107.7	112.3
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	115.2	117.4	119.3
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	111.7
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	112.2
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	143.9
2123	Nonmetallic mineral mining and quarrying	92.3	89.5	96.1	93.6	96.9	97.3	97.1	100.0	101.3	101.2	96.2	99.3	103.8
	Utilities													
2211	Power generation and supply	71.2	73.8	74.2	78.7	83.0	88.6	95.5	100.0	103.8	104.1	107.0	106.4	102.4
2212	Natural gas distribution	71.4	72.7	75.8	79.8	82.1	89.0	96.1	100.0	99.1	103.1	113.1	110.0	114.9
	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	91.2	91.1	93.8	94.7	99.1	91.3	100.0	107.5	114.2	112.5	117.3	–
3113	Sugar and confectionery products	91.0	93.8	90.5	92.5	94.0	94.3	98.2	100.0	104.0	107.1	111.9	109.9	–
3114	Fruit and vegetable preserving and specialty	86.4	89.7	90.7	93.8	94.9	97.1	98.2	100.0	106.8	108.4	109.8	117.0	–
3115	Dairy products	90.8	92.1	95.4	93.9	95.4	98.7	98.0	100.0	99.1	94.5	96.0	96.2	–
3116	Animal slaughtering and processing	94.5	96.8	101.5	100.9	97.4	98.5	94.3	100.0	99.9	100.3	101.9	102.7	–
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	92.3	95.6	96.0	96.7	99.7	97.7	100.0	103.8	105.4	105.3	106.3	–
3119	Other food products	91.9	93.5	95.9	102.8	100.3	101.3	103.0	100.0	106.9	108.8	110.2	103.2	–
3121	Beverages	86.5	90.1	93.8	93.2	97.7	99.6	101.1	100.0	98.5	92.4	90.6	91.7	–
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	88.2	88.6	93.0	93.7	90.1	92.5	93.3	100.0	99.9	101.2	106.8	106.9	–
3149	Other textile product millsv	91.1	90.0	92.0	90.3	94.5	95.9	96.3	100.0	97.0	110.4	110.4	105.0	–
3151	Apparel knitting mills	85.6	88.7	93.2	102.5	104.3	109.5	121.9	100.0	96.6	102.0	110.2	108.4	–
3152	Cut and sew apparel	70.1	72.0	73.1	76.6	80.5	85.5	90.5	100.0	104.0	118.8	127.7	131.7	–
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	108.9	105.8	101.8	101.2	100.0	105.6	99.9	100.5	105.0	–
3219	Other wood products	105.4	104.7	104.0	103.0	99.3	100.4	100.8	100.0	101.5	105.4	104.0	104.6	–
3221	Pulp, paper, and paperboard mills	88.5	88.1	92.3	92.9	97.6	102.0	97.6	100.0	103.1	111.4	115.7	117.5	–
3222	Converted paper products	90.5	93.5	93.7	96.3	97.6	97.2	98.3	100.0	102.7	101.5	101.9	101.0	–
3231	Printing and related support activities	96.6	95.4	101.3	100.1	98.3	98.8	99.6	100.0	100.5	103.5	104.9	105.6	–
3241	Petroleum and coal products	76.7	75.8	78.9	84.5	85.6	90.1	94.8	100.0	102.1	107.8	113.2	112.2	–
3251	Basic chemicals	91.4	90.1	89.4	89.9	95.1	92.3	90.0	100.0	102.5	114.7	118.4	111.0	–
3252	Resin, rubber, and artificial fibers	75.8	74.7	80.6	83.8	93.5	95.9	93.3	100.0	105.5	108.8	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	92.6	88.2	88.1	92.4	96.3	99.9	100.0	92.9	94.6	93.4	97.4	–
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	86.9	88.6	93.9	95.6	100.0	96.6	91.1	99.2	102.7	–
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	90.3	91.9	94.4	94.5	97.0	100.0	103.5	109.3	111.2	113.3	–
3262	Rubber products	83.0	83.8	84.9	90.4	90.3	92.8	94.4	100.0	100.5	101.4	103.9	104.2	–
3271	Clay products and refractories	89.2	87.5	91.5	91.9	96.6	97.4	102.6	100.0	101.3	103.5	103.6	97.6	–
3272	Glass and glass products	80.0	79.1	84.3	86.1	87.5	88.8	96.5	100.0	102.7	108.6	109.7	105.2	–
3273	Cement and concrete products	94.8	93.7	94.8	96.5	95.0	98.2	100.6	100.0	103.5	104.1	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 steel	83.8	86.4	89.9	95.9	100.0	100.5	100.5	100.0	100.3	94.2	96.4	97.1	–
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	95.6	95.8	98.8	101.8	105.1	102.9	105.7	100.0	111.2	108.9	103.1	100.5	–
3315	Foundries	85.3	84.5	85.8	89.8	91.4	93.1	96.2	100.0	101.6	104.9	104.0	109.3	–
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	89.1	92.5	93.4	95.1	93.9	94.2	100.0	101.1	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	79.8	87.2	86.9	91.6	98.7	100.0	100.0	99.3	103.9	107.2	107.2	–

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51. Continued—Annual indexes of output per hour for selected NAICS industries, 1990-2002

[1997=100]

NAICS	Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
3328	Coating, engraving, and heat treating metals	81.6	78.1	86.9	91.9	96.5	102.8	102.9	100.0	101.7	101.5	105.9	105.1	-
3329	Other fabricated metal products	86.7	85.9	90.6	92.1	95.0	97.1	98.9	100.0	102.3	100.2	100.8	98.2	-
3331	Agriculture, construction, and mining machinery	82.8	77.2	79.6	84.1	91.0	95.6	95.9	100.0	104.2	95.0	101.0	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	91.4	89.6	96.5	101.7	101.2	103.0	106.3	100.0	107.5	111.2	101.4	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	82.3	89.3	89.3	94.0	99.1	98.1	100.0	99.1	100.5	106.4	102.0	-
3336	Turbine and power transmission equipment	85.1	84.6	81.2	84.8	93.3	92.1	97.9	100.0	106.4	113.3	117.1	130.2	-
3339	Other general purpose machinery	85.9	85.2	85.1	89.8	91.5	94.6	95.1	100.0	103.2	105.6	113.0	109.4	-
3341	Computer and peripheral equipment	14.3	15.8	20.6	27.9	35.9	51.3	72.6	100.0	138.6	190.3	225.4	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	125.2	174.5	233.3	231.6	-
3345	Electronic instruments	76.0	80.5	83.1	85.8	88.8	96.8	97.7	100.0	101.3	105.1	114.3	116.1	-
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	87.3	88.5	93.6	90.8	94.5	92.2	95.6	100.0	103.8	102.5	101.9	105.4	-
3352	Household appliances	76.4	76.4	82.4	88.9	95.0	92.7	93.1	100.0	105.1	104.3	117.5	122.6	-
3353	Electrical equipment	73.6	72.7	78.9	85.8	89.0	98.1	100.2	100.0	99.8	98.9	100.6	101.0	-
3359	Other electrical equipment and components	75.3	74.2	81.6	86.8	89.4	92.0	96.0	100.0	105.5	114.8	120.5	113.5	-
3361	Motor vehicles	86.0	82.4	91.2	89.8	90.3	88.6	91.0	100.0	113.3	123.3	110.4	108.7	-
3362	Motor vehicle bodies and trailers	75.8	71.8	88.3	96.3	97.7	97.3	98.4	100.0	102.7	103.1	98.4	99.4	-
3363	Motor vehicle parts	75.7	74.5	82.4	88.5	91.8	92.3	93.1	100.0	104.8	110.4	112.7	114.8	-
3364	Aerospace products and parts	87.7	92.1	94.1	98.2	93.8	93.7	98.1	100.0	118.5	118.0	101.0	114.7	-
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	99.6	92.6	98.5	101.3	99.0	93.1	94.1	100.0	100.3	112.2	120.1	119.8	-
3369	Other transportation equipment	62.6	62.0	88.4	99.8	93.4	93.1	99.8	100.0	110.8	113.3	130.9	146.9	-
3371	Household and institutional furniture	87.6	88.2	92.9	93.8	94.1	97.1	99.5	100.0	102.7	103.7	102.5	106.1	-
3372	Office furniture and fixtures	80.8	78.8	86.2	87.9	83.4	84.3	85.6	100.0	100.1	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	90.1	90.6	90.0	92.3	93.0	96.0	99.6	100.0	101.9	105.2	112.9	110.9	-
	Wholesale trade													
42	Wholesale trade	77.8	79.1	86.2	89.5	91.3	93.3	96.2	100.0	104.4	110.9	114.1	117.1	123.6
423	Durable goods	65.7	66.1	75.0	80.5	84.5	88.9	94.0	100.0	105.6	115.3	119.6	120.3	127.7
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	121.7
4232	Furniture and furnishings	82.4	87.2	92.0	95.8	93.3	96.8	97.0	100.0	97.5	100.8	105.5	105.4	101.8
4233	Lumber and construction supplies	115.0	113.2	119.6	113.9	111.9	103.6	103.0	100.0	102.9	104.8	101.7	108.6	119.2
4234	Commercial equipment	33.8	37.3	48.2	56.2	60.5	74.7	88.4	100.0	118.2	141.1	148.9	164.9	189.4
4235	Metals and minerals	101.6	102.6	109.1	111.7	110.1	101.2	102.7	100.0	102.4	96.0	99.2	102.2	102.2
4236	Electric goods	46.8	47.6	51.4	59.1	68.2	79.3	87.8	100.0	105.9	126.2	151.7	148.1	161.2
4237	Hardware and plumbing	88.8	86.5	95.6	94.3	101.3	98.0	99.1	100.0	103.5	107.8	111.1	102.6	107.9
4238	Machinery and supplies	78.9	74.2	79.7	84.3	85.4	89.7	93.9	100.0	104.2	101.4	104.1	102.7	100.2
4239	Miscellaneous durable goods	89.5	96.6	112.1	113.2	106.1	99.2	101.0	100.0	101.8	112.6	116.7	116.1	125.5
424	Nondurable goods	98.4	99.8	103.2	103.0	101.8	99.7	99.2	100.0	102.8	104.1	103.5	106.9	112.6
4241	Paper and paper products	81.0	85.5	96.5	97.2	101.5	99.0	96.5	100.0	100.4	105.5	105.5	109.0	120.2
4242	Druggists' goods	81.8	86.6	91.8	89.3	92.8	95.4	98.3	100.0	99.6	101.7	96.8	101.2	116.0
4243	Apparel and piece goods	103.9	103.3	100.1	97.7	103.8	92.2	99.0	100.0	104.1	103.5	102.7	102.4	111.5
4244	Grocery and related products	96.4	98.2	103.6	105.1	103.3	103.0	99.8	100.0	101.9	103.6	105.2	109.4	111.8
4245	Farm product raw materials	80.6	85.9	85.9	84.0	80.4	87.7	90.6	100.0	100.4	114.2	119.0	120.0	135.4
4246	Chemicals	107.3	106.6	112.5	110.0	110.5	102.1	100.0	100.0	99.3	98.0	95.8	93.6	96.9
4247	Petroleum	97.3	107.0	118.3	119.1	115.8	108.7	105.9	100.0	115.0	112.0	112.5	116.5	126.0
4248	Alcoholic beverages	109.4	111.2	107.4	105.6	105.9	102.5	104.5	100.0	109.7	110.1	111.0	111.6	117.3
4249	Miscellaneous nondurable goods	107.3	98.2	93.9	97.5	94.8	96.2	98.7	100.0	101.7	99.6	106.2	104.2	97.0
425	Electronic markets and agents and brokers	70.7	73.6	81.5	85.9	88.0	91.1	95.7	100.0	104.6	114.4	124.1	131.3	132.6
42511	Business to business electronic markets	70.4	72.6	80.3	84.8	88.3	90.5	95.3	100.0	103.5	121.7	141.3	169.4	205.0
42512	Wholesale trade agents and brokers	70.8	74.0	82.3	86.8	88.4	91.8	96.1	100.0	104.8	110.5	115.7	114.2	109.3
	Retail trade													
44-45	Retail trade	83.2	83.3	86.8	89.4	92.8	94.7	97.7	100.0	104.3	110.3	114.2	117.4	122.7
441	Motor vehicle and parts dealers	89.7	88.3	92.6	94.0	96.9	97.0	98.8	100.0	102.7	106.4	107.2	110.0	109.7
4411	Automobile dealers	92.1	90.8	94.8	96.0	98.0	97.2	98.9	100.0	102.7	106.4	106.6	109.1	106.0
4412	Other motor vehicle dealers	69.0	71.7	78.3	84.1	90.2	91.0	97.7	100.0	105.9	113.0	108.6	112.6	116.4
4413	Auto parts, accessories, and tire stores	85.0	84.0	89.1	90.6	95.4	97.9	98.3	100.0	105.7	110.0	112.0	109.3	115.8
442	Furniture and home furnishings stores	80.7	81.1	88.1	88.3	90.4	94.1	99.4	100.0	101.7	109.6	115.7	118.5	125.1
4421	Furniture stores	82.1	83.5	89.0	89.0	88.9	92.5	97.8	100.0	102.1	108.2	114.8	121.1	128.6
4422	Home furnishings stores	78.5	77.6	86.8	87.2	92.1	95.9	101.3	100.0	101.3	111.4	116.8	115.6	121.4
443	Electronics and appliance stores	46.0	49.2	56.9	65.5	77.6	89.2	95.0	100.0	122.9	152.2	177.7	199.1	240.0
444	Building material and garden supply stores	81.8	80.2	84.0	88.0	93.7	93.7	97.5	100.0	106.7	112.3	113.1	115.8	119.9

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51. Continued - Annual indexes of output per hour for selected NAICS industries, 1990-2002

[1997=100]

NAICS	Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
4441	Building material and supplies dealers	83.2	80.7	84.7	89.1	94.8	94.8	97.6	100.0	107.6	113.7	113.8	115.3	119.8
4442	Lawn and garden equipment and supplies stores	74.5	77.5	80.2	81.5	86.9	87.0	97.1	100.0	101.2	103.5	108.2	119.4	121.2
445	Food and beverage stores	107.1	106.6	106.9	105.4	104.3	102.5	100.3	100.0	99.9	103.7	105.1	107.6	110.3
4451	Grocery stores	106.5	106.6	106.7	105.9	104.9	103.0	100.8	100.0	100.3	104.3	104.9	107.5	110.3
4452	Specialty food stores	122.9	115.0	111.4	107.6	104.5	101.1	95.5	100.0	95.0	99.6	105.6	110.8	114.2
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	111.8
446	Health and personal care stores	92.0	91.6	90.7	91.9	91.8	93.0	95.7	100.0	104.1	106.9	111.4	112.7	118.8
447	Gasoline stations	84.8	85.7	88.5	92.8	96.8	99.7	99.4	100.0	105.6	110.6	106.5	109.8	117.5
448	Clothing and clothing accessories stores	69.5	70.5	75.3	78.9	83.3	91.2	97.9	100.0	105.4	112.8	120.3	123.5	129.0
4481	Clothing stores	68.9	71.4	77.1	79.2	81.9	90.1	97.1	100.0	106.7	113.3	120.9	125.2	132.7
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	120.0
4483	Jewelry, luggage, and leather goods stores	68.6	64.5	65.0	77.1	85.0	94.1	97.3	100.0	107.0	118.3	128.0	122.5	121.5
451	Sporting goods, hobby, book, and music stores	80.8	85.6	83.8	84.0	87.2	93.0	94.7	100.0	108.7	114.9	121.1	125.4	132.9
4511	Sporting goods and musical instrument stores	77.1	82.8	79.8	80.6	83.9	92.3	92.5	100.0	112.9	120.4	128.3	130.4	137.9
4512	Book, periodical, and music stores	89.0	91.8	92.5	91.6	94.5	94.5	99.3	100.0	101.0	104.7	108.0	116.0	123.8
452	General merchandise stores	75.3	79.0	83.0	88.5	90.6	92.2	96.9	100.0	105.0	113.1	119.9	124.2	130.5
4521	Department stores	84.0	88.3	91.6	95.0	95.1	94.7	98.4	100.0	100.6	104.5	106.3	104.0	104.7
4529	Other general merchandise stores	61.4	64.8	69.7	77.8	82.6	87.6	94.3	100.0	113.4	129.8	145.9	162.1	177.5
453	Miscellaneous store retailers	70.6	68.0	74.2	79.1	87.0	89.5	95.0	100.0	108.3	109.8	111.3	108.4	115.6
4531	Florists	75.1	75.9	85.1	91.4	85.4	83.5	96.1	100.0	101.2	117.3	116.0	108.6	120.7
4532	Office supplies, stationery and gift stores	64.6	66.3	71.5	75.8	87.5	90.9	91.8	100.0	113.0	118.0	124.1	125.1	140.3
4533	Used merchandise stores	84.9	83.1	89.7	88.9	87.3	90.2	97.4	100.0	113.5	109.8	115.7	115.0	121.4
4539	Other miscellaneous store retailers	79.6	69.2	74.7	80.5	89.7	90.5	98.0	100.0	105.0	101.6	99.6	93.2	92.8
454	Nonstore retailers	54.4	55.0	63.4	66.7	73.8	80.9	91.6	100.0	111.3	125.4	142.8	146.9	169.6
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	209.8
4542	Vending machine operators	97.1	95.4	95.1	92.8	94.1	89.3	96.9	100.0	114.1	118.1	127.1	110.4	113.3
4543	Direct selling establishments	70.0	67.6	82.1	79.7	89.2	94.7	102.2	100.0	96.2	96.3	104.3	98.7	110.2
	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	103.2
482111	Line-haul railroads	69.8	75.3	82.3	85.7	88.6	92.0	98.4	100.0	102.1	105.5	114.3	121.9	131.9
48412	General freight trucking, long-distance	88.5	92.4	97.5	95.6	98.1	95.4	95.7	100.0	99.1	102.0	105.5	104.2	109.4
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	107.0
	Information													
5111	Newspaper, book, and directory publishers	97.4	96.1	95.8	95.3	93.0	93.5	92.7	100.0	104.5	108.5	110.1	106.4	108.1
5112	Software publishers	28.6	30.6	42.7	51.7	64.6	73.0	88.0	100.0	115.9	113.0	103.9	101.9	106.7
51213	Motion picture and video exhibition	109.4	108.9	104.1	104.6	103.4	99.9	100.0	100.0	99.9	102.0	106.5	104.7	104.4
5151	Radio and television broadcasting	96.1	97.8	102.8	101.4	106.0	106.1	104.1	100.0	99.1	99.4	98.4	94.3	100.4
5152	Cable and other subscription programming	98.8	94.3	96.0	93.6	92.0	94.4	93.7	100.0	129.3	133.2	135.7	125.3	131.4
5171	Wired telecommunications carriers	64.8	68.4	74.5	79.7	85.1	90.6	97.5	100.0	105.5	112.7	119.9	121.0	130.6
5172	Wireless telecommunications carriers	76.3	73.8	85.6	94.8	97.1	98.3	103.0	100.0	114.2	134.3	139.0	172.7	192.0
5175	Cable and other program distribution	99.1	94.3	95.9	93.5	91.9	94.2	93.5	100.0	95.7	94.5	90.4	87.6	93.5
	Finance and insurance													
52211	Commercial banking	80.5	83.2	83.3	90.3	92.9	96.0	99.3	100.0	98.0	101.5	104.2	101.6	103.8
	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	101.2	113.1	112.0	112.1	113.3
53212	Truck, trailer and RV rental and leasing	70.7	71.7	69.5	75.8	82.0	90.3	96.7	100.0	93.7	97.8	95.9	93.6	91.4
	Professional, scientific, and technical services													
541213	Tax preparation services	92.4	84.7	99.5	119.1	119.9	96.2	92.1	100.0	105.1	99.2	91.8	78.2	92.1
54181	Advertising agencies	105.0	99.7	111.9	111.3	106.8	101.4	102.1	100.0	95.8	110.1	116.6	116.7	123.9
	Accomodation and food services													
7211	Traveler accommodations	82.9	85.4	92.9	93.0	97.0	99.2	100.1	100.0	100.0	103.6	107.7	102.0	104.1
722	Food services and drinking places	102.9	102.3	101.7	102.3	100.8	100.6	99.2	100.0	101.2	101.1	103.5	103.7	104.9
7221	Full-service restaurants	99.1	98.3	97.5	97.7	97.8	96.6	96.3	100.0	100.0	99.2	100.8	100.8	102.0
7222	Limited-service eating places	103.3	103.3	102.7	105.6	103.6	104.7	102.2	100.0	102.4	102.5	105.1	106.6	107.1
7223	Special food services	107.2	106.9	106.4	103.8	101.1	99.3	97.6	100.0	102.1	106.0	111.7	108.4	108.1
7224	Drinking places, alcoholic beverages	125.7	121.2	121.5	112.7	102.6	104.4	102.4	100.0	100.0	99.4	100.4	98.2	107.2
	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	105.0	106.9	108.6	109.3	103.7
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	103.6	103.0	109.5	104.2
81221	Funeral homes and funeral services	96.1	94.3	104.7	100.4	103.6	100.4	97.9	100.0	103.8	100.4	94.5	93.9	90.9
8123	Drycleaning and laundry services	95.6	93.2	94.9	93.8	95.9	98.8	101.6	100.0	105.0	109.5	113.7	121.1	120.2
81292	Photofinishing	117.3	115.6	116.2	123.6	124.9	114.7	103.2	100.0	99.4	106.9	107.6	115.0	133.6

NOTE: Dash indicates data are not available.

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52. Unemployment rates, approximating U.S. concepts, in nine countries, quarterly data seasonally adjusted

Country	Annual average		2002				2003				2004
	2002	2003	I	II	III	IV	I	II	III	IV	I
United States	5.8	6.0	5.7	5.8	5.7	5.9	5.8	6.1	6.1	5.9	5.6
Canada	7.0	6.9	7.1	6.9	7.0	6.9	6.7	6.9	7.2	6.8	6.7
Australia	6.4	6.1	6.7	6.4	6.3	6.2	6.2	6.2	6.1	5.8	5.7
Japan	5.4	5.3	5.4	5.4	5.5	5.4	5.4	5.4	5.2	5.1	5.0
France	8.7	9.3	8.5	8.6	8.7	8.9	9.0	9.2	9.4	9.4	9.4
Germany	8.6	9.3	8.3	8.5	8.7	8.9	9.2	9.4	9.4	9.3	9.2
Italy[1]	9.1	8.8	9.2	9.2	9.1	9.0	9.0	8.8	8.7	8.6	8.6
Sweden[2]	5.1	5.8	5.2	5.0	5.1	5.2	5.2	5.6	5.8	6.2	6.6
United Kingdom	5.2	5.0	5.1	5.2	5.2	5.1	5.1	5.0	5.0	4.9	4.8

[1] Quarterly rates are for the first month of the quarter.

[2] Preliminary data for 2003.

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, 1959-2003* (Bureau of Labor Statistics, June 23, 2004), on the Internet at **http://www.bls.gov/fls/home.htm**.

Monthly and quarterly unemployment rates, updated monthly, are also on this site.

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53. Annual data: employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Civilian labor force											
United States	129,200	131,056	132,304	133,943	136,297	137,673	139,368	142,583	143,734	144,863	146,510
Canada	14,308	14,400	14,517	14,669	14,958	15,237	15,536	15,788	16,027	16,475	16,819
Australia	8,613	8,770	8,995	9,115	9,204	9,339	9,414	9,590	9,752	9,907	10,092
Japan	65,470	65,780	65,990	66,450	67,200	67,240	67,090	66,990	66,870	66,240	66,010
France	24,480	24,670	24,760	25,010	25,130	25,460	25,790	26,070	26,350	26,590	26,730
Germany	39,102	39,074	38,980	39,142	39,415	39,754	39,375	39,302	39,459	39,413	39,276
Italy	22,570	22,450	22,460	22,570	22,680	22,960	23,130	23,340	23,540	23,750	23,880
Netherlands	7,010	7,150	7,210	7,300	7,540	7,620	7,850	8,150	8,340	8,300	8,330
Sweden	4,444	4,418	4,460	4,459	4,418	4,402	4,430	4,489	4,530	4,544	4,567
United Kingdom	28,165	28,149	28,157	28,260	28,417	28,479	28,769	28,930	29,053	29,288	29,490
Participation rate[1]											
United States	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.1	66.8	66.6	66.2
Canada	65.5	65.2	64.9	64.7	65.0	65.4	65.8	65.9	66.0	66.8	67.3
Australia	63.5	63.9	64.5	64.6	64.3	64.3	64.0	64.4	64.4	64.4	64.6
Japan	63.3	63.1	62.9	63.0	63.2	62.8	62.4	62.0	61.6	60.8	60.3
France	55.4	55.5	55.4	55.6	55.5	55.9	56.3	56.6	56.8	57.0	57.0
Germany	57.8	57.4	57.1	57.1	57.3	57.7	56.8	56.6	56.6	56.3	56.1
Italy	47.9	47.3	47.1	47.1	47.2	47.6	47.8	48.1	48.3	48.6	48.8
Netherlands	57.9	58.6	58.8	59.2	60.8	61.1	62.6	64.5	65.8	65.0	64.6
Sweden	64.5	63.7	64.1	64.0	63.3	62.8	62.8	63.8	63.7	64.0	64.0
United Kingdom	62.7	62.6	62.4	62.4	62.6	62.5	62.9	62.9	62.7	62.9	62.9
Employed											
United States	120,259	123,060	124,900	126,708	129,558	131,463	133,488	136,891	136,933	136,485	137,736
Canada	12,770	13,027	13,271	13,380	13,705	14,068	14,456	14,827	14,997	15,325	15,660
Australia	7,699	7,942	8,256	8,364	8,444	8,618	8,762	8,989	9,091	9,271	9,481
Japan	63,810	63,860	63,890	64,200	64,900	64,450	63,920	63,790	63,470	62,650	62,510
France	21,710	21,750	21,960	22,040	22,170	22,600	23,050	23,690	24,140	24,280	24,250
Germany	35,989	35,756	35,780	35,637	35,508	36,061	36,042	36,236	36,350	36,018	35,615
Italy	20,270	19,940	19,820	19,920	19,990	20,210	20,460	20,840	21,270	21,580	21,790
Netherlands	6,570	6,660	6,730	6,860	7,160	7,320	7,600	7,910	8,130	8,070	8,010
Sweden	4,028	3,992	4,056	4,019	3,973	4,034	4,117	4,229	4,303	4,310	4,303
United Kingdom	25,242	25,429	25,718	25,964	26,433	26,696	27,048	27,350	27,570	27,768	28,011
Employment-population ratio[2]											
United States	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.4	63.7	62.7	62.3
Canada	58.5	59.0	59.4	59.1	59.7	60.4	61.3	62.1	61.9	62.4	63.0
Australia	56.8	57.8	59.2	59.3	59.0	59.3	59.6	60.3	60.1	60 3	60.7
Japan	61.7	61.3	60.9	60.9	61.0	60.2	59.4	59.0	58.4	57.5	57.1
France	49.1	49.0	49.1	49.0	49.0	49.7	50.3	51.4	52.0	52.0	51.7
Germany	53.2	52.6	52.4	52.0	51.6	52.3	52.0	52.2	52.2	51.5	50.9
Italy	43.0	42.0	41.5	41.6	41.6	41.9	42.3	42.9	43.6	44.1	44.6
Netherlands	54.2	54.6	54.9	55.7	57.8	58.7	60.6	62.6	64.2	63.2	62.1
Sweden	58.5	57.6	58.3	57.7	56.9	57.6	58.4	60.1	60.5	60.7	60.3
United Kingdom	56.2	56.5	57.0	57.4	58.2	58.6	59.1	59.4	59.5	59.6	59.8
Unemployed											
United States	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,692	6,801	8,378	8,774
Canada	1,539	1,373	1,246	1,289	1,252	1,169	1,080	962	1,031	1,150	1,159
Australia	914	829	739	751	759	721	652	602	661	636	611
Japan	1,660	1,920	2,100	2,250	2,300	2,790	3,170	3,200	3,400	3,590	3,500
France	2,770	2,920	2,800	2,970	2,960	2,870	2,740	2,380	2,210	2,310	2,480
Germany	3,113	3,318	3,200	3,505	3,907	3,693	3,333	3,065	3,110	3,396	3,661
Italy	2,300	2,510	2,640	2,650	2,690	2,750	2,670	2,500	2,270	2,160	2,100
Netherlands	440	490	480	440	370	300	250	240	210	230	320
Sweden	416	426	404	440	445	368	313	260	227	234	264
United Kingdom	2,916	2,716	2,439	2,297	1,985	1,783	1,721	1,580	1,483	1,520	1,479
Unemployment rate											
United States	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0	4.7	5.8	6.0
Canada	10.8	9.5	8.6	8.8	8.4	7.7	7.0	6.1	6.4	7.0	6.9
Australia	10.6	9.4	8.2	8.2	8.3	7.7	6.9	6.3	6.8	6.4	6.1
Japan	2.5	2.9	3.2	3.4	3.4	4.1	4.7	4.8	5.1	5.4	5.3
France	11.3	11.8	11.3	11.9	11.8	11.3	10.6	9.1	8.4	8.7	9.3
Germany	8.0	8.5	8.2	9.0	9.9	9.3	8.5	7.8	7.9	8.6	9.3
Italy	10.2	11.2	11.8	11.7	11.9	12.0	11.5	10.7	9.6	9.1	8.8
Netherlands	6.3	6.9	6.7	6.0	4.9	3.9	3.2	2.9	2.5	2.8	3.8
Sweden	9.4	9.6	9.1	9.9	10.1	8.4	7.1	5.8	5.0	5.1	5.8
United Kingdom	10.4	9.6	8.7	8.1	7.0	6.3	6.0	5.5	5.1	5.2	5.0

[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,* 1959-2003 (Bureau of Labor Statistics, June 23, 2004), on the Internet at: **http://www.bls.gov/fls/home.htm**.

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54. 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	155.9
Canada	37.8	54.9	72.9	93.4	95.3	105.8	110.8	112.4	109.7	113.5	115.5	122.1	129.3	127.0	130.5
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	135.9	139.5
Belgium	18.0	32.9	65.4	96.8	99.1	102.5	108.4	113.2	116.3	125.5	126.9	125.5	130.8	132.6	141.7
Denmark	28.1	49.4	86.2	99.1	99.5	99.3	–	–	–	–	–	–	–	–	–
France	19.9	39.0	61.6	93.9	97.0	101.0	108.9	114.4	114.7	121.7	127.9	133.0	143.2	148.0	152.1
Germany	29.2	52.0	77.2	99.0	98.3	101.8	109.6	112.3	114.7	120.4	122.0	121.4	127.0	127.8	131.0
Italy	24.6	46.2	78.6	96.6	96.1	101.2	104.8	107.9	108.3	110.3	110.8	110.6	113.6	115.9	114.3
Netherlands	18.8	38.5	69.1	98.7	99.0	102.0	113.1	117.3	119.3	121.4	124.1	127.0	132.7	132.3	133.1
Norway	37.6	59.1	77.9	98.1	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	175.5	170.3	184.3
United Kingdom	30.0	43.2	54.4	89.2	93.8	103.9	108.5	106.5	105.8	107.7	109.2	114.4	121.9	126.4	127.6
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	139.8
Canada	33.4	58.9	83.6	106.0	99.0	105.9	114.1	119.6	119.6	127.7	133.9	144.9	159.2	153.6	158.0
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	105.5	103.4
Belgium	30.7	57.6	78.2	101.0	100.7	97.0	101.4	104.2	105.9	112.7	114.4	114.4	119.9	120.4	121.6
Denmark	44.4	73.9	94.4	102.8	101.5	95.6	105.6	111.6	106.7	115.2	115.7	117.7	122.1	127.5	127.8
France	30.0	57.7	81.6	99.1	99.8	95.7	100.3	104.9	104.6	109.7	115.0	118.7	124.3	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	95.8	100.1	99.9	99.6
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	31.9	59.8	76.9	99.0	99.8	97.7	104.5	108.2	108.9	111.6	114.9	117.6	122.8	121.7	119.7
Norway	57.7	91.0	104.9	101.4	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	188.3	183.1	189.3
United Kingdom	67.5	90.2	87.2	105.4	100.1	101.5	106.2	107.8	108.7	110.7	111.4	112.2	114.9	1134.0	109.4
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	89.7
Canada	88.3	107.1	114.6	113.5	103.9	100.1	103.0	106.4	109.0	112.4	115.9	118.7	123.1	120.9	121.1
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	74.2
Belgium	170.7	174.7	119.7	104.3	101.5	94.7	93.6	92.0	91.0	89.8	90.2	91.2	91.7	90.8	85.8
Denmark	157.8	149.5	109.6	103.7	102.1	96.2	–	–	–	–	–	–	–	–	–
France	140.3	147.8	132.5	105.6	102.9	94.7	92.1	91.7	91.2	90.2	89.9	89.2	86.8	86.5	84.2
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	93.5	104.0	107.4	102.9	103.3	95.4	97.7	99.4	97.3	98.6	99.9	99.8	100.1	98.9	99.5
Netherlands	169.8	155.5	111.2	100.3	100.8	95.8	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	107.3	107.5	102.7
United Kingdom	224.6	208.8	160.5	118.1	106.6	92.7	97.9	101.2	102.8	102.8	101.9	98.1	94.3	89.8	85.7
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	140.6
Canada	10.0	17.1	47.5	88.3	95.0	102.0	103.7	106.0	107.0	109.3	111.7	115.8	119.6	123.8	126.8
Japan	4.3	16.4	58.5	90.6	96.5	102.7	104.7	108.3	109.1	112.6	115.4	114.8	113.7	114.5	122.8
Belgium	5.4	13.7	52.5	90.1	97.3	104.8	106.1	109.2	111.1	115.2	117.0	118.5	120.6	127.2	136.5
Denmark	3.8	11.1	45.0	92.7	96.0	103.0	–	–	–	–	–	–	–	–	–
France	4.3	10.5	41.2	90.9	96.4	103.1	106.5	110.4	112.2	111.8	112.7	116.6	123.4	128.2	132.4
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	137.4	142.0	145.5
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	6.2	19.4	60.5	89.8	94.8	104.5	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	136.8	143.8	149.2
United Kingdom	2.9	6.1	32.1	82.9	93.8	105.1	108.0	109.5	111.3	116.1	123.1	130.4	137.7	144.2	149.2
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	90.2
Canada	26.4	31.1	65.2	94.6	99.6	96.4	93.6	94.3	97.5	96.2	96.7	94.9	92.5	97.4	97.1
Japan	31.3	43.8	92.6	95.9	97.5	101.0	101.4	97.5	94.0	93.0	95.2	90.6	83.6	84.4	88.0
Belgium	30.1	41.7	80.3	93.0	98.1	102.3	97.9	96.4	95.5	91.8	92.2	94.4	92.2	95.9	96.4
Denmark	13.6	22.4	52.2	93.5	96.5	103.7	96.2	96.4	103.2	99.4	102.8	103.7	101.8	101.3	102.1
France	21.7	26.8	67.0	96.8	99.3	102.0	97.8	96.5	97.8	91.9	88.1	87.6	86.2	86.6	87.1
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	108.1	111.2	111.1
Italy	7.5	11.9	38.7	90.7	98.0	104.5	101.9	103.2	109.8	111.4	110.3	112.3	112.5	114.2	118.7
Netherlands	32.9	50.4	87.6	91.1	95.7	102.4	96.4	95.6	95.9	96.5	98.3	99.1	99.5	105.0	109.7
Norway	12.6	20.0	50.0	94.2	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	77.9	84.4	80.9
United Kingdom	9.8	14.1	59.0	92.9	99.9	100.6	99.6	102.8	105.2	107.8	112.7	114.0	113.0	114.2	116.9
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	90.2
Canada	32.9	36.0	67.4	98.0	105.1	90.3	82.8	83.0	86.4	84.0	78.8	77.2	75.3	76.0	74.8
Japan	11.0	15.5	51.8	83.9	91.8	115.3	125.8	131.6	109.5	97.4	92.2	101.0	98.4	88.0	89.1
Belgium	19.4	27.0	88.3	89.5	92.3	95.1	94.2	105.2	99.1	82.4	81.6	80.2	67.8	68.4	72.6
Denmark	12.0	18.0	55.9	91.2	91.0	96.5	91.4	104.0	107.5	90.8	92.6	89.5	76.0	73.4	78.2
France	23.4	25.7	83.9	94.1	93.1	95.3	93.4	102.5	101.2	83.3	79.1	75.3	64.2	62.6	66.4
Germany	10.4	17.1	59.6	87.3	87.5	98.7	98.2	114.2	111.6	94.0	92.9	91.5	79.7	79.5	83.9
Italy	14.3	22.3	55.7	93.3	97.3	81.8	77.9	78.0	87.7	80.6	78.2	76.2	66.1	65.1	71.4
Netherlands	15.3	24.5	77.5	87.9	90.0	96.9	93.2	104.8	100.0	87.0	87.2	84.3	73.3	75.0	82.8
Norway	11.0	17.4	62.9	93.6	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	49.5	47.6	48.5
United Kingdom	15.6	19.1	77.7	93.8	100.0	85.6	86.3	91.8	93.0	99.9	105.7	104.4	96.9	93.0	99.4

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.

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55. Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]												
	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]	1998[4]	1999[4]	2000[4]	2001[4]
PRIVATE SECTOR[5]													
Total cases	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4	7.1	6.7	6.3	6.1	5.7
Lost workday cases	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4	3.3	3.1	3.0	3.0	2.8
Lost workdays	78.7	84.0	86.5	93.8	–	–	–	–	–	–	–	–	–
Agriculture, forestry, and fishing[5]													
Total cases	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7	8.4	7.9	7.3	7.1	7.3
Lost workday cases	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9	4.1	3.9	3.4	3.6	3.6
Lost workdays	100.9	112.2	108.3	126.9	–	–	–	–	–	–	–	–	–
Mining													
Total cases	8.5	8.3	7.4	7.3	6.8	6.3	6.2	5.4	5.9	4.9	4.4	4.7	4.0
Lost workday cases	4.8	5.0	4.5	4.1	3.9	3.9	3.9	3.2	3.7	2.9	2.7	3.0	2.4
Lost workdays	137.2	119.5	129.6	204.7	–	–	–	–	–	–	–	–	–
Construction													
Total cases	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9	9.5	8.8	8.6	8.3	7.9
Lost workday cases	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5	4.4	4.0	4.2	4.1	4.0
Lost workdays	143.3	147.9	148.1	161.9	–	–	–	–	–	–	–	–	–
General building contractors:													
Total cases	13.9	13.4	12.0	12.2	11.5	10.9	9.8	9.0	8.5	8.4	8.0	7.8	6.9
Lost workday cases	6.5	6.4	5.5	5.4	5.1	5.1	4.4	4.0	3.7	3.9	3.7	3.9	3.5
Lost workdays	137.3	137.6	132.0	142.7	–	–	–	–	–	–	–	–	–
Heavy construction, except building:													
Total cases	13.8	13.8	12.8	12.1	11.1	10.2	9.9	9.0	8.7	8.2	7.8	7.6	7.8
Lost workday cases	6.5	6.3	6.0	5.4	5.1	5.0	4.8	4.3	4.3	4.1	3.8	3.7	4.0
Lost workdays	147.1	144.6	160.1	165.8	–	–	–	–	–	–	–	–	–
Special trades contractors:													
Total cases	14.6	14.7	13.5	13.8	12.8	12.5	11.1	10.4	10.0	9.1	8.9	8.6	8.2
Lost workday cases	6.9	6.9	6.3	6.1	5.8	5.8	5.0	4.8	4.7	4.1	4.4	4.3	4.1
Lost workdays	144.9	153.1	151.3	168.3	–	–	–	–	–	–	–	–	–
Manufacturing													
Total cases	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6	10.3	9.7	9.2	9.0	8.1
Lost workday cases	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9	4.8	4.7	4.6	4.5	4.1
Lost workdays	113.0	120.7	121.5	124.6	–	–	–	–	–	–	–	–	–
Durable goods:													
Total cases	14.1	14.2	13.6	13.4	13.1	13.5	12.8	11.6	11.3	10.7	10.1	–	8.8
Lost workday cases	6.0	6.0	5.7	5.5	5.4	5.7	5.6	5.1	5.1	5.0	4.8	–	4.3
Lost workdays	116.5	123.3	122.9	126.7	–	–	–	–	–	–	–	–	–
Lumber and wood products:													
Total cases	18.4	18.1	16.8	16.3	15.9	15.7	14.9	14.2	13.5	13.2	13.0	12.1	10.6
Lost workday cases	9.4	8.8	8.3	7.6	7.6	7.7	7.0	6.8	6.5	6.8	6.7	6.1	5.5
Lost workdays	177.5	172.5	172.0	165.8	–	–	–	–	–	–	–	–	–
Furniture and fixtures:													
Total cases	16.1	16.9	15.9	14.8	14.6	15.0	13.9	12.2	12.0	11.4	11.5	11.2	11.0
Lost workday cases	7.2	7.8	7.2	6.6	6.5	7.0	6.4	5.4	5.8	5.7	5.9	5.9	5.7
Lost workdays	–	–	–	128.4	–	–	–	–	–	–	–	–	–
Stone, clay, and glass products:													
Total cases	15.5	15.4	14.8	13.6	13.8	13.2	12.3	12.4	11.8	11.8	10.7	10.4	10.1
Lost workday cases	7.4	7.3	6.8	6.1	6.3	6.5	5.7	6.0	5.7	6.0	5.4	5.5	5.1
Lost workdays	149.8	160.5	156.0	152.2	–	–	–	–	–	–	–	–	–
Primary metal industries:													
Total cases	18.7	19.0	17.7	17.5	17.0	16.8	16.5	15.0	15.0	14.0	12.9	12.6	10.7
Lost workday cases	8.1	8.1	7.4	7.1	7.3	7.2	7.2	6.8	7.2	7.0	6.3	6.3	5.3
Lost workdays	168.3	180.2	169.1	175.5	–	–	–	–	–	–	–	–	11.1
Fabricated metal products:													
Total cases	18.5	18.7	17.4	16.8	16.2	16.4	15.8	14.4	14.2	13.9	12.6	11.9	11.1
Lost workday cases	7.9	7.9	7.1	6.6	6.7	6.7	6.9	6.2	6.4	6.5	6.0	5.5	5.3
Lost workdays	147.6	155.7	146.6	144.0	–	–	–	–	–	–	–	–	–
Industrial machinery and equipment:													
Total cases	12.1	12.0	11.2	11.1	11.1	11.6	11.2	9.9	10.0	9.5	8.5	8.2	11.0
Lost workday cases	4.8	4.7	4.4	4.2	4.2	4.4	4.4	4.0	4.1	4.0	3.7	3.6	6.0
Lost workdays	86.8	88.9	86.6	87.7	–	–	–	–	–	–	–	–	–
Electronic and other electrical equipment:													
Total cases	9.1	9.1	8.6	8.4	8.3	8.3	7.6	6.8	6.6	5.9	5.7	5.7	5.0
Lost workday cases	3.9	3.8	3.7	3.6	3.5	3.6	3.3	3.1	3.1	2.8	2.8	2.9	2.5
Lost workdays	77.5	79.4	83.0	81.2	–	–	–	–	–	–	–	–	–
Transportation equipment:													
Total cases	17.7	17.8	18.3	18.7	18.5	19.6	18.6	16.3	15.4	14.6	13.7	13.7	12.6
Lost workday cases	6.8	6.9	7.0	7.1	7.1	7.8	7.9	7.0	6.6	6.6	6.4	6.3	6.0
Lost workdays	138.6	153.7	166.1	186.6	–	–	–	–	–	–	–	–	–
Instruments and related products:													
Total cases	5.6	5.9	6.0	5.9	5.6	5.9	5.3	5.1	4.8	4.0	4.0	4.5	4.0
Lost workday cases	2.5	2.7	2.7	2.7	2.5	2.7	2.4	2.3	2.3	1.9	1.8	2.2	2.0
Lost workdays	55.4	57.8	64.4	65.3	–	–	–	–	–	–	–	–	–
Miscellaneous manufacturing industries:													
Total cases	11.1	11.3	11.3	10.7	10.0	9.9	9.1	9.5	8.9	8.1	8.4	7.2	6.4
Lost workday cases	5.1	5.1	5.1	5.0	4.6	4.5	4.3	4.4	4.2	3.9	4.0	3.6	3.2
Lost workdays	97.6	113.1	104.0	108.2	–	–	–	–	–	–	–	–	–

See footnotes at end of table.

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55. 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.

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56. 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.

[3] Totals for 2001 exclude fatalities from the September 11 terrorist attacks.

[3] Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. Dash indicates less than 0.5 percent.

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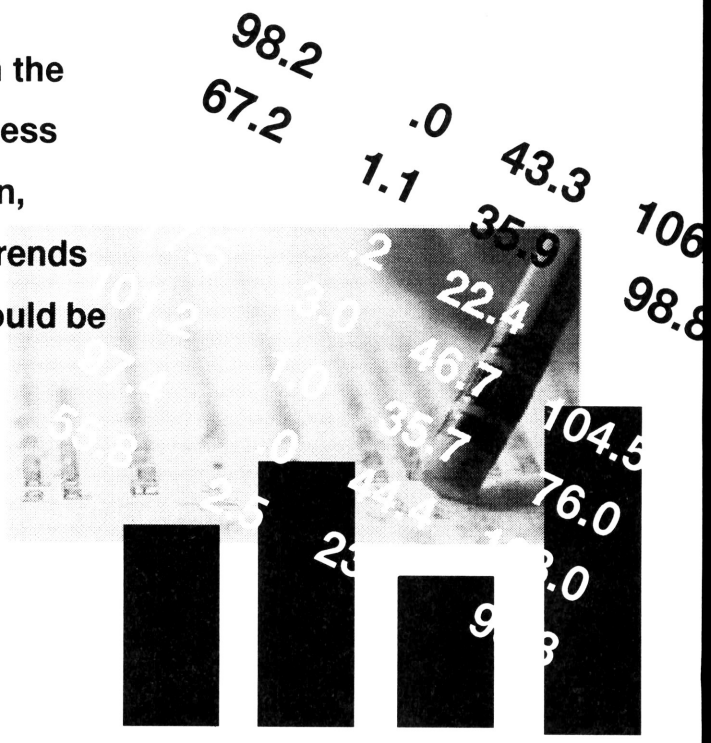

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Local	http://www.bls.gov/lau/	lausinfo@bls.gov
UI-covered employment, wages	http://www.bls.gov/cew/	cewinfo@bls.gov
Occupational employment	http://www.bls.gov/oes/	oesinfo@bls.gov
Mass layoffs	http://www.bls.gov/lau/	mlsinfo@bls.gov
Longitudinal data	http://www.bls.gov/nls/	nls_info@bls.gov
Job openings and labor turnover	http://www.bls.gov/jlt/	Joltsinfo@bls.gov
Prices and living conditions		
Consumer price indexes	http://www.bls.gov/cpi/	cpi_info@bls.gov
Producer price indexes)	http://www.bls.gov/ppi/	ppi-info@bls.gov
Import and export price indexes	http://www.bls.gov/mxp/	mxpinfo@bls.gov
Consumer expenditures	http://www.bls.gov/cex/	cexinfo@bls.gov
Compensation and working conditions		
National Compensation Survey:	http://www.bls.gov/ncs/	ocltinfo@bls.gov
Employee benefits	http://www.bls.gov/ebs/	ocltinfo@bls.gov
Employment cost trends	http://www.bls.gov/ect/	ocltinfo@bls.gov
Occupational compensation	http://www.bls.gov/ncs/	ocltinfo@bls.gov
Occupational illnesses, injuries	http://www.bls.gov/iif/	oshstaff@bls.gov
Fatal occupational injuries	http://www.bls.gov/iif/	cfoistaff@bls.gov
Collective bargaining	http://www.bls.gov/cba/	cbainfo@bls.gov
Productivity		
Labor	http://www.bls.gov/lpc/	dprweb@bls.gov
Industry	http://www.bls.gov/lpc/	dipsweb@bls.gov
Multifactor	http://www.bls.gov/mfp/	dprweb@bls.gov
Projections		
Employment	http://www.bls.gov/emp/	oohinfo@bls.gov
Occupation	http://www.bls.gov/oco/	oohinfo@bls.gov
International		
	http://www.bls.gov/fls/	flshelp@bls.gov
Regional centers		
Atlanta	http://www.bls.gov/ro4/	BLSinfoAtlanta@bls.gov
Boston	http://www.bls.gov/ro1/	BLSinfoBoston@bls.gov
Chicago	http://www.bls.gov/ro5/	BLSinfoChicago@bls.gov
Dallas	http://www.bls.gov/ro6/	BLSinfoDallas@bls.gov
Kansas City	http://www.bls.gov/ro7/	BLSinfoKansasCity@bls.gov
New York	http://www.bls.gov/ro2/	BLSinfoNY@bls.gov
Philadelphia	http://www.bls.gov/ro3/	BLSinfoPhiladelphia@bls.gov
San Francisco	http://www.bls.gov/ro9/	BLSinfoSF@bls.gov
Other Federal statistical agencies		
	http://www.fedstats.gov/	

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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	November 4	3rd quarter	December 7	3rd quqrter			2; 48–51
Employment situation	November 5	October	December 3	November	January 7	December	1; 4–29
U.S. Import and Export Price Indexes	November 10	October	December 9	November	January 13	December	43–47
Producer Price Indexes	November 16	October	December 10	November	January 14	December	2; 40–42
Consumer Price indexes	November 17	October	December 17	November	January 19	December	2; 37–39
Real earnings	November 17	October	December 17	November	January 19	December	14–16, 29
Employment Cost Indexes					January 28	4th quarter	1–3; 30–33

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