

## U.S. labor market in 2001: economy enters a recession

*The year began with a weakening labor market, in which manufacturing's downturn spread into other sectors; unemployment climbed from the historic lows reached during the recent economic expansion*

David S. Langdon,  
Terence M.  
McMenamin,  
and  
Thomas J. Krolik

David S. Langdon is an economist in the Division of Current Employment Statistics, Terence M. McMenamin is an economist in the Division of Labor Force Statistics, and Thomas J. Krolik is an economist in the Division of Local Area Unemployment Statistics, Bureau of Labor Statistics.  
e-mail:  
langdon\_d@bls.gov;  
mcmnamin\_t@bls.gov;  
and  
krolik\_t@bls.gov

The Nation's longest postwar expansion ended in 2001, as the U.S. economy entered a recession in March 2001, after an unprecedented 10 years of growth.<sup>1</sup> Manufacturing's downturn started in late summer of 2000 and deepened in 2001, as businesses sharply reduced spending on machinery, computers, and other capital goods. However, retail sales and the housing market, both of which tend to be highly cyclical, held steady throughout most 2001. Consumers' steadfastness did waver in the fourth quarter, as rising unemployment coupled with the psychological and economic effects of the tragic events of September 11 depressed consumer confidence.<sup>2</sup>

Nonfarm payroll employment fell 762,000, or 0.6 percent, in 2001. (See table 1.) Falling orders led factories to cut more than 1 million jobs from their payrolls. This retrenchment led to job losses in wholesale trade and transportation, and to a massive cutback in factories' use of temporary help services. Construction and retail trade had small employment gains, as hiring early in the year barely offset declines over the rest the year. Job cutbacks in the travel industry intensified in the aftermath of September 11. In contrast, health services and public and private higher education stepped up hiring

in 2001.

The unemployment rate rose to 5.6 percent in the fourth quarter of 2001, an increase of 1.6 percentage points from the 30-year low of 4 percent, in the fourth quarter of 2000. The number of unemployed persons, at nearly 8 million in the fourth quarter of 2001, was up by more than 2 million from a year earlier. More than two-thirds of those who lost their jobs in 2001 considered their layoff to be permanent. Total employment fell by more than 1.3 million in 2001, the first over-the-year decline since 1991, and the downturn affected workers in a wide range of occupations.

This article examines these and other developments affecting the national and State labor markets in 2001. The data are primarily from the Current Employment Statistics survey (CES) and the Current Population Survey (CPS). Both are monthly surveys, although quarterly averages are used in this analysis, unless otherwise noted. Over-the-year comparisons measure changes from fourth quarter 2000 to fourth quarter 2001, unless otherwise noted. See the box on page 4 for an explanation of differences between the two surveys.

### Conceptual differences between employment estimates from the Current Population Survey and the Current Employment Statistics Survey

The Bureau of Labor Statistics produces two monthly employment series that are independently obtained: the estimate of total nonfarm jobs, derived from the Current Employment Statistics (CES or establishment) survey, and the estimate of total civilian employment, derived from the Current Population Survey (CPS or household survey).

The CES survey is an employer-based survey that provides data on the number of payroll jobs in nonfarm industries. The CPS is a survey of households that provides data on the labor force status (employed, unemployed, and not in the labor force) of individuals, and includes information on their demographic characteristics. The surveys are largely complementary.

Employment estimates from the CPS include both agricultural and nonagricultural sectors and count persons in any type of work arrangement: wage and salary workers, self-employed persons, private household workers, and unpaid workers who worked 15 hours or more in an enterprise operated by a family member. Estimates from the CES survey refer only to persons on wage and salary workers payrolls and exclude private household workers. As a result, the count of employment from the CPS is larger than from the CES survey.

Partially offsetting the higher estimates from the CPS is

the fact that the CPS is a count of persons, and individuals are counted only once, regardless of the number of jobs they hold. In contrast, the CES survey is a count of jobs and includes each job for persons who work in more than one establishment.

There are other differences in the surveys' methodology and coverage. For example, the reference period for the CPS is the *week* that includes the 12th day of the month, while, for the CES survey, it is the *pay period* that includes the 12th of the month. Pay periods vary in length and can be longer than 1 week. It is therefore possible for the CES survey estimate of employment to reflect a longer reference period than that used for the CPS.

The "universe" for the CPS is the civilian noninstitutional population. This includes persons 16 years of age and older residing in the United States who are not confined to institutions (for example, correctional, psychiatric, and long-term care facilities), and who are not on active duty in the Armed Forces. In this regard, the coverage of the CES survey is broader: there is no age restriction in the CES, and wage and salary civilian jobs held by uniformed military personnel are counted, and persons who commute into the United States from Mexico or Canada to work are counted as employed.

*A confluence of factors deepened manufacturing's downturn in 2001.* While declining auto sales and unfavorable foreign trade were early factors in the slowdown, declining business investment, especially in information technology goods, became the dominant factor later in the year. Manufacturing's downturn began in 2000, but worsened considerably in 2001. This downturn followed a weak, short-lived period of expansion in manufacturing. In the fourth quarter of 1999, employment had barely begun to recover from the losses associated with the 1998 Asian currency crisis. Even during that period, hiring was minimal, and by the third quarter of 2000, the job losses resumed. In 2001, factories eliminated 1,204,000 jobs while sharply reducing their output, thus sending capacity utilization to its lowest levels since 1983.<sup>3</sup> Although no single factor caused the manufacturing downturn, two important considerations were declining motor vehicle sales and increasingly unfavorable foreign trade.

By late summer of 2000, U.S. automakers anticipated a decline in overall demand for new cars and light trucks. They responded by reducing both output and employment, and by

sharply discounting new cars and light trucks. Although the incentives did help 2000 to become the industry's second straight record sales year, the production cuts were not sufficient enough to prevent overstocked inventories by year's end. Accordingly, automakers extended their price incentives into 2001 and held production well below its year-2000 pace.<sup>4</sup>

As automakers had anticipated, U.S. auto sales did initially fall in 2001. Employment in motor vehicles continued to drop as well, with the industry laying off 89,000 workers for the year. Part of the job losses represented general cost cutting measures, as opposed to further production cuts, among the major automakers. These companies had seen their profits decline in 2001, partly because of the incentive war they initiated in an effort to regain market share from their European and Asian competitors. Most of the motor vehicle industry's job losses, however, came not from the assembly plants but from their first-tier suppliers. These suppliers, such as engine and brake manufacturers, restructured their operations when it became apparent that auto production would not rebound to its year-2000 levels, and when automakers began to de-

**Table 1. Employees on nonfarm payrolls by industry, quarterly averages, seasonally adjusted, 1995–2001**

[In thousands]

Industry	Fourth quarter, 1995	Fourth quarter, 2000	Fourth quarter, 2001	Change, fourth quarter to fourth quarter					
				Annual average, 1995–2000		1999–2000		2000–2001	
				Thousands	Percent	Thousands	Percent	Thousands	Percent
Total nonfarm .....	117,951	132,264	131,502	2,863	2.3	2,157	1.7	-762	-0.6
Total private .....	98,627	111,669	110,480	2,608	2.5	1,925	1.8	-1,189	-1.1
Goods-producing .....	24,298	25,704	24,590	281	1.1	136	.5	-1,114	-4.3
Mining .....	573	549	567	-5	-.9	16	3.0	18	3.3
Metal mining .....	52	40	34	-2	-5.1	-2	-4.8	-6	-15.0
Oil and gas extraction .....	315	320	338	1	0.3	24	8.1	18	5.6
Nonmetallic minerals, except fuels .....	105	114	113	2	1.7	0	0	-1	-0.9
Construction .....	5,235	6,777	6,850	308	5.3	238	3.6	73	1.1
General building contractors .....	1,219	1,547	1,559	66	4.9	64	4.3	12	0.8
Heavy construction, except building .....	760	909	939	30	3.6	22	2.5	30	3.3
Special trade contractors .....	3,256	4,321	4,352	213	5.8	151	3.6	31	0.7
Manufacturing .....	18,490	18,378	17,174	-22	-.1	-118	-.6	-1,204	-6.6
Durable goods .....	10,709	11,116	10,252	81	.7	23	.2	-864	-7.8
Lumber and wood products .....	772	816	784	9	1.1	-24	-2.9	-32	-3.9
Furniture and fixtures .....	507	557	501	10	1.9	5	.9	-56	-10.1
Stone, clay, and glass products .....	538	577	562	8	1.4	4	.7	-15	-2.6
Primary metal industries .....	712	691	621	-4	-.6	-6	-.9	-70	-10.1
Fabricated metal products .....	1,439	1,536	1,439	19	1.3	12	.8	-97	-6.3
Industrial machinery and equipment .....	2,098	2,121	1,918	5	.2	4	.2	-203	-9.6
Computer and office equipment .....	359	365	338	1	.3	2	.6	-27	-7.4
Electronic and other electrical equipment .....	1,641	1,738	1,501	19	1.2	63	3.8	-237	-13.6
Electronic components and accessories .....	599	707	592	22	3.4	60	9.3	-115	-16.3
Transportation equipment .....	1,766	1,820	1,704	11	.6	-55	-2.9	-116	-6.4
Motor vehicles and equipment .....	971	992	903	4	.4	-30	-2.9	-89	-9.0
Aircraft and parts .....	430	463	455	7	1.5	-15	-3.1	-8	-1.7
Instruments and related products .....	845	864	843	4	.4	17	2.0	-21	-2.4
Miscellaneous manufacturing industries .....	390	395	378	1	.3	2	.5	-17	-4.3
Nondurable goods .....	7,781	7,262	6,922	-104	-1.4	-141	-1.9	-340	-4.7
Food and kindred products .....	1,702	1,680	1,688	-4	-.3	-13	-.8	8	.5
Tobacco products .....	42	32	33	-2	-5.3	-3	-8.6	1	3.1
Textile mill products .....	644	514	448	-26	-4.4	-31	-5.7	-66	-12.8
Apparel and other textile products .....	902	610	535	-58	-7.5	-54	-8.1	-75	-12.3
Paper and allied products .....	689	654	626	-7	-1.0	-8	-1.2	-28	-4.3
Printing and publishing .....	1,543	1,541	1,454	0	0	-8	-.5	-87	-5.6
Chemicals and allied products .....	1,035	1,038	1,024	1	.1	2	.2	-14	-1.3
Petroleum and coal products .....	142	127	127	-3	-2.2	-2	-1.6	0	0
Rubber and miscellaneous plastics products .....	978	997	928	4	.4	-18	-1.8	-69	-6.9
Leather and leather products .....	102	69	60	-7	-7.5	-5	-6.8	-9	-13.0
Service-producing .....	93,653	106,560	106,912	2,581	2.6	2,021	1.9	352	.3
Transportation and public utilities .....	6,193	7,092	6,962	180	2.7	177	2.6	-130	-1.8
Transportation .....	3,963	4,572	4,425	122	2.9	115	2.6	-147	-3.2
Railroad transportation .....	236	234	224	0	-.2	-2	-.8	-10	-4.3
Local and interurban passenger transit .....	426	478	481	10	2.3	2	.4	3	.6
Trucking and warehousing .....	1,607	1,864	1,831	51	3.0	30	1.6	-33	-1.8
Water transportation .....	174	200	205	5	2.8	13	7.0	5	2.5
Transportation by air .....	1,098	1,307	1,228	42	3.5	61	4.9	-79	-6.0
Pipelines, except natural gas .....	15	14	14	0	-1.4	1	7.7	0	0
Transportation services .....	407	476	442	14	3.2	11	2.4	-34	-7.1

See footnote at end of table.

**Table 1. Continued—Employees on nonfarm payrolls by industry, quarterly averages, seasonally adjusted, 1995–2001**

[In thousands]

Industry	Fourth quarter, 1995	Fourth quarter, 2000	Fourth quarter, 2001	Change, fourth quarter to fourth quarter					
				Annual average, 1995–2000		1999–2000		2000–2001	
				Thousands	Percent	Thousands	Percent	Thousands	Percent
Communications and public utilities .....	2,230	2,521	2,537	58	2.5	64	2.6	16	0.6
Communications .....	1,326	1,673	1,689	69	4.8	74	4.6	16	1.0
Electric, gas, and sanitary services .....	904	848	848	-11	-1.3	-11	-1.3	0	0
Wholesale trade .....	6,410	7,066	6,948	131	2.0	111	1.6	-118	-1.7
Durable goods .....	3,746	4,204	4,095	92	2.3	45	1.1	-109	-2.6
Nondurable goods .....	2,664	2,861	2,853	39	1.4	65	2.3	-8	-0.3
Retail trade .....	21,314	23,394	23,404	416	1.9	325	1.4	10	0
Building materials and garden supplies .....	872	1,011	1,012	28	3.0	6	.6	1	.1
General merchandise stores .....	2,688	2,829	2,765	28	1.0	21	.7	-64	-2.3
Department stores .....	2,356	2,484	2,417	26	1.1	21	.9	-67	-2.7
Food stores .....	3,393	3,528	3,537	27	.8	24	.7	9	.3
Automotive dealers and service stations .....	2,211	2,426	2,430	43	1.9	46	1.9	4	.2
New and used car dealers .....	1,006	1,123	1,137	23	2.2	29	2.7	14	1.2
Apparel and accessory stores .....	1,103	1,208	1,203	21	1.8	25	2.1	-5	-.4
Furniture and home furnishings stores .....	953	1,145	1,138	38	3.7	40	3.6	-7	-.6
Eating and drinking places .....	7,424	8,143	8,196	144	1.9	85	1.1	53	.7
Miscellaneous retail establishments .....	2,671	3,105	3,123	87	3.1	79	2.6	18	.6
Finance, insurance, and real estate .....	6,820	7,575	7,633	151	2.1	-1	.0	58	.8
Finance .....	3,241	3,730	3,767	98	2.9	29	.8	37	1.0
Depository institutions .....	2,018	2,024	2,043	1	.1	-26	-1.3	19	.9
Commercial banks .....	1,460	1,420	1,427	-8	-.6	-36	-2.5	7	.5
Savings institutions .....	271	253	259	-4	-1.4	-2	-.8	6	2.4
Nondepository institutions .....	480	678	719	40	7.2	-25	-3.6	41	6.0
Security and commodity brokers .....	532	770	747	48	7.7	60	8.5	-23	-3.0
Holding and other investment offices .....	211	258	258	9	4.1	20	8.4	0	0
Insurance .....	2,218	2,339	2,356	24	1.1	-30	-1.3	17	.7
Insurance carriers .....	1,518	1,582	1,598	13	.8	-27	-1.7	16	1.0
Insurance agents, brokers, and service .....	700	757	759	11	1.6	-3	-.4	2	.3
Real estate .....	1,361	1,507	1,509	29	2.1	2	.1	2	.1
Services <sup>1</sup> .....	33,591	40,838	40,942	1,449	4.0	1,177	3.0	104	.3
Agricultural services .....	592	811	842	44	6.5	29	3.7	31	3.8
Hotels and other lodging places .....	1,677	1,937	1,852	52	2.9	69	3.7	-85	-4.4
Personal services .....	1,165	1,262	1,280	19	1.6	26	2.1	18	1.4
Business services <sup>1</sup> .....	6,999	9,922	9,389	585	7.2	346	3.6	-533	-5.4
Services to buildings .....	891	998	994	21	2.3	5	.5	-4	-.4
Personnel supply services .....	2,531	3,858	3,302	265	8.8	100	2.7	-556	-14.4
Help supply services .....	2,238	3,443	2,936	241	9.0	61	1.8	-507	-14.7
Computer and data processing services .....	1,147	2,150	2,193	201	13.4	173	8.8	43	2.0
Auto repair, services, and parking .....	1,041	1,271	1,302	46	4.1	53	4.4	31	2.4
Miscellaneous repair services .....	365	366	360	0	.1	-3	-.8	-6	-1.6
Motion pictures .....	502	593	582	18	3.4	-9	-1.5	-11	-1.9
Amusement and recreation services .....	1,428	1,754	1,772	65	4.2	79	4.7	18	1.0
Health services <sup>1</sup> .....	9,328	10,165	10,457	167	1.7	151	1.5	292	2.9
Offices and clinics of medical doctors .....	1,638	1,942	1,998	61	3.5	47	2.5	56	2.9
Nursing and personal care facilities .....	1,708	1,801	1,838	19	1.1	11	.6	37	2.1
Hospitals .....	3,784	4,015	4,147	46	1.2	40	1.0	132	3.3
Home health care services .....	650	644	657	-1	-.2	6	.9	13	2.0
Legal services .....	920	1,014	1,031	19	2.0	11	1.1	17	1.7
Private schools and other educational services .....	1,987	2,341	2,446	71	3.3	51	2.2	105	4.5

See footnote at end of table.

**Table 1. Continued—Employees on nonfarm payrolls by industry, quarterly averages, seasonally adjusted, 1995–2001**

[In thousands]

Industry	Fourth quarter, 1995	Fourth quarter, 2000	Fourth quarter, 2001	Change, fourth quarter to fourth quarter					
				Annual average, 1995–2000		1999–2000		2000–2001	
				Thousands	Percent	Thousands	Percent	Thousands	Percent
Social services <sup>1</sup> .....	2,363	2,960	3,101	119	4.6	130	4.6	141	4.8
Child day care services .....	564	727	756	33	5.2	38	5.5	29	4.0
Residential care .....	653	820	854	33	4.7	35	4.5	34	4.1
Museums and botanical and zoological gardens .....	82	108	111	5	5.7	6	5.9	3	2.8
Membership organizations .....	2,163	2,485	2,505	64	2.8	29	1.2	20	.8
Engineering and management services <sup>1</sup> .....	2,774	3,478	3,540	141	4.6	165	5.0	62	1.8
Engineering and architectural services .....	824	1,036	1,066	42	4.7	58	5.9	30	2.9
Management and public relations .....	833	1,112	1,125	56	5.9	62	5.9	13	1.2
Government .....	19,324	20,595	21,022	254	1.3	232	1.1	427	2.1
Federal .....	2,795	2,618	2,615	-35	-1.3	-28	-1.1	-3	-.1
Federal, except Postal Service .....	1,948	1,759	1,777	-38	-2.0	-21	-1.2	18	1.0
State government .....	4,622	4,802	4,922	36	.8	48	1.0	120	2.5
State government, except education ....	2,708	2,767	2,811	12	.4	27	1.0	44	1.6
State government education .....	1,915	2,035	2,111	24	1.2	21	1.0	76	3.7
Local government .....	11,906	13,175	13,485	254	2.0	212	1.6	310	2.4
Local government, except education ....	5,271	5,725	5,859	91	1.7	131	2.3	134	2.3
Local government education .....	6,635	7,450	7,627	163	2.3	81	1.1	177	2.4

<sup>1</sup> Includes other industries not shown separately.  
NOTE: December figures are preliminary.

mand lower prices for parts.<sup>5</sup>

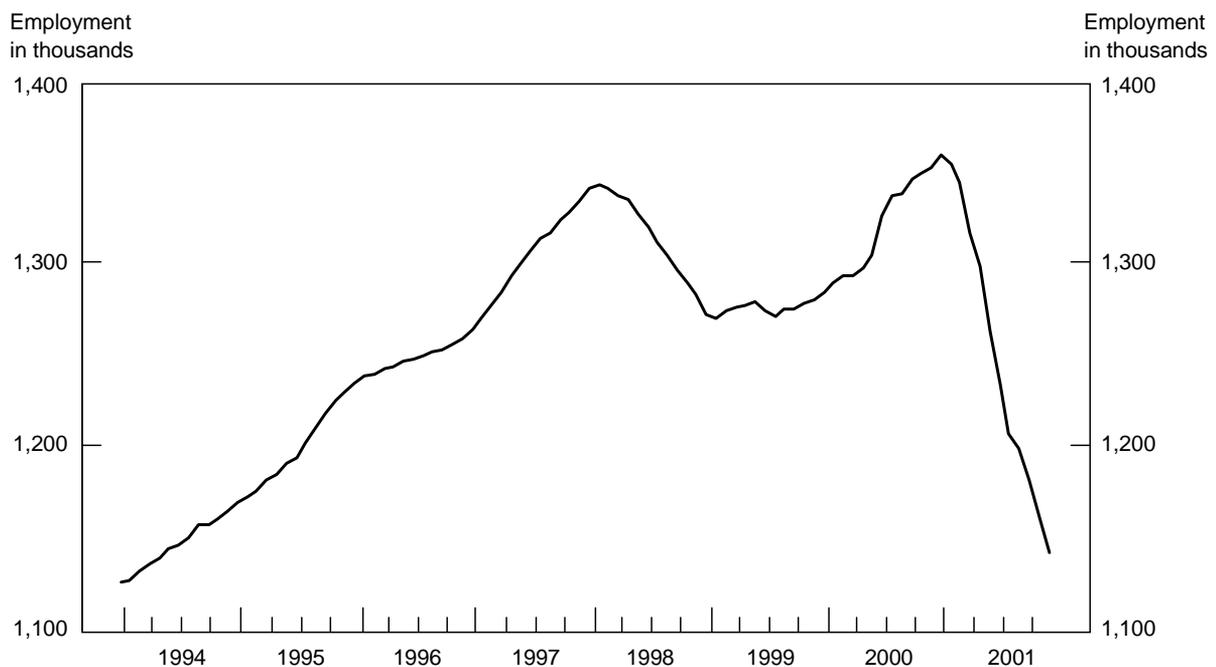
The production cutbacks further affected second-tier suppliers—that is, auto-related manufacturing industries, such as automotive stampings and flat glass, which are not classified within the same category as motor vehicles and equipment. These auto-related industries, moving in step with the automakers they serve, eliminated 9.5 percent of their workforce, or 29,000 workers.<sup>6</sup>

The difficulties for primary metals manufacturers, like those of the auto industry, date well before 2001, but worsened in 2001. Employment followed that same pattern, falling by 70,000 in 2001, after having decreased slightly—6,000 jobs—the prior year. Certainly, the slowing auto industry hurt demand for steel, but the underlying, and fundamental, problem facing the industry was tenacious foreign competition, a by-product of the strong dollar.

The dollar rose in 2001 to a 15-year high as the U.S. economy and currency inspired confidence in investors, especially relative to the Euro-zone and Japan.<sup>7</sup> By raising the relative price of U.S. goods abroad, the elevated exchange rate could potentially hurt export-dependent industries. At the same time, it also could lead to import substitution in the United States by lowering the relative price of foreign goods here—thus exacerbating the dwindling demand for goods manufactured domestically.

Heavy foreign exports to the United States first began to erode steel prices, and the profits of U.S. steel companies, in 1998.<sup>8</sup> Prices recovered somewhat in 2000, but falling domestic demand for steel drove them back down in 2001. Because of falling profits, numerous U.S. steel companies filed for Chapter 11 bankruptcy protection, with Bethlehem Steel marking the 20th bankruptcy filing in the industry since late 1998.<sup>9</sup> Given the industry's plight, in 2001, the International Trade Commission initiated a review of the impact of steel imports on U.S. manufacturers and found that 12 product lines, covering 74 percent of imported steel, had been seriously injured because of imports.<sup>10</sup>

Paper and allied products, like primary metals, suffered from a combination of falling demand from other domestic manufacturers and a worsening trade outlook—in this case, falling export demand.<sup>11</sup> At the same time that the economic slowdown in the United States hurt domestic demand for container board for shipping, exports of paper and allied products also fell sharply.<sup>12</sup> As a result, this industry slashed 28,000 jobs, quadrupling its prior 6-year average declines. The recession also cut into advertising revenue for all types of media, including print media, a fundamental client of paper manufacturers.<sup>13</sup> Job losses in printing and publishing totaled 87,000 positions. Commercial printing and newspapers accounted for most of the layoffs, although periodicals

**Chart 1. Employment in IT manufacturing, seasonally adjusted**

NOTE: Series includes Standard Industrial Classification (sic) codes 357 (computer and office equipment), 366 (communications equipment) and 367 (electronic components and accessories).

and book publishing also experienced significant, and unusual, declines.

As manufacturing profits fell, so did outlays for capital goods in 2001.<sup>14</sup> With the recruiting difficulties firms had recently faced still fresh in their minds, many considered it “less painful” to slash capital spending, particularly on high-technology goods, before turning to their payrolls to cut costs.<sup>15</sup> As a result, orders for machinery and computer equipment slumped last year. For many industrial machinery manufacturers, weak exports only added to their woes. Overall employment in industrial machinery dropped by 203,000 jobs last year, after having grown slightly in 2000. Since this industry alone accounts for 17 percent of the manufacturing job losses in 2001, it is worth examining some of the specific component industries.

Metalworking machinery had the bleakest employment picture, reducing its ranks by 39,000. Although this industry had been losing jobs since early 1998—coinciding with the Asian financial crisis—the layoffs in 2001 easily exceeded the prior years’ total. Total shipments dropped off by 12 percent, with the foreign sales falling somewhat faster than sales to U.S. customers.<sup>16</sup>

Job losses in construction machinery and general industrial machinery, however, derived more from poor U.S. sales

than from foreign purchases. Indeed, despite rising exports of construction machinery, total shipments turned downward in 2001, and employment dropped by 21,000 jobs. General industrial machinery saw its foreign shipments decline, but this decline accounted for only a fraction of the industry’s decline in sales. In other words, the drop in domestic demand contributed to most of the job losses in general industrial machinery. For 2001, this industry reduced its payrolls by 28,000 jobs, after having cut only 4,000 jobs in 2000.

Special industrial machinery exports and employment both turned downward in 2001, partly because of this industry’s ties to high-technology manufacturing. After bringing on 5,000 additional workers in 2000, the industry’s employment shrank by 29,000 last year. The change in exports was even more dramatic: after surging 42.2 percent in 2000, exports slipped back 33.6 percent last year. Although exports to a variety of regions fell, Taiwan’s 63.3 percent and South Korea’s 48.3 percent declines stand out, reflecting the severity of the information technology (IT) downturn in those countries.<sup>17</sup>

For producers of IT equipment such as computers, semiconductors, and communications equipment, orders dropped late in 2000, sparking layoffs.<sup>18</sup> For the year, IT manufacturers reduced their ranks by 188,000 jobs, directly accounting

for 15.6 percent of manufacturing's job losses. (See chart 1.) In 1 year, these industries effectively reversed the net job gains of the prior 6 years. Capacity utilization fell from a May 2000 high of 88.8 percent to a historic low of 60 percent. Yet, as fast as IT manufacturers cut output and payrolls, these cutbacks still lagged behind the plummeting demand for their products. The IT slump spread throughout and beyond manufacturing. Within manufacturing, and aside from the IT manufacturers already mentioned, the clearest impact was experienced in miscellaneous electrical equipment and supplies, which includes makers of magnetic and optical recording media, and in measuring and controlling devices. Employment in the former declined by 21,000, after having declined by 4,000 the previous year, while the latter eliminated 17,000 jobs, erasing its year-2000 gains.

Beyond manufacturing, the problems in IT involved the telecommunications industry; indeed, it emanated largely from the profit problems of telecom companies.<sup>19</sup> These woes, and the ensuing investment cutbacks, began prior to 2001, although employment in telephone communications held firm until the second quarter of 2001. The subsequent job losses totaled 17,000. Although this decline is small, it is a contrast to the industry's 8-year expansion, during which employment ballooned 34 percent to more than 1.1 million.

The rise and fall of the NASDAQ composite index perhaps best captured the breadth and speed of IT's rapid expansion and subsequent contraction, given its role as a marketplace for financing many Internet startups. In a short 10-month span—between March 10, 2000 and the end of 2000—the NASDAQ plunged more than 50 percent. Subsequently, equity underwriting by investment banks slumped. As stock valuations fell, investor interest in Internet ventures waned, and the ventures' falling liquidity stifled demand for semiconductors and other IT-related goods. Yet this slump in Internet investment did not immediately impact employment in security and commodity brokers. It was merely symptomatic of broader economic ills, which hurt the overall securities industry's revenues. Even as those ills wore away at the strength of the Standard & Poor's 500 index and other broad indices, the effect on brokerages' hiring was not felt immediately, in part because firms were uncertain about how long the downturn would last.<sup>20</sup> Employment peaked in March 2001, and the first significant employment decline came in May. For the year, employment in security and commodity brokerages shrank by 23,000, its first contraction since the 1990 recession.

*Manufacturing's downturn spread deeply into the service-producing sector.* The close and obvious ties manufacturing maintains with trucking and warehousing and with wholesale trade became especially evident as the economy entered recession.<sup>21</sup> For 2001, wholesale trade lost 118,000 jobs. Al-

though most component industries shrank, more than half of the losses came in two industries: wholesale trade of professional and commercial equipment cut 36,000 positions and electrical goods trimmed 35,000. These layoffs relate directly to the slump in spending on information technology goods. Employment decreased by 13,000 in machinery, equipment, and supplies and by 5,000 in motor vehicles parts and supplies, thus reflecting the downturn in industrial machinery and in car and truck production. Nondurable goods wholesalers reduced their ranks by 8,000 jobs in 2001, in contrast to the prior year's job growth of 65,000.

Trucking and warehousing cut 33,000 jobs in 2001, erasing all of its year 2000 gains. Trucking companies had been suffering since early 2000, as decreased truck tonnage, high fuel prices, and poor used truck values bit into profits and slowed employment growth.<sup>22</sup> Truck tonnage bottomed at the end of 2000 but recovered slightly in 2001.<sup>23</sup> While manufacturers purchase 43 percent of trucking services, other purchasers are spread throughout the economy.<sup>24</sup> That diversity may have kept tonnage from falling even further in 2001, but it could not allay a decline in employment.

In 2001, it became increasingly apparent that manufacturing was relying heavily on temporary help services—an industry classified within the service sector. Just as the auto industry increased its production flexibility and reduced risk by shifting output from final assembly plants to suppliers during the 1990s, many companies shifted part of their labor input from their own payrolls to those of personnel supply companies (which include agencies that provide temporary staffing workers).<sup>25</sup> That shift applies across the economy and is an underlying force behind the industry's 154 percent growth from fourth quarter 1991 through fourth quarter 2000. Hiring in personnel supply slowed sharply in mid-2000, and by the fourth quarter, the temporary help industry's employment trend had turned downward, coinciding with the accelerating layoffs in manufacturing. This trend continued throughout 2001, and by the end of the year, personnel supply services had cut its payrolls by 556,000 jobs, or 14.4 percent. No other industry cut even half that number of positions, and in percentage terms, only a handful exceeded personnel supplies' 14.4-percent pace.<sup>26</sup> Almost single-handedly, this industry pushed services overall employment growth down to 0.3 percent, its worst showing since 1944.

The employment growth slowdown in computer and data processing services was even more abrupt than that experienced by personnel services. The computer services industry provides contract services to other business, including manufacturing firms. The expansion in computer services spans the entire 30-year history of its employment series, but flattened in the summer of 2001. Although computer services employment ended the year up by 43,000, that annual job growth pales when compared with the 177,000 averaged over

the previous 7 years.

The broad customer base and employment trends of management and public relations closely resemble those of computer services.<sup>27</sup> Job growth in management consulting essentially stopped in March 2001, ending a nearly 10-year expansion—during which employment had surged more than 80 percent. Over the rest of the year, these companies had managed to keep their job numbers unchanged.

Employment growth slowed markedly in 2001, in another industry that provides a service to businesses—engineering and architectural services. This industry brought on 30,000 workers, reaching close to half its year-2000 gains. Still, those gains easily bettered engineering and architectural services' stagnant performance during the 1990–91 recession. The fact that this industry sells most of its services to the construction industry helped to insulate it from the general economic downturn.<sup>28</sup> Similar ties to the construction industry helped manufacturing industries that produce building materials and supplies. In these construction-related manufacturing industries, employment decreased by 72,000, or 4.1 percent, about three-fifths the rate of overall manufacturing.<sup>29</sup> To assess the relative strength of these construction-related industries, it is fundamental to analyze the unusual resiliency of the construction industry itself as the recession developed.

*Low mortgage rates boosted the housing market and softened the slowdown in **construction and real estate**.* Construction employment continued growing throughout the first quarter of 2001; this growth was helped by mild winter weather across the Nation.<sup>30</sup> Employment reached a plateau in mid-year, reflecting the decay in private nonresidential construction activity. In contrast, residential building activity held steady for much of the year, while public construction work increased.<sup>31</sup> For the year, employment in construction rose by 73,000, with all of the growth occurring in the first quarter. While that increase equals only approximately one-fourth of the industry's prior 8-year growth rate, it is unusually strong for a recession year.

Heavy construction showed the greatest resiliency among construction industries in 2001. The industry added 30,000 workers, equaling its prior 5-year average growth. Highway spending continued to benefit from the \$217 billion, 6-year Transportation Equity Act for the 21st century.<sup>32</sup> Last year's increased public spending on sewer systems and water supply facilities—a related result of continued heavy construction work—also provided many in the labor force with prolonged employment opportunities, even as the recession deepened.<sup>33</sup>

In contrast, in 2001, the weakest area of construction was private nonresidential building. As measured by value put in place, nonresidential building peaked in mid-spring, but fell

sharply in summer, and by autumn had retreated to levels last seen in 1996.<sup>34</sup> As nonresidential construction activity deteriorated, its employment also fell, more than offsetting gains from earlier in the year. As a result, employment declined by 6,000 over the year—an abrupt departure from the industry's average annual gains of 20,000 throughout its prior 8-year expansion.

Hiring in special trade contractors closely paralleled that of nonresidential building. Although employment growth held steady in the first quarter, much of that growth diminished throughout the following quarters. For the year, employment in special trade contractors rose by 31,000, only a fraction of the 200,000 new jobs it had averaged over the prior 8 years.

Sliding mortgage rates and steady consumer confidence buttressed residential construction, at least until midyear.<sup>35</sup> Average rates for conventional 30-year fixed-rate mortgages peaked at 8.52 in May 2000, but fell more than 1.5 percentage points by the start of 2001. Most of the year, interest rates hovered between 7.0 and 7.1 percent, while dipping downward briefly again in autumn. These conditions revived housing starts, which had begun to taper off in late 2000. Consequently, employment in residential building contractors inched upward in 2001, rising 18,000 for the year, versus growth of 47,000 in 2000.

Sales of existing homes, like those of new homes, hovered close to their prior 2 years' levels for much of 2001, and real estate employment matched that flat trend. Although the median price of existing single-family homes continued to grow, affordability rose as well, thanks to moderating mortgage rates.<sup>36</sup> Appreciating home values reinforced the investment aspect of home buying, in sharp contrast to falling stock prices.

Purchasing a home traditionally sparks a buying spree focused around furnishing the new abode. Conversely, sluggish home sales are reflected in decreased furniture sales. In 2001, furniture sales mirrored the plateau in home sales—employment fell in both furniture manufacturing and retailing. Furniture manufacturers' troubles date from mid-2000, when weakening profits led to cuts in production and employment, and the downturn intensified in 2001. Job losses reached 56,000, the largest year-to-year employment decline in the series' 54-year history. The industry's problems were threefold: increasing competition from imports, in particular, from China, whose furniture exports to the United States increased 13.1 percent in 2001; the bankruptcy declaration of Montgomery Ward and the closing of numerous J.C. Penney stores, which eroded a significant share of the furniture marketplace; and consolidation among traditional furniture retailers.<sup>37</sup> Although sales in furniture stores held steady in 2001, the number of bankruptcy filings increased. The industry had become increasingly fragmented in recent years, with

conventional furniture stores losing business to discount furniture stores and manufacturer-controlled outlets.<sup>38</sup> The resulting consolidation dampened employment growth in furniture and home furnishing stores, with payrolls expanding by only 6,000 jobs last year, after having risen an average of 19,000 during each of the previous 8 years.

Declining mortgage rates benefited not only prospective home buyers, but also homeowners who either wanted to tap into their equity or to refinance and take advantage of lower interest rates, which could result in lower mortgage payments. Mortgage refinancing skyrocketed early in 2001, and again in the summer, reaching year-to-year growth of more than 800 percent.<sup>39</sup> This new activity, on top of the stable demand for new mortgages, boosted hiring in mortgage bankers and brokers by 32,000 workers last year, nearly compensating for the layoffs it had experienced in 2000, when refinancing waned.

*As sales growth slackened and competitive pressures intensified, employment gains in retail trade slowed sharply.* Mortgage refinancing, spurred by declining mortgage rates and appreciating home prices, and last summer's Federal tax rebate most likely helped sustain consumer spending and, thus, employment in retail trade through July 2001.<sup>40</sup> The September 11th tragedy outweighed those positives, however, and retail sales (excluding motor vehicles) did not completely recover from the initial shock of the attacks.<sup>41</sup> Retail trade hiring reflected that pattern. While the industry as a whole expanded through July, the subsequent layoffs were severe. Moreover, stores delayed their traditional Christmas hiring, adopting a "wait-and-see" attitude. For the year, retail trade employment rose a mere 10,000—its worst showing since the 1991 recession.

Although that pattern applies to the retail sector in general, the situation of individual industries within that sector varied, depending principally on their financial health earlier in the year. For example, the ills of conventional department stores date from well before 2001. Job losses in department stores (which includes both financially troubled traditional, or conventional, chains, as well as their more solvent discount competitors) date from April 2000. Indeed, in 2000, discount department stores enjoyed 7.7 percent sales growth while conventional chains saw essentially no growth in sales.<sup>42</sup> That zero growth turned into a 5.5 percent sales decline in 2001, in contrast to the 3.4-percent rise for discount chains. Post-September 11th sales figures highlighted this disparity even more.<sup>43</sup> Store closings and bankruptcy filings spanned all of 2001, and so did job losses. Department stores cut 67,000 jobs after having hired an average of 26,000 workers a year during the prior 4 years.

As discount chains expanded the number of operating stores, they also broadened the scope of their product offer-

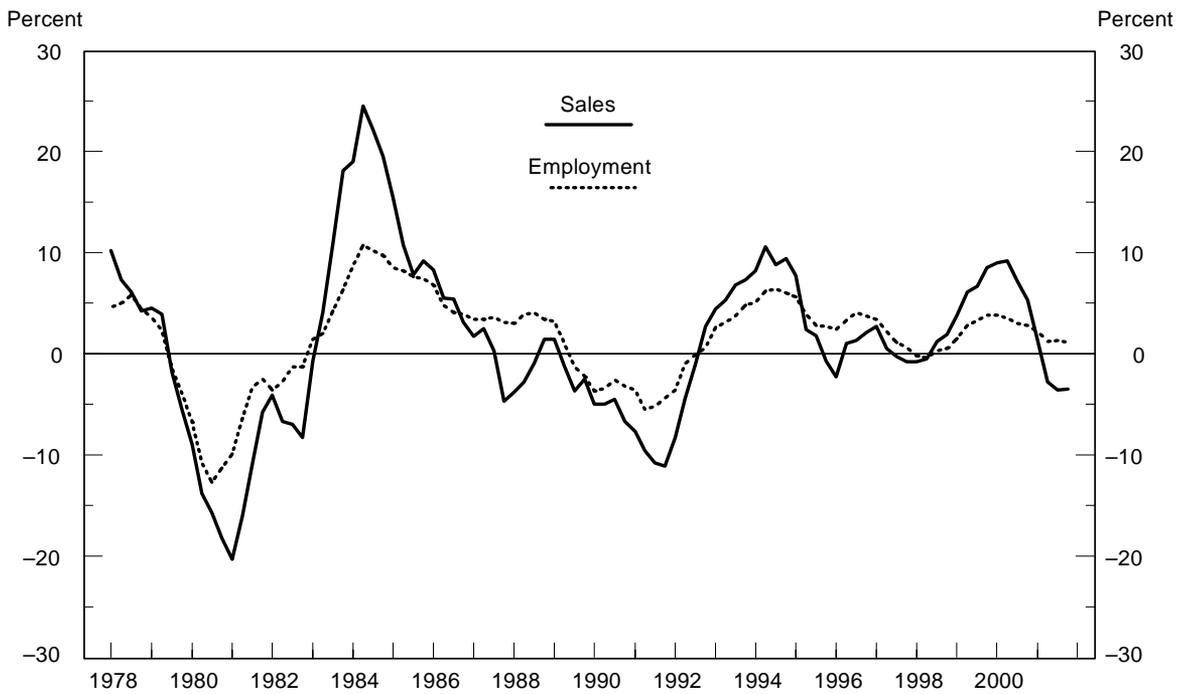
ings. As a result, their influence affected other sectors, including furniture and home furnishings, as discussed previously, and food stores. Despite relatively stable sales growth, employment in food stores rose by only 9,000 jobs, or 0.3 percent, down sharply from the 0.8 annual growth rate it had averaged between 1996 and 2000. As was true throughout retailing in general, this growth merely reflected hiring completed early in the year. May marked the beginning of net job losses in food stores, with the losses continuing through the end of 2001.

Unlike department stores, food stores did not see any of its largest chains declare bankruptcy. Rather, the chains' layoffs resulted largely from the bankruptcy filings of independent grocers and small chains, in combination with a number of large chains shutting down some "underperforming" units.<sup>44</sup> Although supermarkets often sell their closed stores to other supermarket chains, such sales became increasingly difficult for the smaller sized establishments, because their stores were not perceived as viable assets. Moreover, the opening of a single supercenter could provoke the closing of several older supermarkets, which resulted in a glut of small store sites for sale in some markets.<sup>45</sup> In short, an increasingly competitive market led food stores' employment to start falling, even as sales continued to grow.

Competition was the impetus driving the food stores' closings, but it had the opposite effect for auto dealers: employment continued to rise, even as sales slipped from their year-2000 pace. New and used car dealers increased their staffing by 14,000 workers, or at about half their 2000 rate. Historically, employment in auto dealers has tended to be highly cyclical. (See chart 2.) Between 1989 and 1991 (and thus encompassing the 1990–91 recession), this industry eliminated 94,000 jobs, or 9.7 percent of its workforce. Yet, the 2001 marketplace differed greatly from that of a decade ago. During the 1990s, auto dealers began to derive a larger share of their profit from after-sales services and from used-vehicle sales.<sup>46</sup> The increasing incidence of "certified" used car programs and the need for warranty service on the many new vehicles sold during 1999 and 2000 (both record sales years) provided incentives to maintain or expand service payrolls.<sup>47</sup> An additional boost to employment came when zero-percent financing jump started auto sales in the fourth quarter of 2001. For the rest of retailing, however, the outlook in autumn was negative, and seasonal hiring was subdued.

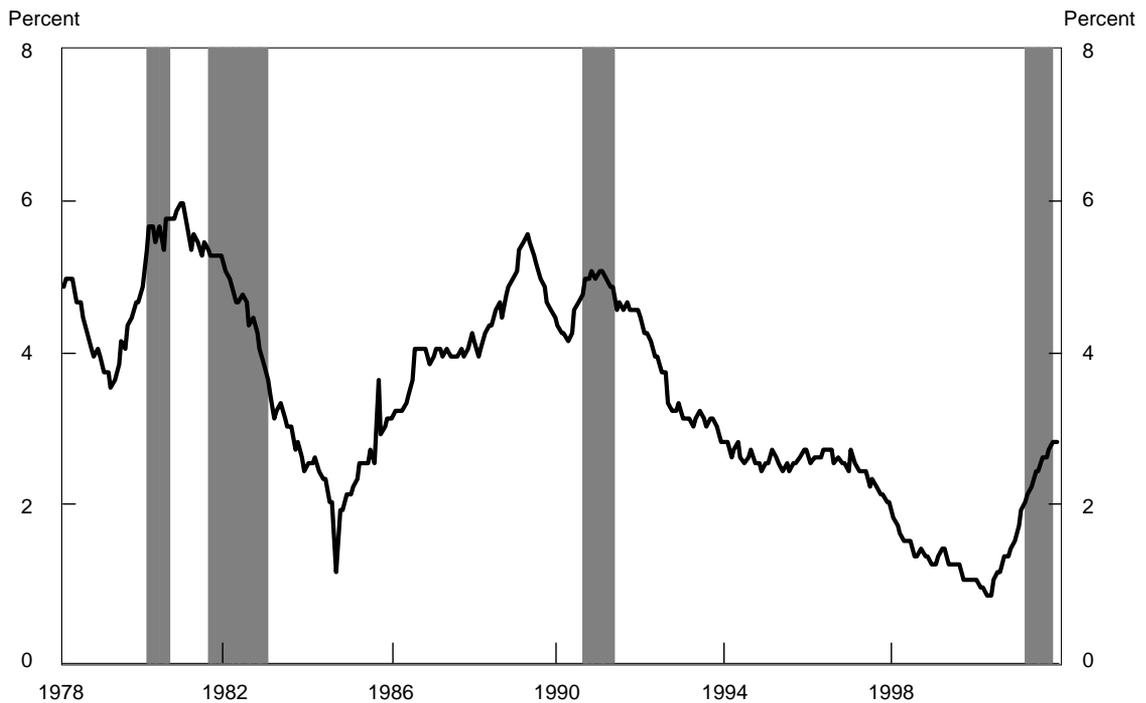
*Pre- and post-September 11th labor market.* Economic weaknesses were intensified by the terrorist attacks of September 11. By September, three separate phenomena were at play. Retailers already had been anticipating weak holiday sales. The travel industry struggled with declining business travel and dampened leisure demand. New orders for civil aircraft

**Chart 2. Over-the-year percent change in automobile sales (12-month average) and employment**



NOTE: Data are seasonally adjusted.  
 SOURCES: Bureau of Labor Statistics and Bureau of Economic Analysis.

**Chart 3. Over-the-year percent change in health services employment, seasonally adjusted**



NOTE: Shaded regions represent recessions as designated by the National Bureau of Economic Research.

had started to diminish in the spring. Those negative trends worsened, with the employment situation in those industries deteriorating after the events of September 11.

For retailers, the pre-September 11th backdrop included mounting competition, especially from discount department stores, and waning consumer confidence. By September, falling payroll employment and the declining workweek had begun to offset the economic benefits of continued, solid gains in nominal (and real) average hourly earnings of production workers. As a result, growth of private aggregate payrolls stagnated. This sluggish growth in consumers' potential holiday budgets diminished retailers' holiday sales expectation, with the terrorist attacks creating a sense of collective apprehension among the population. Consequently, stores scaled back their seasonal hiring. As a whole, general merchandise, apparel, and miscellaneous retail stores added 587,000 workers during the fourth quarter, or nearly 140,000 fewer holiday workers than they had brought on in prior years (data are not seasonally adjusted).

Travel-dependent industries span air transportation, travel services, hotels and other lodging places, and eating and drinking places—all of which had experienced weakening demand throughout summer 2001, particularly from business travelers. Airlines derive much of their revenue from corporate customers, and travel, like labor, was an outlay many companies sought to reduce. As a result, passenger revenue miles from January to August 2001 had shown no growth from their previous levels for the same period in 2000. Weakened demand exacerbated an already difficult financial situation for airlines, which began the year facing rising fuel and labor costs.<sup>48</sup> Together, these factors led to net job losses by mid-summer.

Hotels and other lodging places faced similar misfortunes in the summer months. The industry's principle problem was reduced business bookings, although leisure travel also proved lackluster in 2001, providing little economic relief.<sup>49</sup> Under these circumstances, the need for additional summer help diminished and seasonal hiring suffered. Seasonally adjusted employment peaked in March and then fell nearly every subsequent month for a total decline of 47,000 jobs by September. Low demand and falling per-ticket commissions translated into job losses for travel agents as well, with transportation services employment declining by 16,000 between its March peak and September.

Amusement and recreation services also cut back on summer hiring, although not nearly to the same degree as had hotels. After seasonal adjustment, employment reached an apex in May and was 21,000 lower by September. This industry's relative resilience may be due to consumers shifting, as opposed to stopping, their spending on leisure activities. For example, attendance slackened at large, inter-

nationally-known amusement parks, but consumers did desire vacations closer to home; therefore, attendance at smaller regional parks increased.<sup>50</sup>

The limited demand that leisure travel had provided these industries ended on September 11. Following the initial 1-week halt to national air traffic, travel demand experienced only a partial recovery. The travel industry reacted by immediately announcing and enacting massive layoffs, with airlines cutting 102,000 jobs and hotels, 70,000 jobs between September and December. Those layoffs exceeded those seen in any prior downturn on record for those industries.<sup>51</sup> The decreased demand also led to major cutbacks in transportation services and auto rentals. Together, employment in these industries shrank by 39,000 in the fourth quarter.

The layoffs in air transportation accompanied severe schedule reductions, which in many cases exceeded 20 percent of airlines' pre-September 11th levels. With planes grounded, the need for new aircraft dropped, as did the airlines' ability to pay for them. In October, employment in aircraft manufacturing fell by 2,000, erasing all of the prior year's gains made during the first 9 months of the year. Those earlier gains had marked the industry's first, albeit tentative, expansion since the 1998 Asian financial crisis. The post-September 11th layoffs marked a quick reaction by manufacturers, already concerned because of the weak travel industry.<sup>52</sup> New orders for business craft and jetliners had begun to fall in the spring. After September 11, airline companies revised their orders, sometimes asking for delayed delivery schedules, and manufacturers responded by reducing their payrolls to accommodate these new production schedules.<sup>53</sup>

The terrorist attacks did, however, lead to increased hiring in one industry: detective and armored car services. Between September and December 2001, employment in this industry rose 35,000. Such gains were unprecedented in the history of that employment series, and more than tripled the industry's 2001 job growth until September.

***Health services and higher education proved countercyclical in 2001.*** In 2001, health services and higher public and private education proved immune to the widespread economic downturn. Indeed, both may have benefited from it. Payrolls in these two countercyclical service industries increased by 434,000 jobs, more than double the 166,000 added in 2000.

Within health services, hospitals led the expansion, growing by 132,000 jobs, or 3.3 percent—three times the prior year's pace. (See chart 3.) Higher reimbursement rates most likely boosted hiring. Revenue growth, particularly from public payers, has tended to follow a countercyclical pattern in recent decades, and that pattern has remained steady into the current downturn.<sup>54</sup> The Medicare, Medicaid, and State Children's Health Insurance Program Benefits Improvement

and Protection Act of 2000, signed in December of that year, provided for increased outpatient and inpatient reimbursements totaling about \$12 billion over 5 years.<sup>55</sup> The Act eased spending restrictions that had been imposed by the 1997 Balanced Budget Act.

On top of higher Medicare reimbursements came increased payments from private insurers. Changes in the Producer Price Index (PPI) measure changes in nominal revenue streams.<sup>56</sup> Thus, growth in the PPI is one indicator of rising revenues in an industry, such as health services, whose demand varies little from one year to the next, because it is dependent on demographic trends. For general medical and surgical hospitals, the PPI for “all other patients” (that is, those patients who are covered by private insurers or pay out of pocket) rose 2.8 percent over the year (as of November). Such growth was approximately 40 percent higher than that of the PPI for Medicare and Medicaid patients.<sup>57</sup>

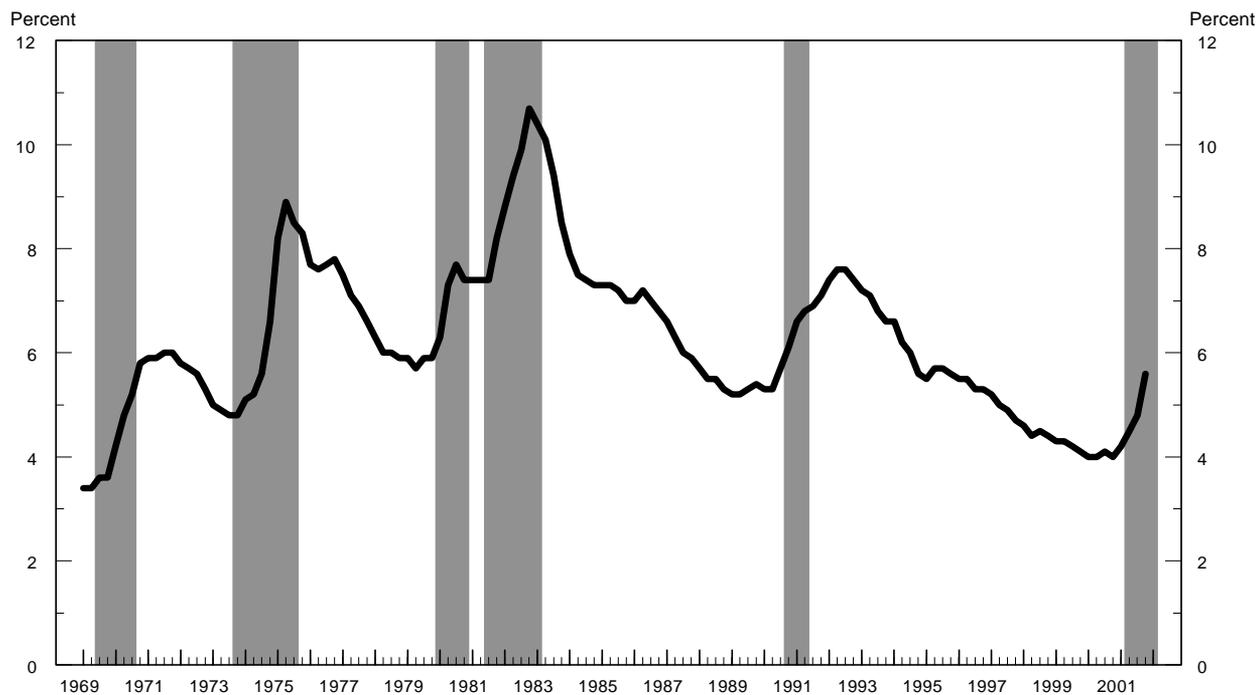
Post-acute care providers followed hospitals’ lead in 2001. Home health care services increased its ranks by 13,000, thus doubling its 2000 hiring pace, while the 37,000 jobs gained in nursing and personal care facilities more than tripled this industry’s prior year growth. Although the Benefits Improvement and Protection Act of 2000 did not address nursing homes, this industry continued to enjoy strong revenue

growth. The PPI for skilled and intermediate care facilities rose by 6.3 percent (November to November), outpacing its prior year rate of 5.6 percent. Home health’s PPI increase totaled 2.5 percent, which was somewhat lower than the 3.7 percent growth from 2000, but a marked improvement over 1999’s 0.8-percent growth.

Health care’s vitality extended beyond health services and into manufacturing, as drug manufacturers expanded their ranks by 16,000 workers. Including last year’s gains, employment in drugs increased 28.6 percent since 1996. Medical instruments and supplies also experienced consistent growth—10.2 percent—between 1995 and 2000. Its expansion slowed in 2001, with total employment increasing by 2,000. Nonetheless, even that modest gain contrasts sharply with steep losses in most other manufacturing industries, and reflects the strength in this industry’s ties to health services.

One other countercyclical factor affecting this industry was the loosening of the labor market in 2001, which may have benefited health services’ hiring in some of its lesser-skilled occupations. Employment in this industry may have been perceived more favorably, especially given the negative outlook in retail trade, another industry with numerous low-skill jobs. Those same elements may have also encouraged some people to return to school for further education, and likely would

**Chart 4. Unemployment rate, 1969–2001, seasonally adjusted**



NOTE: Shaded regions represent recessions as designated by the National Bureau of Economic Research. Data are quarterly.  
SOURCE: Bureau of Labor Statistics, Current Population Survey.

have occurred in addition to the enrollment increases that had been projected for 2001.<sup>58</sup> In that light, the hiring increases in higher private and public education may be better understood.

Hiring by colleges grew considerably in 2001. Employment in State government education, which primarily consists of universities, was augmented by 76,000 new positions last year, more than tripling its pace of recent years. A similar though much more moderate countercyclical pattern prevailed in 1991. Payrolls of private colleges and universities increased by 66,000 jobs, after having fallen by 6,000 in 2000.

*The economic recession and concomitant employment losses in a wide range of industries were felt by workers in all major demographic groups.* Total employment started declining early in 2001, and fell steeply as the year progressed. The number of employed persons (as measured in the CPS) fell by more than 1.3 million, and unemployment rose sharply. Over the year, the number of unemployed persons rose by 2.4 million to nearly 8 million. In the fourth quarter of 2001, the national unemployment rate was 5.6 percent, up 1.6 percentage points from the fourth quarter of 2000. (See chart 4.) Unemployment rose for every major worker group.

The number of employed teenagers fell by 528,000 over the year. (See table 2.) Many teens withdrew from the labor force; the teen labor force participation rate fell by 3 percentage points to 49.1 percent.<sup>59</sup> The number of unemployed teens—those without a job but available and actively looking for work—rose by 184,000 in 2001, raising the teen unemployment rate from 12.9 percent in the fourth quarter of 2000 to 15.8 percent a year later, its highest level since the third quarter of 1997. Teen employment losses were concentrated in the retail trade industries.

The decrease in teen labor force participation reflects a marked decline in the demand for young workers that is fairly typical at the onset of a contraction in economic activity.<sup>60</sup> Teens generally have less experience and fewer skills than do older workers; therefore, often, they are among the first to experience difficulties retaining jobs or finding new ones when employers trim payrolls. The decreased labor force participation rate suggests that many of these youth have reacted to such difficulties by leaving the labor force, possibly to pursue higher education or leisure activities.

Adults certainly are not immune to the effects of a slowdown, yet they often do not have the option of withdrawing from the labor force when labor market conditions deteriorate.<sup>61</sup> Employment among adults of both sexes declined throughout the year, but the labor force participation rate showed little change among both adult men and women in 2001. Employment among adult men declined by about 481,000, considerably more than the 332,000 decline for adult

women. The decline in manufacturing greatly affected employment among both men and women. Men also experienced large employment declines in the services industry, worsening their employment situation even further.

The employment-population ratio for adult women rose to 58.9 percent in the first quarter of 2001, before dropping to 57.9 percent. In 2001, the employment-population ratio for adult men fell steadily to 72.6 percent. As employment fell, the number of unemployed persons rose sharply. The unemployment rate for both adult men and women rose by 1.6 percentage points to end the year at 5 percent.

All major race and ethnic groups faced deteriorating job market conditions in 2001. Employment among white workers peaked in the first quarter of 2001, only to fall during the remaining three quarters. The employment-population ratio dropped by 1.1 percentage points over the year, to 63.8 percent. (See table 2.) This was the sharpest decline in the employment-population ratio for whites since the 1990–91 recession. The unemployment rate for whites rose by 1.4 percentage points over the year to 4.9 percent. Black employment losses started early in 2001 and accelerated during the year, particularly in the fourth quarter. The employment-population ratio among blacks also fell markedly—by 2.2 percentage points to 58.7 percent—the largest drop since 1975. The unemployment rate for blacks rose considerably, to 9.9 percent in the fourth quarter of 2001, up from 7.4 percent a year earlier. Hispanic workers also experienced declining employment in the second quarter of 2001, but interestingly, their rate of employment rose slightly thereafter. Hispanic workers most likely benefited from the resiliency in construction, in which a large proportion of Hispanic men are employed, as well as from a large employment increase within services industries. The increase in Hispanic employment, however, did not keep pace with population growth. The employment-population ratio for Hispanics fell by 1.7 percentage points to a level of 63.1 percent by the fourth quarter of 2001. This ratio had reached an all-time high in the first half of 2001, but then drifted downward. As with whites and blacks, the number of unemployed Hispanic workers rose in 2001. This was reflected in a rise of 1.9 percentage points in the unemployment rate, which reached 7.5 percent by year's end.

Unemployment rose for all family types, particularly affecting married-couple families in 2001.<sup>62</sup> Between the fourth quarters of 2000 and 2001, the family unemployment rate in families maintained by men rose 2.9 percentage points to 8.9 percent.<sup>63</sup> In the same period, the rate in families maintained by women rose by 2 percentage points to 8.2 percent. More than two-thirds of the increase in family unemployment was within the group of married-couple families in 2001. The family unemployment rate for this group rose from 3.4 to 5.1 percent over the year. (See table 3.)

**Table 2. Employment status of the civilian noninstitutional population 16 years and older, by selected characteristics, quarterly averages, seasonally adjusted, 1998–2001**

[In thousands]

Characteristic	Fourth quarter			2001				Change fourth quarter 2000 to fourth quarter 2001
	1998	1999	2000	First quarter	Second quarter	Third quarter	Fourth quarter	
<b>Total</b>								
Civilian labor force .....	138,440	140,036	141,257	141,749	141,549	141,700	142,291	1,034
Participation rate .....	67.2	67.1	67.1	67.2	66.9	66.8	66.9	–.2
Employed .....	132,302	134,292	135,649	135,804	135,221	134,839	134,308	–1,341
Employment-population ratio .....	64.2	64.4	64.4	64.4	63.9	63.6	63.1	–1.3
Unemployed .....	6,138	5,744	5,609	5,945	6,328	6,860	7,983	2,374
Unemployment rate .....	4.4	4.1	4.0	4.2	4.5	4.8	5.6	1.6
<b>Men, 20 years and older</b>								
Civilian labor force .....	70,063	70,481	71,230	71,321	71,479	71,609	71,954	724
Participation rate .....	76.8	76.6	76.6	76.5	76.4	76.3	76.5	–.1
Employed .....	67,557	68,099	68,803	68,737	68,651	68,565	68,322	–481
Employment-population ratio .....	74.1	74.0	73.9	73.7	73.4	73.1	72.6	–1.3
Unemployed .....	2,506	2,382	2,427	2,584	2,828	3,045	3,632	1,205
Unemployment rate .....	3.6	3.4	3.4	3.6	4.0	4.3	5.0	1.6
<b>Women, 20 years and older</b>								
Civilian labor force .....	60,064	61,173	61,703	62,177	62,044	62,156	62,357	654
Participation rate .....	60.6	60.8	60.8	61.1	60.9	60.8	60.9	.1
Employed .....	57,652	58,959	59,597	59,942	59,676	59,543	59,265	–332
Employment-population ratio .....	58.2	58.6	58.7	58.9	58.5	58.3	57.9	–.8
Unemployed .....	2,412	2,214	2,106	2,235	2,367	2,613	3,092	986
Unemployment rate .....	4.0	3.6	3.4	3.6	3.8	4.2	5.0	1.6
<b>Both sexes, 16 to 19 years</b>								
Civilian labor force .....	8,313	8,382	8,324	8,251	8,026	7,935	7,980	–344
Participation rate .....	52.6	52.0	52.1	51.3	50.0	49.1	49.1	–3.0
Employed .....	7,093	7,235	7,249	7,125	6,893	6,732	6,721	–528
Employment-population ratio .....	44.9	44.9	45.3	44.3	42.9	41.7	41.4	–3.9
Unemployed .....	1,221	1,147	1,075	1,126	1,133	1,203	1,259	184
Unemployment rate .....	14.7	13.7	12.9	13.6	14.1	15.2	15.8	2.9
<b>White</b>								
Civilian labor force .....	115,963	116,933	117,748	118,329	117,891	118,024	118,492	744
Participation rate .....	67.4	67.3	67.3	67.4	67.1	67.0	67.1	–.2
Employed .....	111,488	112,839	113,671	113,815	113,254	113,021	112,639	–1,032
Employment-population ratio .....	64.8	65.0	64.9	64.9	64.5	64.2	63.8	–1.1
Unemployed .....	4,476	4,094	4,077	4,329	4,636	5,003	5,852	1,775
Unemployment rate .....	3.9	3.5	3.5	3.7	3.9	4.2	4.9	1.4
<b>Black</b>								
Civilian labor force .....	16,177	16,504	16,700	16,721	16,687	16,744	16,756	56
Participation rate .....	66.0	66.0	65.8	65.8	65.4	65.4	65.1	–.7
Employed .....	14,834	15,175	15,460	15,378	15,315	15,295	15,102	–358
Employment-population ratio .....	60.5	60.7	60.9	60.5	60.1	59.7	58.7	–2.2
Unemployed .....	1,343	1,329	1,239	1,343	1,372	1,449	1,654	415
Unemployment rate .....	8.3	8.1	7.4	8.0	8.2	8.7	9.9	2.5
<b>Hispanic origin</b>								
Civilian labor force .....	14,474	14,896	15,566	15,667	15,663	15,784	15,967	401
Participation rate .....	67.8	67.9	68.6	68.6	68.0	68.0	68.2	–.4
Employed .....	13,413	13,994	14,697	14,708	14,665	14,777	14,776	79
Employment-population ratio .....	62.8	63.8	64.8	64.4	63.7	63.6	63.1	–1.7
Unemployed .....	1,061	902	869	959	997	1,007	1,191	322
Unemployment rate .....	7.3	6.1	5.6	6.1	6.4	6.4	7.5	1.9

NOTE: Detail for race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics

are included in both the white and black population groups. SOURCE: Bureau of Labor Statistics, Current Population Survey.

**Table 3. Employment status of adults in families, quarterly averages, not seasonally adjusted, 1998–2001**

[In thousands]

Characteristic	Fourth quarter			2001				Change fourth quarter 2000 to fourth quarter 2001
	1998	1999	2000	First quarter	Second quarter	Third quarter	Fourth quarter	
All families .....	70,343	71,548	71,875	71,856	71,858	72,087	71,991	116
With unemployed adults <sup>1</sup> .....	3,211	3,013	2,938	3,733	3,515	3,852	4,259	1,321
Percent .....	4.6	4.2	4.1	5.2	4.9	5.3	5.9	1.8
Married-couple families .....	53,836	54,525	54,631	54,748	54,863	54,548	54,444	-187
With unemployed adults <sup>1</sup> .....	2,031	1,944	1,880	2,421	2,282	2,496	2,788	908
Percent .....	3.8	3.6	3.4	4.4	4.2	4.6	5.1	1.7
Families maintained by women .....	12,400	12,848	12,927	12,692	12,657	13,126	12,959	32
With unemployed adults <sup>1</sup> .....	882	834	799	967	923	1,013	1,062	263
Percent .....	7.1	6.5	6.2	7.6	7.3	7.7	8.2	2.0
Families maintained by men .....	4,107	4,176	4,317	4,416	4,339	4,414	4,588	271
With unemployed adults <sup>1</sup> .....	297	235	259	344	310	343	407	148
Percent .....	7.2	5.6	6.0	7.8	7.1	7.8	8.9	2.9

<sup>1</sup> Persons aged 20 years and older.

SOURCE: Bureau of Labor Statistics, Current Population Survey.

**Table 4. Employed persons by occupational group, quarterly averages, not seasonally adjusted, 1998–2001**

[In thousands]

Occupational group	Fourth quarter 1998	Fourth quarter 1999	Fourth quarter 2000	Fourth quarter 2001	Change fourth quarter 2000 to fourth quarter 2001
Total, 16 years and older .....	132,578	134,534	135,865	134,497	-1,368
Executive, administrative, and managerial .....	19,496	19,700	19,732	20,250	518
Professional specialty .....	20,420	21,156	21,464	21,794	330
Technicians and related support .....	4,163	4,442	4,382	4,416	34
Sales occupations .....	16,107	16,427	16,571	15,926	-645
Administrative support including clerical .....	18,276	18,456	18,805	18,345	-460
Service occupations .....	17,838	17,525	18,336	18,305	-31
Precision production, craft and repair .....	14,398	14,894	14,932	14,683	-249
Operators, fabricators, and laborers .....	18,475	18,678	18,496	17,632	-864
Farming, forestry, and fishing .....	3,405	3,255	3,146	3,147	1

SOURCE: Bureau of Labor Statistics, Current Population Survey.

*Employment declined across a wide range of occupational groups, although the steepest declines reflected the job losses in manufacturing-related fields.* There was a marked employment decline among operators, fabricators, and laborers in 2001, as well as a smaller decline in the precision production, craft, and repair field. (See table 4.) These workers are highly concentrated in the manufacturing industry, and job losses in these fields reflect the large losses among factory workers during the year. Sales occupations and service occu-

pations showed employment losses as well, mirroring the weakness in the services and retail trade industries. There was also a decline in employment in administrative support (including clerical) occupations. Employment in the other major occupational fields continued to rise, although the pace of job growth in many areas slowed considerably from that of 2000.

Major occupation-industry pairs can be divided into three groups based on earnings—the lowest, middle, and highest.

**Table 5. Unemployed persons by reason for and duration of unemployment, quarterly averages, seasonally adjusted, 1998–2001**

[In thousands]

Reason and duration	Fourth quarter 1998	Fourth quarter 1999	Fourth quarter 2000	2001				Change fourth quarter 2000 to fourth quarter 2001
				First quarter	Second quarter	Third quarter	Fourth quarter	
<b>Reason for unemployment</b>								
Job losers and persons who completed temporary jobs .....	2,809	2,495	2,508	2,871	3,134	3,442	4,430	1,922
On temporary layoff .....	857	817	881	980	1,023	1,068	1,184	303
Not on temporary layoff .....	1,952	1,677	1,628	1,891	2,111	2,374	3,246	1,618
Job leavers .....	707	802	772	810	800	829	879	107
Reentrants .....	2,100	1,984	1,899	1,910	1,913	2,071	2,224	325
New entrants .....	518	468	433	412	464	465	486	53
<b>Duration of unemployment</b>								
Less than 5 weeks .....	2,648	2,593	2,497	2,693	2,782	2,802	3,066	569
5 to 14 weeks .....	1,906	1,748	1,772	1,881	2,032	2,229	2,606	834
15 weeks and over .....	1,567	1,383	1,306	1,444	1,527	1,778	2,256	950
15 to 26 weeks .....	728	691	689	767	829	1,004	1,213	524
27 weeks and over .....	839	692	617	677	698	774	1,044	427
Average (mean) duration, in weeks ....	14.1	13.0	12.4	12.7	12.6	13.1	14.0	1.6
Median duration, in weeks .....	6.4	6.1	6.0	6.1	6.2	6.9	7.7	1.7

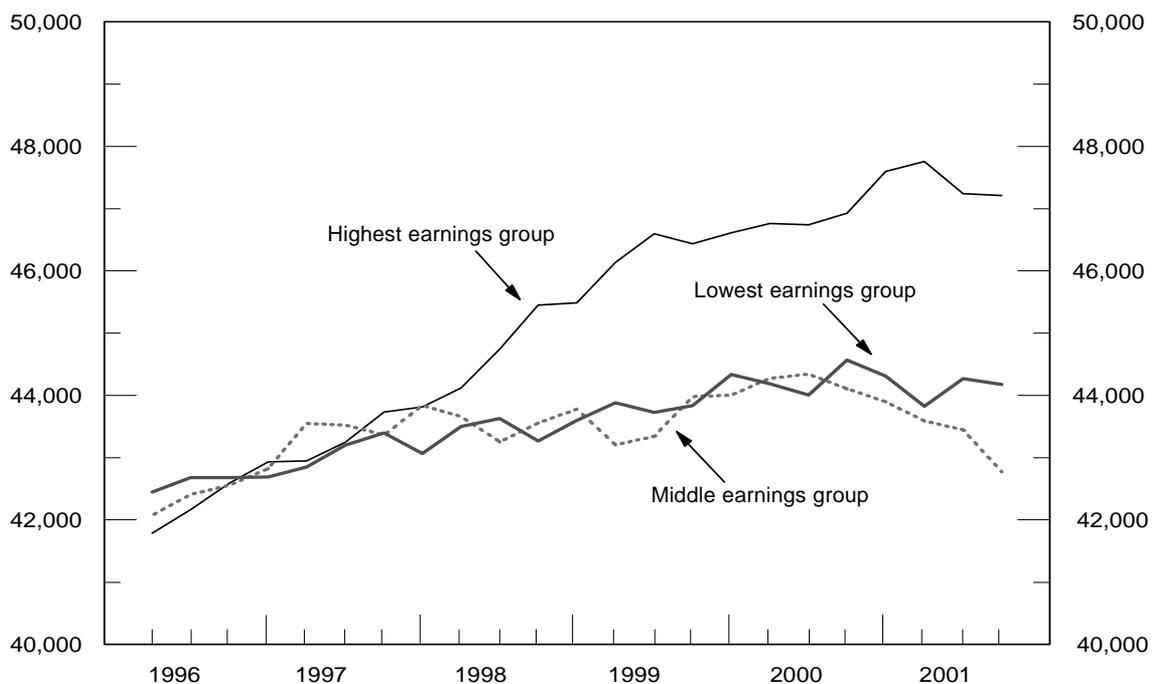
SOURCE: Bureau of Labor Statistics, Current Population Survey.

**Table 6. Range of alternative measures of labor underutilization, quarterly averages, not seasonally adjusted, 1998–2001**

Measure	Fourth quarter 1998	Fourth quarter 1999	Fourth quarter 2000	2001				Change fourth quarter 2000 to fourth quarter 2001
				First quarter	Second quarter	Third quarter	Fourth quarter	
U-1 Persons unemployed 15 weeks or longer, as a percent of the civilian labor force .....	1.1	0.9	0.9	1.1	1.1	1.2	1.5	0.6
U-2 Job losers and persons who completed temporary jobs, as a percent of the civilian labor force .....	1.9	1.7	1.7	2.4	2.1	2.3	2.9	1.2
U-3 Total unemployed, as a percent of the civilian labor force ( <b>official unemployment rate</b> ) .....	4.1	3.8	3.7	4.6	4.4	4.8	5.2	1.5
U-4 Total unemployed plus discouraged workers, as a percent of the civilian labor force plus discouraged workers .....	4.4	4.0	3.9	4.8	4.6	5.0	5.5	1.6
U-5 Total unemployed, plus discouraged workers, plus all other marginally attached workers, as a percent of the civilian labor force plus all marginally attached workers .....	5.0	4.6	4.4	5.4	5.1	5.7	6.1	1.7
U-6 Total unemployed, plus all marginally attached workers, plus total employed part time for economic reasons, as a percent of the civilian labor force plus all marginally attached workers .....	7.3	6.8	6.6	7.9	7.5	8.2	9.0	2.4

SOURCE: Bureau of Labor Statistics, Current Population Survey.

**Chart 5.** Employment growth by earnings group, seasonally adjusted, quarterly averages, 1996–2001



Source: Bureau of Labor Statistics, Current Population Survey

Tracking the changes in employment for the three earnings groups provides additional insight into the nature of recent weakness in the job market.<sup>64</sup> Employment in the middle earnings group fared the worst among the three groups in 2001, declining by more than 1.3 million over the year. (See chart 5.) Much of the decline in the middle earnings group can be linked to substantial job losses among operators, fabricators, and laborers in the Nation's factories, as well as among skilled production workers and clerical personnel in manufacturing. Employment in the highest earnings group has trended upward in recent years, but this pattern reversed in the second half of 2001, as employment fell by 500,000. The deepening recession in manufacturing may have contributed to this decline as well, as managers in manufacturing experienced some of the sharpest job losses among the occupation-industry categories in this group. Employment in the lowest earnings group showed no clear trend in 2001.

*Increases in unemployment were concentrated among persons who had lost their jobs and did not expect to be recalled.* As is typical during a slowdown, much of the unemployment increase in 2001 was composed of those persons who had recently lost jobs, rather than those who had voluntarily left jobs, or who were recent entrants to the workforce. The num-

ber of persons who were unemployed because they had lost their jobs rose by nearly 1.9 million in 2001, to 4.4 million. (See table 5.) There are two major subcategories of this group—those on temporary layoff (expecting recall) and those whose job loss was thought to be permanent (did not expect recall). The vast majority of the increase occurred in the latter category, which rose by 1.6 million persons over the year. The increase among those who expected recall was approximately 300,000. (The number of the unemployed who were reentrants or new entrants, rose by nearly 400,000 in 2001, to more than 2.7 million.<sup>65</sup> The number of unemployed persons who had voluntarily left their last job also increased slightly.)

At the beginning of an economic slowdown, typically, there is a disproportionate increase in the number of unemployed people who have been jobless for fewer than 5 weeks. This pattern occurred in 2001, but as the year unfolded, the increase in joblessness spread across all duration groups, as workers found it harder to secure employment and, thus, remained unemployed for longer periods.<sup>66</sup> Over the year, 24 percent of the increase in unemployment was among those unemployed fewer than 5 weeks. (See table 5.) Those unemployed 5 to 14 weeks, represented 35 percent of the overall increase in unemployment, and 40 percent of the increase was among those unemployed 15 weeks and more.<sup>67</sup> Nearly half

**Table 7.** The “pool of available workers,” fourth quarter, seasonally adjusted, 1994–2001

[In thousands]

Fourth quarter	Total employment	Not in labor force, want a job	Unemployed	Pool of available workers
1994 .....	124,450	5,898	7,412	13,310
1995 .....	125,221	5,714	7,392	13,106
1996 .....	127,840	5,274	7,173	12,447
1997 .....	130,504	4,797	6,413	11,210
1998 .....	132,302	4,662	6,138	10,800
1999 .....	134,292	4,376	5,744	10,120
2000 .....	135,649	4,394	5,609	10,003
2001 .....	134,308	4,677	7,983	12,660

NOTE: In general, the pool of available workers comprises those people who are not in the labor force, but who “want a job,” and the unemployed. This concept was first proposed by the Board of Governors of the Federal Reserve System, in an attempt to quantify available labor sources.

SOURCE: Bureau of Labor Statistics, Current Population Survey.

of the increase occurred among those out of work for 6 months or more.

*Alternative measures of labor underutilization provide additional insight into the recession’s effects on the job market.* Although the official unemployment rate is the most widely used measure for evaluating the degree to which labor resources are not being utilized, BLS has developed a range of indicators to supplement the jobless rate, called *alternative measures of labor underutilization*. (Table 6 displays the trends in alternative measures U1–U6 in 2001.)<sup>68</sup>

The official unemployment rate is U-3, and its rise during the year is closely mirrored by each of the other alternative measures. Alternative measures U-4 through U-6 are inclusive of a wider range of persons facing labor market difficulties than the group captured by the unemployment rate alone. Alternative measure U-4 adds persons classified as “discouraged” to the number of unemployed persons. The increase in the measure U-4 was roughly in line with the rise in the official jobless rate.<sup>69</sup>

The alternative measure that takes into account all “marginally attached” workers is U-5.<sup>70</sup> Compared with U-4, this broader group includes the discouraged, as well as those who are not currently looking for work for reasons other than discouragement, such as transportation or child-care problems. The U-5 indicator rose at a marginally slower pace than the official unemployment rate rose over the year.

The broadest of these alternative indicators, U-6, adds to the calculation a group considered to be “underemployed.” This indicator represents the number of unemployed persons,

plus all “marginally attached” workers (including discouraged workers), and all persons employed part time for economic reasons, as a percent of the sum of the labor force and all marginally attached workers.<sup>71</sup> Some part-time employees would prefer to work full time but are unable to do so because of slack business conditions, seasonal declines in demand, or other difficulty in finding full-time work. By including this group, often labeled “persons employed part time for economic reasons,” the indicator U-6 treats some part-time workers on an equal basis with the unemployed. Persons who worked part time for economic reasons totaled more than 4 million persons in the fourth quarter of 2001, having increased by approximately 1 million workers, or 32 percent over the year. This was somewhat slower than the increase in the number of unemployed persons. The U-6 indicator rose by 2.4 percentage points in 2001, to 9 percent.

*Labor market concerns: unease over potential labor market tightness quickly evaporated as unemployment rose from historically low levels.* Throughout the course of the record-breaking expansion of the 1990s, employment rose rapidly. At the same time, unemployment rates fell to levels not seen since the late 1960s. During periods of economic growth, employers look first to readily available sources of labor. The most prominent of these—the unemployed—was pushed to exceptionally low levels by the year 2000, and employers were forced to look hard for potential workers.<sup>72</sup>

There are many potential sources of labor other than the unemployed. One of the main sources of potential labor is population growth.<sup>73</sup> Much of this population growth is the result of immigration, and in recent years, the foreign-born population has accounted for an increasingly large share of U.S. population growth.<sup>74</sup>

The labor supply also can be expanded by an influx of persons who previously were not in the labor force. One group of potential workers that can be easily identified with cps data is people who are not currently in the labor force, but claim to want a job, although they are not actively searching for one. The sum of these people—referred to simply as those who “want a job”—and those who are officially unemployed has been called the “pool of available workers.” This unofficial measure is sometimes used to gauge changes in the potential labor supply.<sup>75</sup> During the expansion, the pool of available workers declined steadily. In the fourth quarter of 1994, this pool numbered nearly 13.3 million people.<sup>76</sup> (See table 7.) By the fourth quarter 2000, it was down to approximately 10 million. Much of the decrease in this group reflected a decline in the number of unemployed workers who likely found work, but many new workers were probably drawn from outside the labor force, including some who had probably come from the “want a job” category. Between the fourth quarter

**Table 8. Median usual weekly earnings of full-time wage and salary workers by selected characteristics, annual averages, 2000–01**

Characteristic	2000	2001	Percent change, 2000–01
Total, 16 years and older .....	\$576	\$597	3.6
Executive, administrative, and managerial occupations .....	840	867	3.2
Professional specialty occupations .....	832	854	2.6
Technicians and related support .....	648	673	3.9
Sales occupations .....	550	574	4.4
Administrative support, including clerical .....	469	486	3.6
Private household workers .....	264	255	-3.4
Protective service occupations .....	623	629	1.0
Service, except private household and protective .....	327	349	6.7
Precision production, craft, and repair .....	613	629	2.6
Machine operators, assemblers, and inspectors .....	436	457	4.8
Transportation and material moving occupations .....	540	573	6.1
Handlers, equipment cleaners, helpers, and laborers .....	378	389	2.9
Farming, forestry, and fishing occupations .....	334	354	6.0
Men .....	646	672	4.0
Women .....	491	511	4.1
White .....	591	612	3.6
Men .....	669	694	3.7
Women .....	500	521	4.2
Black .....	468	487	4.1
Men .....	503	518	3.0
Women .....	429	451	5.1
Hispanic origin .....	396	414	4.5
Men .....	414	438	5.8
Women .....	364	385	5.8
Educational attainment:			
Less than a high school diploma .....	360	378	5.0
High school graduates, no college .....	506	520	2.8
Some college or associate degree .....	598	621	3.8
College graduates, total .....	896	924	3.1

NOTE: Earnings figures by educational attainment pertain to persons age 25 and older.  
SOURCE: Bureau of Labor Statistics, Current Population Survey.

of 1994 and the fourth quarter of 2000, this category declined by more than 1.5 million people.

The recession that began in 2001 significantly eased any tightness existing in the labor market. These recessionary labor market conditions were reflected not only in the rising number of unemployed persons, but also in the increases in other groups who had been sources of labor during the expansion, such as those outside the labor force. From the fourth quarter of 2000 to the fourth quarter of 2001, the pool of available workers rose to 12.6 million people, an increase of nearly 2.7 million. This increase reflects a net gain of almost 2.4 million in the number of unemployed persons and an increase of nearly 300,000 among those out of the labor force who indicated that they want a job. The tight labor market at the end of the 1990s expansion led some employers facing labor shortages to encourage people who were not in the labor force

to take jobs. The ensuing slowdown in 2001 quickly eased the pressure on labor supply—indeed, labor “surpluses” soon replaced labor shortages as a concern among policymakers.

*Earnings growth slowed in most occupations.* Throughout much of the 1990s expansion, real earnings increased for most major worker groups.<sup>77</sup> That trend continued for most worker groups in 2001, but earnings gains for several groups slowed and were eroded by inflation. Overall, the median weekly earnings of full-time wage and salary workers rose 3.6 percent, from \$576 per week in 2000, to \$597 per week in 2001. This was somewhat ahead of the 2.8 percent increase in the Consumer Price Index for All Urban Consumers (CPI-U).

The rise in earnings for all major occupation groups was lower in 2000–01 than in 1999–2000. The change in earnings became negative for private household workers, as their me-

dian usual weekly earnings fell 3.4 percent before accounting for inflation. (See table 8.) Other occupations—protective service occupations, professional specialty occupations and precision production, craft, and repair—showed small nominal gains, some of which were largely or completely negated by inflation. Most occupations did have real earnings growth, however. Machine operators, assemblers, and inspectors were among the occupational groups with real earnings growth, a finding that seems to run counter to the employment trends within this occupation group and its related industries, manufacturing in particular. This apparent incongruity most likely reflected job losses that were more heavily concentrated among the mid- to low-wage workers within these occupations, resulting in a higher “median” wage for the workers who remained.

Men’s and women’s median weekly earnings both increased by similar proportions between 2000 and 2001, rising to \$672 and \$511 per week respectively. As a result, the women’s-to-men’s earnings ratio held steady at 76 percent. The women’s-to-men’s earnings ratio has not increased much in recent years, although it is up substantially from 62.5 percent in 1979.<sup>78</sup> It is important to remember that many possible factors may underlie the disparity between the earnings of men and women, for example, differences in work schedules, educational attainment, length of experience in the workforce, occupational and industry makeup of each group, and discrimination.

Workers with less than a high school diploma had a nominal gain of 5 percentage points, the largest gain of the four

main educational categories. This is consistent with this group’s gains during the latter part of the 1990s expansion. Earnings for persons with some college or an associate degree increased by 3.8 percentage points, and college graduates had nominal earnings increases of approximately 3 percentage points. The earnings increase among high school graduates with no college education was the lowest of the educational groups at 2.8 percentage points, which was just enough to keep pace with inflation.

The proportion of hourly paid workers with hourly earnings that were at or below the prevailing Federal minimum wage of \$5.15 per hour decreased by 0.6 percentage point over the year to 3.1 percent. In 2001, women were more likely than men to be earning the minimum wage or less—4 percent of hourly paid women, compared with 2.2 percent of hourly paid men. This gap closed a bit over the year, as the decrease in the proportion of women earning the minimum wage or less was greater than the decrease among men in this group.

**Unemployment in subnational areas: rising unemployment plagued most areas of the country in 2001.** Unemployment rates rose in each of the four census regions in 2001, with increases ranging from 1.0 to 1.4 percentage points.<sup>79</sup> (See table 9.) In 2000, joblessness had declined in all four regions. In fact, unemployment rates in the Midwest, South, and West fell to historical lows at the end of 2000.<sup>80</sup> The Northeast jobless rate continued to decline into the first quarter of 2001, establishing a new low and briefly displacing the Midwest rate as the lowest among census regions for the first time in

**Table 9. Unemployment rates for regions and divisions, quarterly averages, seasonally adjusted, 2000–01**

Region and division	Fourth quarter, 2000	2001				Over-the-year change
		First quarter	Second quarter	Third quarter	Fourth quarter	
Northeast region .....	3.8	3.7	4.1	4.4	4.8	1.0
New England division .....	2.5	2.6	3.2	3.8	4.0	1.5
Middle Atlantic division .....	4.3	4.2	4.4	4.6	5.2	.9
Midwest region .....	3.6	4.0	4.2	4.3	4.8	1.2
East North Central division .....	3.8	4.3	4.5	4.7	5.2	1.4
West North Central division .....	3.2	3.3	3.5	3.5	3.9	.7
South region .....	3.8	4.0	4.2	4.4	5.1	1.3
South Atlantic division .....	3.5	3.7	4.0	4.2	4.9	1.4
East South Central division .....	4.4	4.5	4.5	4.6	5.3	.9
West South Central division .....	4.1	4.1	4.5	4.8	5.4	1.3
West region .....	4.5	4.5	4.8	5.1	5.9	1.4
Mountain division .....	3.7	3.9	4.1	4.3	5.2	1.5
Pacific division .....	4.8	4.7	5.1	5.4	6.2	1.4

NOTE: Data for 2001 have not been benchmarked.  
SOURCE: Bureau of Labor Statistics, Local Area Unemployment Statistics program.

## Local Area Unemployment Statistics

The Local Area Unemployment Statistics (LAUS) program uses a variety of methodologies to produce monthly estimates of civilian labor force, employment, unemployment, and unemployment rate for areas below the national level, including census regions and divisions, the States and the District of Columbia, and metropolitan areas. The same concepts that are used in the Current Population Survey (CPS) for the Nation as a whole are applied in the LAUS methodologies, so that data are comparable across geographic levels.

The LAUS methodologies vary by the availability of inputs, which tends to reflect differences in geographic level. A signal-plus-noise modeling approach is used for

areas where data from the CPS can reliably serve as inputs. Model-based areas include the States and the District of Columbia. Estimates for regions and divisions are aggregated from the model-based estimates for their constituent states. Due to the methodological differences, estimates for regions and divisions may not sum to those for the United States. Metropolitan area estimates are developed through a “building block” approach called the Handbook method and controlled to State totals. Both the model and Handbook approaches incorporate administrative data from the State Unemployment Insurance (UI) systems and establishment payroll data produced by other BLS programs.

11 years.

Unemployment rates in the Midwest and the South began to climb in the first quarter of 2001. The Midwest—where the downturn in manufacturing was particularly acute due to its high proportion of factory jobs—was the first region to experience a substantial decline in total nonfarm employment during the year. The South, on the other hand, was the last region to post significant job losses, showing resilience until late in the year. The persistence of employment strength in the South was due largely to job growth in the services industry division.

Joblessness in the Northeast and West began to move steadily upward in the second quarter. Both regions were eliminating jobs at least as quickly as the Midwest by the fourth quarter of 2001. Part of the Northeast’s sharp job loss stemmed from an atypical decline in finance, insurance, and real estate, attributable at least in part to the destruction of the World Trade Center and surrounding area in New York City on September 11. The West, which had been adding jobs at the quickest clip before the onset of the recession, experienced a drastic deceleration from employment growth to contraction in the third quarter. The relatively low proportion of factory jobs in the West probably insulated the region from the initial wave of employment declines.

By the fourth quarter of 2001, the Northeast, Midwest, and South registered jobless rates of close to 5 percent. The West’s unemployment rate, at nearly 6 percent, continued to be the highest among census regions, as it has been for each quarter in the last 9 years.

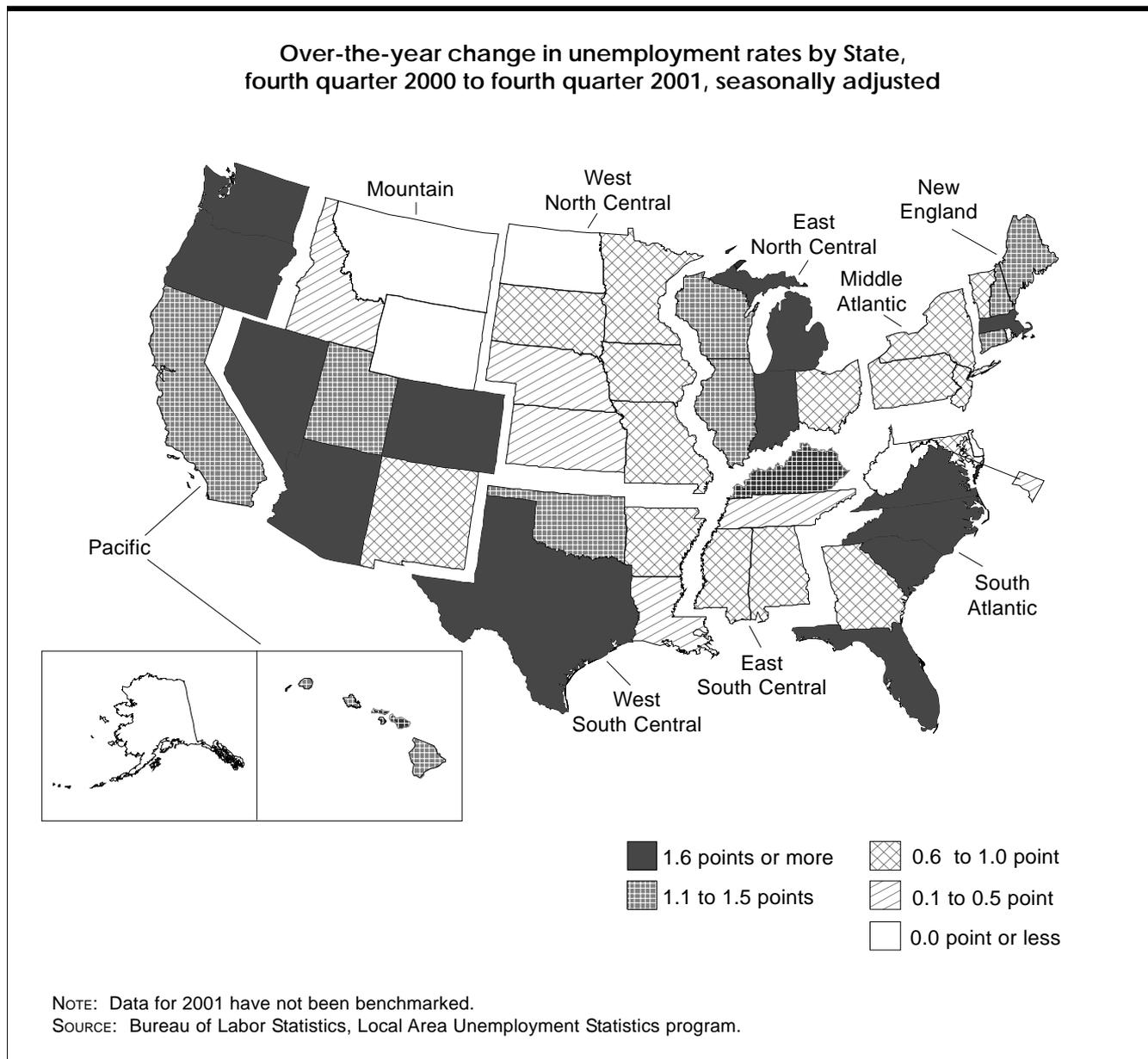
*Geographic divisions within the four regions.* All geographic divisions experienced rising unemployment rates over the

year, albeit with considerably more variation than at the regional level. The New England rate, which had been very low leading into the current recession, and the Mountain division rate each climbed 1.5 percentage points. Three other divisions followed closely with rate increases of 1.4 percentage points apiece. At the other end of the spectrum, the unemployment rate in the West North Central division rose by only 0.7 percentage point.

The East North Central—most heavily reliant on manufacturing employment among geographic divisions—was the first to experience a substantial over-the-quarter jump in its unemployment rate (0.5 percentage point), in the first quarter of 2001. By contrast, more than half of the over-the-year increases in the jobless rates of the East South Central (0.7 percentage point), Middle Atlantic (0.6 point), Mountain (0.9 point), Pacific (0.8 point), and West North Central (0.4 point) divisions came in the fourth quarter of 2001.

The variation of unemployment rate rises between the fourth quarter of 2000 and the fourth quarter of 2001 was generally wider within regions than between them. In the Northeast, the dramatic increase in unemployment in New England was tempered by a much smaller increase in the Middle Atlantic. In the Midwest, the jobless rate in the East North Central division rose by twice as much as that of the West North Central. Also within the South, substantial increases in the South Atlantic and West South Central division rates contrasted with the relatively smaller rise in the East South Central rate. The West region was exceptional in that its two constituent divisions—the Pacific and the Mountain—reported virtually identical rises in joblessness.

New England reported the lowest unemployment rate among geographic divisions between the first quarter of 2000



and the second quarter of 2001. This was the first period in a decade that a division other than the West North Central reported the lowest rate. In the third quarter of 2001, however, the lowest rate distinction reverted to the West North Central division, as the New England rate rose by a substantial 0.6 percentage point from the previous quarter. The Pacific continued to report the highest divisional rate throughout this period, as it has for 10 consecutive years.

*States.* Unemployment rates rose in 44 States and the District of Columbia. (See map.) There were increases of at least a full percentage point in 26 States. Of these, 8 each were lo-

cated in the South and West, and 5 each were in the Midwest and Northeast.

The most marked unemployment rate rise, 2.7 percentage points, occurred in Oregon, which also experienced the sharpest over-the-year decline in total nonfarm employment. The State reported substantial job losses in all major industry groups except finance, insurance, and real estate and government. The severity of the construction downturn in Oregon since the end of 2000 was unusual, as that industry was uncharacteristically resilient throughout much of the rest of the country.

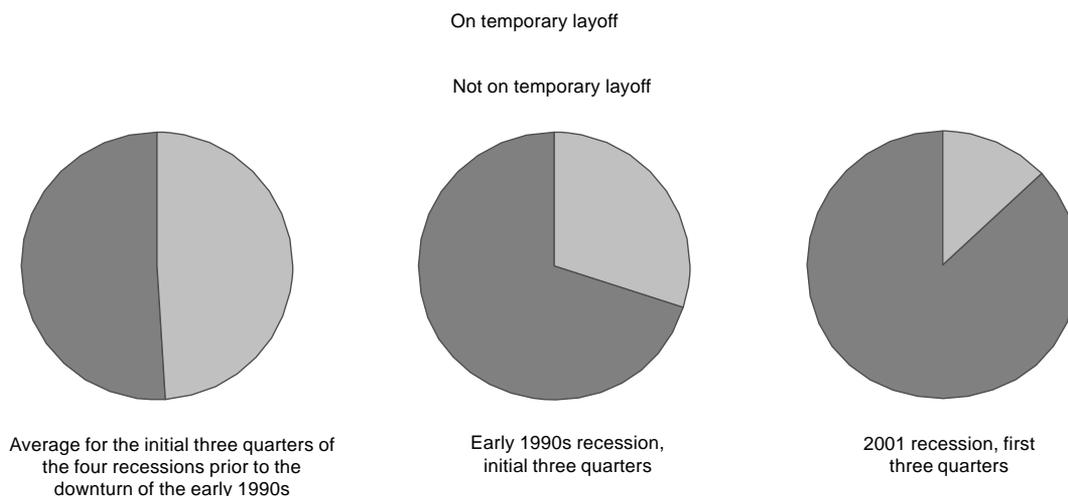
Unemployment rates were also up a sharp 2.1 percentage

**Table 10. Changes in unemployment rates for select large metropolitan areas, not seasonally adjusted, 2000–01**

Metropolitan area	Fourth quarter 2000		Fourth quarter 2001	
	Unemployment rate	Over-the-year change	Unemployment rate	Over-the-year change
Atlanta, GA .....	2.6	−0.4	4.0	1.4
Baltimore, MD .....	4.1	.3	4.7	.6
Bergen-Passaic, NJ .....	3.5	−.5	4.7	1.2
Boston, MA-NH .....	1.8	−.7	3.6	1.8
Buffalo-Niagara Falls, NY .....	4.8	.1	5.2	.4
Charlotte-Gastonia-Rock Hill, NC-SC .....	3.6	1.0	5.2	1.6
Chicago, IL .....	4.0	.1	5.5	1.5
Cincinnati, OH-KY-IN .....	3.3	−.1	3.9	.6
Cleveland-Lorain-Elyria, OH .....	4.0	−.3	5.1	1.1
Columbus, OH .....	2.3	−.1	3.1	.8
Dallas, TX .....	2.7	−.2	5.6	2.9
Denver, CO .....	2.0	−.2	4.5	2.5
Detroit, MI .....	3.0	.2	5.0	2.0
Fort Lauderdale, FL .....	3.5	−.3	5.7	2.2
Fort Worth-Arlington, TX .....	2.8	−.1	4.6	1.8
Greensboro—Winston-Salem—High Point, NC .....	3.0	.6	5.2	2.2
Hartford, CT .....	1.7	−1.1	3.0	1.3
Houston, TX .....	3.4	−.9	4.4	1.0
Indianapolis, IN .....	1.9	−.7	3.8	1.9
Kansas City, MO-KS .....	3.1	.3	4.0	.9
Los Angeles-Long Beach, CA .....	4.9	−.5	5.9	1.0
Memphis, TN-AR-MS .....	3.9	.3	4.5	.6
Miami, FL .....	5.2	0	7.6	2.4
Middlesex-Somerset-Hunterdon, NJ .....	2.5	−.3	3.7	1.2
Milwaukee-Waukesha, WI .....	3.1	.2	4.5	1.4
Minneapolis-St. Paul, MN-WI .....	2.3	.1	3.4	1.1
Nassau-Suffolk, NY .....	2.7	−.4	3.6	.9
New Orleans, LA .....	4.9	.7	5.3	.4
New York, NY .....	5.0	−.6	6.2	1.2
Newark, NJ .....	3.5	−.4	4.7	1.2
Norfolk-Virginia Beach-Newport News, VA-NC .....	2.4	−.6	3.6	1.2
Oakland, CA .....	2.4	−.4	4.8	2.4
Orange County, CA .....	2.2	−.2	3.4	1.2
Orlando, FL .....	2.5	0	5.0	2.5
Philadelphia, PA-NJ .....	3.8	0	4.4	.6
Phoenix-Mesa, AZ .....	2.5	−.5	4.9	2.4
Pittsburgh, PA .....	3.8	.1	4.2	.4
Portland-Vancouver, OR-WA .....	3.4	−.7	6.8	3.4
Providence-Fall River-Warwick, RI-MA .....	3.3	−.6	4.1	.8
Riverside-San Bernardino, CA .....	4.6	0	5.1	.5
Rochester, NY .....	3.7	−.3	5.0	1.3
Sacramento, CA .....	3.6	0	4.2	.6
Salt Lake City-Ogden, UT .....	2.9	−.2	4.1	1.2
San Antonio, TX .....	3.0	−.1	4.3	1.3
San Diego, CA .....	2.7	−.1	3.5	.8
San Francisco, CA .....	1.9	−.2	4.6	2.7
San Jose, CA .....	1.5	−.9	6.5	5.0
Seattle-Bellevue-Everett, WA .....	3.5	.1	5.8	2.3
St. Louis, MO-IL .....	3.5	.3	4.5	1.0
Tampa-St. Petersburg-Clearwater, FL .....	2.5	−.2	4.0	1.5
Washington, DC-MD-VA-WV .....	2.2	−.1	3.4	1.2

NOTE: Data for 2001 have not been benchmarked.

SOURCE: Bureau of Labor Statistics, Local Area Unemployment Statistics program.

**Chart 6.** Percent distribution of increase in job losers during recessions

NOTE: Data are quarterly.  
SOURCE: Bureau of Labor Statistics, Current Population Survey

points each in Colorado, Indiana, Nevada, North Carolina, and South Carolina. All of these States except Nevada experienced a contraction in total nonfarm employment. The net job loss in Colorado could be attributed entirely to the decline in business services. In Indiana, the job losses were heavily concentrated within durable goods manufacturing. Most of the rise in the Nevada jobless rate came in the fourth quarter, concomitant with job losses in industries dependent on tourism following the terrorist attacks of September 11. In North Carolina, steep employment declines within manufacturing industries were partially offset by robust growth within health services and local government. More than half of the net employment decline in South Carolina was in textile mill products within nondurable goods manufacturing.

Only 5 States experienced unemployment rate declines over the year, with the largest of these in West Virginia (-1.1 percentage points) and Delaware (-0.8 point). Alaska and Montana were the only States to report increases in total nonfarm employment in addition to declining jobless rates from the fourth quarter of 2001. Additionally, Wyoming, the only State posting no net change in joblessness over the year, had one of the strongest employment advances among States.

Two Pacific States—Oregon and Washington—recorded the highest unemployment rates, 7.1 and 7.0 percent, respectively, in the fourth quarter of 2001. The deterioration of both unemployment and employment in Oregon has been noted. In Washington, job losses were relatively less severe and not as widespread across industries. Nevada and the District of Columbia followed with unemployment rates of 6.5 and 6.3 per-

cent, respectively.

North Dakota posted the lowest unemployment rate among States in the fourth quarter of 2001, 2.4 percent, well below that of the next lowest, South Dakota, 3.1 percent. Joblessness was down slightly over the year in the former, while up somewhat in the latter. Both States experienced contractions in total nonfarm employment. Of the 4 additional States that registered unemployment rates of less than 3.5 percent in the fourth quarter, 2 also were located in the West North Central division.

*Metropolitan areas.* All of the 51 metropolitan areas with a 1990 census population of 1 million or more saw their unemployment rates move upward in 2001.<sup>81</sup> (See table 10.) The most marked increase over the year occurred in San Jose, CA—5 percentage points to 6.5 percent. Weakness in business services, which accounted for 16.4 percent of the area's payroll jobs in the fourth quarter of 2000, was felt acutely in this area. In Portland-Vancouver, OR-WA, where payroll employment declines were relatively widespread across industries, joblessness doubled to a rate of 6.8 percent. Eleven additional areas experienced increases of at least 2 percentage points. Buffalo-Niagara Falls, NY, New Orleans, LA, and Pittsburgh, PA, were the least impacted by rising joblessness, recording increases of only 0.4 percentage point apiece.

In the fourth quarter of 2001, Miami, FL, registered the highest unemployment rate among the large metropolitan areas, 7.6 percent, followed by Portland-Vancouver, OR-WA (6.8 percent). San Jose, CA, had the third highest unemploy-

ment rate (6.5 percent). This represented a marked departure from the metropolitan area unemployment situation in the fourth quarter of 2000, during which San Jose posted the lowest large area rate. Fifteen additional areas reported rates of 5 percent or more. Hartford, CT, and Columbus, OH, recorded the lowest rates, 3 and 3.1 percent, respectively. Both of these areas include the capital cities of their respective States, which tends to correlate with below-average unemployment. Another 13 additional areas recorded unemployment rates of 4 percent or less.

**Comparison with earlier recessions.** It often helps, in an effort to gain perspective on the current economic situation, to look at the past performance of the economy during similar phases of the business cycle. The last downturn in the economy occurred in the early 1990s. A comparison between the beginning of that period and the last three quarters of 2001 reveals some of the similarities and dissimilarities between the two recessionary periods.<sup>82</sup>

Between the second quarter 1990 and the first quarter 1991, the unemployment rate increased from 5.3 percent to 6.6 percent. This 1.3 percentage point increase is roughly in line with the 1.4 percentage point rise in joblessness in the final three quarters of 2001, although the recent increase was proportionately larger. As is typical during a recession, the increase in unemployment over both periods was concentrated among persons with job loss as the reason for their unemployment. While job losers represented 47.8 percent of the unemployed in the first quarter of 2001, by the end of 2001, this group rose to 55.2 percent. The following tabulation shows the percent who were unemployed by reason for unemployment for selected years, quarterly averages, seasonally adjusted. Data are from the Current Population Survey:

<i>Reason</i>	<i>1990</i> <i>II</i>	<i>1991</i> <i>I</i>	<i>2001</i> <i>I</i>	<i>2001</i> <i>IV</i>
Total .....	100.0	100.0	100.0	100.0
Job losers .....	47.2	53.8	47.8	55.2
Job leavers .....	15.3	12.5	13.5	11.0
Reentrants .....	27.7	24.9	31.8	27.7
New entrants .....	9.8	8.8	6.9	6.1

The remaining groups—job leavers, reentrants, and new entrants—all decreased in relative size. As noted earlier, the job loser group can be broken down into two subcategories—those on temporary layoff expecting recall, and those who have permanently lost jobs. In recessions prior to 1990, the proportion of the rise in job losers who had lost their jobs permanently was typically only slightly larger than that attributed to those on temporary layoff. The recession of the early 1990s was the first exception to this pattern, with the

portion of the increase in job losers belonging to those not on temporary layoff being more than twice the size of the portion ascribed to those on temporary layoff. (See chart 6.) Over the year in 2001, this same pattern emerged, with the disparity becoming even more exaggerated than in the early 1990s.

The employment-population ratio dropped 1.1 percentage points at the beginning of the 1990s recession. It dropped by a similar amount in 2001, falling to 63.1 percent at the end of the year. The following tabulation shows employment-population ratios for selected years, quarterly averages, seasonally adjusted. Data are from the Current Population Survey:

<i>Characteristic</i>	<i>1990</i> <i>II</i>	<i>1991</i> <i>I</i>	<i>2001</i> <i>I</i>	<i>2001</i> <i>IV</i>
Total .....	63.0	61.9	64.4	63.1
Men, 20 years and older .....	74.5	73.1	73.7	72.6
Women, 20 years and older .....	55.3	54.7	58.9	57.9
Both sexes, aged 16 to 19 .....	46.2	42.9	44.3	41.4
White .....	63.8	62.8	64.9	63.8
Black .....	57.3	55.8	60.5	58.7
Hispanic origin .....	62.3	60.1	64.4	63.1

While the proportional decline in the employment-population ratio for adult men (1.9 percent) was much greater than the proportional fall for adult women (1.1 percent) in the early 1990s, the declines were close in proportional size in 2001. The decline was milder in 2001 for teen workers. Hispanic workers showed the greatest proportional decline in employment-population ratio in the early 1990s recession, followed by blacks, then whites. In the first three quarters of the 2001 downturn, this ratio declined proportionally the most for black workers, followed by Hispanics, then whites.

The group of persons who work part time for economic reasons is a measure of labor underutilization (described earlier.) Although these people are not unemployed, measuring the changes in this group can provide a gauge of “time-related” underemployment.<sup>83</sup> The number of workers in this group normally increases during a recession, and the period between the second quarter 1990 and first quarter 1991 was no exception. In 2001, there was also an increase in those working part time for economic reasons, but the percent increase in 2001 was substantially larger than it was in the early 1990s.<sup>84</sup>

During the downturn that began in 2001, unemployment rate escalation was geographically widespread. This was also the case in the 1990–91 recession. One distinguishing feature of unemployment in the current downturn, as compared with the prior one, is that unemployment in 2001, began to rise from markedly lower rates. In fact, unemployment rates were

**Table 11.** Comparison of employment changes during the 1990–91 recession and the first three quarters of the 2001 recession, seasonally adjusted, quarterly averages

(In thousands)

Industry	Second quarter 1990	First quarter 1991	First quarter 2001	Fourth quarter 2001	Second quarter 1990 to first quarter 1991		First quarter 2001 to fourth quarter 2001	
					Thousands	Percent	Thousands	Percent
Total nonfarm .....	109,719	108,530	132,559	131,502	-1,189	-1.1	-1,057	-0.8
Total private .....	91,261	90,198	111,886	110,480	-1,063	-1.2	-1,406	-1.3
Mining .....	711	710	554	567	-1	-0.1	13	2.3
Construction .....	5,179	4,783	6,878	6,850	-396	-7.6	-28	-.4
General building contractors .....	1,322	1,186	1,548	1,559	-136	-10.3	11	.7
Heavy construction, except building .....	770	738	930	939	-32	-4.2	9	1.0
Special trade contractors .....	3,087	2,859	4,400	4,352	-228	-7.4	-48	-1.1
Manufacturing <sup>1</sup> .....	19,187	18,561	18,188	17,174	-626	-3.3	-1,014	-5.6
Durable goods <sup>1</sup> .....	11,199	10,701	10,990	10,252	-498	-4.4	-738	-6.7
Industrial machinery and equipment .....	2,102	2,048	2,102	1,918	-54	-2.6	-184	-8.8
Electronic and other electrical equipment .....	1,686	1,618	1,725	1,501	-68	-4.0	-224	-13.0
Electronic components and accessories .....	585	569	709	592	-16	-2.7	-117	-16.5
Transportation equipment <sup>1</sup> .....	2,021	1,889	1,778	1,704	-132	-6.5	-74	-4.2
Motor vehicles and equipment .....	835	755	958	903	-80	-9.6	-55	-5.7
Aircraft and parts .....	717	690	464	455	-27	-3.8	-9	-1.9
Nondurable goods .....	7,988	7,859	7,199	6,922	-129	-1.6	-277	-3.8
Service-producing .....	84,643	84,477	106,938	106,912	-166	-.2	-26	0
Transportation and public utilities <sup>1</sup> .....	5,781	5,781	7,119	6,962	0	0	-157	-2.2
Transportation .....	3,513	3,513	4,587	4,425	0	0	-162	-3.5
Transportation by air .....	969	975	1,315	1,228	6	.6	-87	-6.6
Communications and public utilities .....	2,268	2,268	2,531	2,537	0	0	6	.2
Wholesale trade .....	6,177	6,107	7,066	6,948	-70	-1.1	-118	-1.7
Retail trade .....	19,630	19,374	23,448	23,404	-256	-1.3	-44	-0.2
Finance, insurance, and real estate .....	6,708	6,702	7,607	7,633	-6	-.1	26	.3
Finance .....	3,276	3,223	3,747	3,767	-53	-1.6	20	.5
Insurance .....	2,116	2,169	2,350	2,356	53	2.5	6	.3
Real estate .....	1,316	1,310	1,510	1,509	-6	-.5	-1	-.1
Services <sup>1</sup> .....	27,889	28,181	41,026	40,942	292	1.0	-84	-.2
Hotels and other lodging places .....	1,633	1,605	1,956	1,852	-28	-1.7	-104	-5.3
Business services <sup>1</sup> .....	5,158	5,071	9,854	9,389	-87	-1.7	-465	-4.7
Services to buildings .....	810	800	1,007	994	-10	-1.2	-13	-1.3
Personnel supply services .....	1,543	1,470	3,735	3,302	-73	-4.7	-433	-11.6
Help supply services .....	1,292	1,253	3,335	2,936	-39	-3.0	-399	-12.0
Computer and data processing services .....	771	785	2,186	2,193	14	1.8	7	.3
Government .....	18,459	18,332	20,673	21,022	-127	-.7	349	1.7
Federal .....	3,281	2,951	2,614	2,615	-330	-10.1	1	.0
State government .....	4,294	4,358	4,820	4,922	64	1.5	102	2.1
State government education .....	1,725	1,758	2,044	2,111	33	1.9	67	3.3
Local government .....	10,883	11,023	13,239	13,485	140	1.3	246	1.9
Local government education .....	6,019	6,105	7,480	7,627	86	1.4	147	2.0

<sup>1</sup>Includes other industries not shown separately.

NOTE: December figures are preliminary.

still lower in most parts of the country in the fourth quarter of 2001 than they were in the second quarter of 1990. The Midwest posted the smallest rate increase from the first to fourth quarter of 2001, 0.8 percentage point, while the largest jump, 1.4 percentage points, was recorded in the West. From the second quarter of 1990 to the first quarter of 1991, regional unemployment rate increases ranged from a low of 0.9 percentage point—once again in the Midwest—to a high of 1.7 points in the Northeast.

Among geographic divisions, the Pacific experienced the sharpest upturn in unemployment from the first quarter of 2001, 1.5 percentage points, compared to a relatively steeper 2.4-point increase in New England during the 1990–91 recession. The Pacific's unemployment rate rises were similar over the two periods. In New England, however, the rise of 1.4 percentage points over the current period was well below that of the previous recession. While the Pacific increase in 2001 was accompanied by relatively modest job losses, the New England increase in 1990–91 was associated with a severe decline in total nonfarm employment. New England's job count, at just over 6.4 million in the second quarter of 1990, would hit bottom slightly below six million in the first quarter of 1992 and not rebound to its pre-recession peak until the fourth quarter of 1997. The West South Central and Mountain were the only divisions where unemployment rates climbed more rapidly during the current downturn than the previous one.

There were unemployment rate increases in 45 States and the District of Columbia in 2001, about the same number as in the early 1990s. Rates in several States responded very differently in 2001, however. Most notably, the Delaware unemployment rate fell by 0.5 percentage point from the first to fourth quarter of 2001, but rose by 2.8 points during the 1990–91 recession. Similarly, the West Virginia rate fell by 0.8 percentage point in 2001, but jumped by 2.1 points over the 1990–91 period. In contrast, the jobless measure in Colorado climbed 2.0 percentage points over the current period, having dropped by 0.5 point over the previous one.

Total nonfarm employment contracted in 36 States between the first and fourth quarter of 2001, compared with 30 States and the District of Columbia during the last recession. In Indiana—the State with the highest proportion of total nonfarm employment in manufacturing—the unemployment rate rose twice as much over the current period as during the 1990–91 recession. During the initial quarter of the recessionary period in 2001, the steepest unemployment rate increases occurred in States with relatively high concentrations of manufacturing employment (0.8 percentage point each in Michigan and Wisconsin, followed by 0.5 point each in Alabama, Illinois, North Carolina, and South Carolina). This contrasted with the first quarter of the 1990–91 recession, during which the largest rate increases were registered for areas with relatively low propor-

tions of their employment in manufacturing (0.6 percentage point in the District of Columbia and 0.5 point each in Idaho, Massachusetts, and New Hampshire).

Total private employment (as measured by the establishment survey) peaked as the recession began and fell by 1.3 percent, or 1.4 million jobs, over the three following quarters. That rate about matched that of the 1990–91 recession. (See table 11.) Yet, such similarity masked important differences between these two downturns. In 2001, even more than in the prior recession, manufacturing dominated—accounting for 72.1 percent of the employment decline, versus 58.9 percent in 1990–91.

The upswing in information technology manufacturing (especially semiconductors) turned into massive layoffs in 2001, with the slump extending into wholesale trade and computer and data processing services. The falling output of IT goods also forced a cutback in investment in new production capacity—a trend that became generalized in manufacturing and led to significant job losses in industrial machinery. As the resulting recession in manufacturing deepened, so did the layoffs of temporary help workers. Indeed, the economy's increased dependency on temporary help came more evident because of these layoffs, which (unlike in 1990) began well before the peak in nonfarm employment.

The decline in travel-dependent industries, whose situation worsened after the September 11th terrorist attacks, further distinguishes the 2001 downturn from that of 1990. Most notable were the layoffs in air transportation and hotels and other lodging places, both of which had been experiencing slackening business travel since early in the year. The terrorist attacks also hurt consumer confidence, and, hence, retail sales.

Despite the aftereffects of the terrorist attacks, consumption generally held up better in 2001 than in the 1990–91 recession. As a result, household spending softened job losses throughout retail trade, while home buying slowed any cyclical downswing in construction and real estate employment. Indeed, employment continued to rise, albeit at a very slow pace, in residential building. That growth contrasts starkly with the 70,000 jobs lost during the 1990–91 recession. Special trades contractors also benefited from the new home construction activity. The industry's job losses totaled 45,000 over the first three quarters of the recession, approximately one-fifth the decline seen during the prior recession. In construction and in the rest of the economy, consumers helped mitigate the effects of the downturn, as steady personal consumption helped compensate for falling business investment.

THE LABOR MARKET WEAKENED CONSIDERABLY IN 2001. Employment fell and unemployment rose, as the economy entered a recession. Following an extended period of low unemploy-

ment rates, in 2001, there were sizeable increases in the unemployment rates of all major groups. The pace of job growth in most major occupational fields slowed considerably from that of 2000, including employment declines in many occupations, especially those concentrated in the manufacturing and services and retail trade industries. Earnings growth also slowed over the year.

Nonfarm payroll employment fell by 762,000 in 2001, dominated by layoffs in manufacturing and in personnel sup-

ply services. Construction and retail sales experienced small employment gains for the year, as a result of hiring early in the year, which somewhat outweighed the small employment declines that occurred after the March 2001 start of the recession. The September 11th terrorist attacks hurt an already weakened travel industry and contributed to large-scale layoffs in airlines and hotels. Health services and higher education, in contrast, accelerated their hiring in 2001, adding more than 400,000 workers. □

## Notes

<sup>1</sup> Recessions are determined by the National Bureau of Economic Research. See details at <http://www.nber.org/cycles/november2001/recessnov.html> (visited January 2002).

<sup>2</sup> On September 11, 2001, terrorists attacked three locations in the United States. Terrorist pilots hijacked commercial jetliners and crashed them into each of the twin towers of the World Trade Center in New York City, and into the Pentagon, in Arlington, Virginia. The hijacking attempt of a fourth jetliner was aborted in a field in Pennsylvania.

<sup>3</sup> The Federal Reserve publishes estimates of industrial production, which are available online at <http://www.federalreserve.gov/releases/G17/>. The Census Bureau produces data on manufacturing inventories and publishes them online at <http://www.census.gov/indicator/www/m3/index.html> (visited January 2002).

<sup>4</sup> Car and light truck inventory data are produced by the Automotive News Data Center. Data are available on a subscription basis.

<sup>5</sup> Karen Lundegaard, "Delphi Automotive to Trim Work Force by 5%," *Wall Street Journal*, Mar. 30, 2001; Rhoda Miel, "Despite record auto sales, industry cuts jobs," *Automotive News*, Nov. 19, 2001; Amy Wilson, "Suppliers strain to make a profit," *Automotive News*, Oct. 15, 2001.

<sup>6</sup> Auto-related manufacturing industries include automotive and apparel trimmings (SIC 2396); flat glass (SIC 3211); automobile stampings (SIC 3465); carburetors, pistons, rings, valves (SIC 3592); vehicular lighting equipment (SIC 3647); engine electrical equipment (SIC 3694).

<sup>7</sup> The twelve European Union member states initially participating in the Euro are Austria, Belgium, France, Finland, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain. For more information, see the European Central Bank's Euro information website at <http://www.euro.ecb.int> (visited February 2002.) Overall exchange rates as measured by the Federal Reserve's price-adjusted broad dollar index, available online at <http://www.federalreserve.gov/releases/H10/Summary> (visited January 2002). Also, see "The greenback's charm," *The Economist*, July 14, 2001, pp. 67–68.

<sup>8</sup> Steel prices as measured by the commodity Producer Price Index for Iron and Steel, available online at <http://www.bls.gov/ppi>.

<sup>9</sup> "Smeltdown: steel producers," *The Economist*, Oct. 20, 2001, pp. 62–65.

<sup>10</sup> The review is documented at <http://www.usitc.gov/steel> (visited January 2002).

<sup>11</sup> Caroline Miller, "Big paper cuts," *Printing Impressions*, June 2001.

<sup>12</sup> Trade data by SIC is available from the U.S. International Trade Commission's interactive tariff and trade dataweb, <http://dataweb.usitc.gov>.

<sup>13</sup> "Media companies: sucked into quicksand," *The Economist*, Oct. 27, 2001, pp. 59–60.

<sup>14</sup> Data on before tax profits from National Income and Product Accounts produced by the U.S. Bureau of Economic Analysis <http://www.bea.doc.gov> (visited January 2002).

<sup>15</sup> "Business: The jobs challenge," *The Economist*, July 14, 2001, pp. 56–57; "Business: Where did all the money go?" *The Economist*, June 23, 2001, pp. 55–56.

<sup>16</sup> Data on shipments are produced by the U.S. Census Bureau at <http://www.census.gov/indicator/www/m3/index.html> (visited January 2002). Data on exports by SIC comes from the U.S. International Trade Commissions' dataweb, <http://dataweb.usitc.gov> (visited January 2002).

<sup>17</sup> Together Taiwan and South Korea accounted for 31.4 percent of total special industrial machinery exports in 2000.

<sup>18</sup> These industries are computers and office equipment (SIC 357), communications equipment (SIC 366), and electronic components and accessories (SIC 367), which is principally semiconductor manufacturing. New orders for information technology goods are produced by the Census Bureau.

<sup>19</sup> Jerry Knight, "Telecoms are Hurting and Their Suppliers Feel the Pain," *The Washington Post*, Oct. 30, 2000.

<sup>20</sup> "More time with the family," *The Economist*, Apr. 28, 2001, pp. 78–79.

<sup>21</sup> See, for example, the August 2001 Federal Reserve Beige Book. It is published online at <http://www.federalreserve.gov/FOMC/BeigeBook/2001/> (visited January 2002).

<sup>22</sup> Jennifer R. Martel and David S. Langdon, "The job market in 2001," *Monthly Labor Review*, February 2001, pp. 3–30.

<sup>23</sup> Truck tonnage data is published by the American Trucking Association, online at <http://www.truckline.com> (visited January 2002).

<sup>24</sup> Data from input-output tables produced by BLS Employment Projections Program, available online at <http://www.bls.gov/emp/empind3.htm> (visited January 2002).

<sup>25</sup> Marcelo Esteveao and Saul Lach estimated that the temporary help workers in the manufacturing workforce rose from approximately 1 percent in 1990 to nearly 4 percent in 1997, with high-tech industries (defined as SIC 35 and SIC 36, excluding SIC 363) reaching nearly 6 percent. Marcelo Esteveao and Saul Lach, "The Evolution of the Demand for Temporary Help Supply Employment in the United States," NBER working paper, December 1999. Also see "Just-in-time inventories and labor: a study of two industries, 1990–98," Chapter 1, *1999 Report on the American Workforce* (Washington, Bureau of Labor Statistics).

<sup>26</sup> Comparison of Personnel Supply (SIC 736) with all 2-digit industries.

<sup>27</sup> Data are from the input-output tables produced by BLS Employment Projections program.

<sup>28</sup> Ibid.

<sup>29</sup> Construction-related manufacturing industries include various 4-digit industries within lumber products; stone, clay, and glass products; fabricated metals; rubber and other plastic products; and chemicals.

<sup>30</sup> See the archived Weekly Weather and Crop Bulletins prepared by the U.S. Department of Agriculture, available online at <http://www.usda.gov/oce/waob/jawf/wwcb.html> (visited February 2002).

<sup>31</sup> Construction activity is measured by its value put in place. These data are produced by the U.S. Census Bureau and are available online at <http://www.census.gov/const/www/c30index.html> (visited January 2002).

<sup>32</sup> Debra K. Rubin, and others, "TEA-21: Road and Rail Funding's New Stake," *Engineering News Record*, Aug. 6, 2001, pp. 32–37. Review the FY 2000 data; FY 2001, [http://www.fhwa.dot.gov/tea21/table11\\_part4.htm](http://www.fhwa.dot.gov/tea21/table11_part4.htm) (visited January 2002).

<sup>33</sup> The value of construction put-in-place statistics are produced by the U.S. Census Bureau and are available online at <http://www.census.gov/const/www/c30index.html> (visited January 2002).

<sup>34</sup> Ibid.

<sup>35</sup> Monthly mortgage rates are published by the Federal Reserve online at <http://www.federalreserve.gov/releases/G13/> (visited January 2002). The Conference Board produces the Index of consumer confidence and published it monthly at <http://www.conferenceboard.org> (visited January 2002).

<sup>36</sup> Affordability as measured the National Association of Realtors' housing affordability indices, available online at <http://nar.realtor.org> (visited February 2002).

<sup>37</sup> See, for example, "La-Z-Boy Profit Falls 80%," *New York Times* (Reuters), Aug. 15, 2001.

<sup>38</sup> Kim Kennedy, "Furniture industry drags despite strong housing," *Facilities Design & Management*, Aug. 2001. Mary Ellen Lloyd, "Furniture sellers begin to rethink strategy," *Wall Street Journal*, Sept. 11, 2000. Leslie Kaufman, "Bankruptcies defy growth in furniture," *New York Times*, Aug. 18, 2000.

<sup>39</sup> Year-over-year percent change of the mortgage refinancing index published by the Mortgage Bankers Association of America, <http://www.mbaa.org> (visited January 2002).

<sup>40</sup> Jonathan Fuerbringer, "During a bear market, there's no place

like home," *New York Times*, Aug. 16, 2001. Stephane Fitch and Brandon Copple, "What if housing crashed?" *Forbes*, Sept. 3, 2001, pp. 76–80.

<sup>41</sup> The comparisons are based on preliminary December retail sales estimates, which are produced by the U.S. Census Bureau, and are available online at <http://www.census.gov/econ/www/retmenu.html> (visited February 2002). The industry definitions follow the 1997 North American Industrial Classification System.

<sup>42</sup> Ibid.

<sup>43</sup> "Nightmare on Fifth Avenue: American retailers," *The Economist*, Oct. 6, 2001, pp. 58–61. Martha McNeil Hamilton, "Retail sales slowed in September; some chains hit hard; discounters post gains," *The Washington Post*, Oct. 12, 2001.

<sup>44</sup> Devon Spurgeon, "Albertson's to Cut Staff by 15% to 20%, Close or Sell 165 Underperforming Stores," *Wall Street Journal*, July 18, 2001.

<sup>45</sup> Tom Weir, "Retail overstock," *Supermarket Business*, Oct. 15, 2001, pp. 1, 6, and 8.

<sup>46</sup> Figures from *2001 Auto Data*, published by the National Automobile Dealers Association and available online at <http://www.nada.org/Content/NavigationMenu/MediaCenter/NADADData/NADADData.htm> (visited January 2002).

<sup>47</sup> Sholnn Freeman, "Big Auto Makers Brace for Waves of Used Cars," *Wall Street Journal*, Aug. 7, 2001; Micheline Maynard, "Why Dealers are Putting a New Shine on Used Cars," *New York Times*, Apr. 15, 2001.

<sup>48</sup> Michael Arndt and Williams Symonds, "Suddenly, Carriers Can't Get off the Ground," *Business Week*, Sept. 3, 2001, p. 36; Joan Feldman, "The going gets tough," *Air Transport World*, May 2001, pp. 72–75.

<sup>49</sup> See, for example, the Federal Reserve Beige Book for June 2001 and August 2001, available online at <http://www.federalreserve.gov/FOMC/BeigeBook/2001/> (visited January 2002).

<sup>50</sup> Tim O'Brien, and others, "Waterparks: Season in Review," *Amusement Business*, Oct. 8, 2001; "Summer summary," *Amusement Business*, Sept. 10, 2001, pp. 18, 20.

<sup>51</sup> This comparison excludes the August 1997 strike in air transportation.

<sup>52</sup> Michael Mecham, and others, "Manufacturers' Layoffs Could Reach 100,000," *Aviation Week and Space Technology*, Oct. 1, 2001, p. 43; "Airbus Gloomy Over Economy," *Professional Engineering*, Aug. 15, 2001, p. 10.

<sup>53</sup> J. Lynn Lunsford, "Boeing Raises Estimated Deliveries for '01, Foresees Sharper Production Drop in '02," *Wall Street Journal*, Oct. 18, 2001.

<sup>54</sup> William Goodman, "Employment in services industries affected by recessions and expansions," *Monthly Labor Review*, October 2001, pp. 3–11.

<sup>55</sup> "Better late than never," *Modern Healthcare*, Jan. 1, 2001, p. 14.

<sup>56</sup> See, for example, the "Frequently asked questions" section about the Producer Price Index at <http://www.bls.gov/ppi/ppifaq.htm> (visited January 2002).

<sup>57</sup> The Producer Price Indices are published by BLS and are available on the Internet at <http://www.bls.gov/ppi>.

<sup>58</sup> The enrollment projections are published in Chapter 3 of the U.S. Department of Education's *Digest of Education Statistics, 2000*, which is available online at <http://nces.ed.gov/pubs2001/digest/ch3.html#1> (visited January 2002).

<sup>59</sup> The 2001 annual average labor force participation rate of teenagers, at 50 percent, was the lowest annual rate since 1971.

<sup>60</sup> Labor force participation among teenagers also fell sharply during the recessions of the early 1980s and 1990s. In contrast to movements in previous expansions, during the subsequent expansions of the 1980s and 1990s, teenage participation in the labor force never fully recovered to prerecession levels.

<sup>61</sup> Persons 20 years of age and older are referred to as adults.

<sup>62</sup> A family is defined as a group of two or more persons residing together who are related by birth, marriage, or adoption; all such persons are considered as members of one family. Families discussed in this section do not necessarily include children younger than 18. Persons 20 years of age and older are referred to as adults.

<sup>63</sup> The family unemployment rates refer to the proportion of families with an unemployed adult.

<sup>64</sup> For a more detailed description of this methodology, see Randy E. Ilg, "The nature of employment growth, 1989-95," *Monthly Labor Review*, June 1996, pp. 29-36. Following methods employed earlier by Ilg, major occupation-industry pairs (such as professionals in manufacturing) were ranked in descending order by their median weekly earnings in 1996. The categories were then divided into three groups—highest, middle, and lowest earnings—each of which accounted for approximately one-third of employment in 1996. An employment time series for each occupation-industry category from January 1996 through December 2001 was developed, and data for the job categories were sorted into the appropriate earnings groups. The monthly time-series data that were used were independently seasonally adjusted and do not sum to the total-employment figures.

<sup>65</sup> Reentrants are persons who previously worked but were out of the labor force prior to beginning their job search. New entrants are persons who never worked before and who are entering the labor force for the first time.

<sup>66</sup> During a recession, an increase in those unemployed more than 5 weeks naturally follows an initial increase in the newly unemployed, as those who were unemployed early into the slowdown find it increasingly difficult to find a job.

<sup>67</sup> Numbers do not sum to 100 due to rounding.

<sup>68</sup> For additional information, see John E. Bregger and Steven E. Haugen, "BLS introduces new range of alternative unemployment measures," *Monthly Labor Review*, October 1995, pp. 19-26. Two of the alternative measures, U-1 and U-2, are excluded from the analysis in this paper because they focus on duration of unemployment and reasons for unemployment; issues that have been discussed earlier. Data, as discussed in this section, are not seasonally adjusted.

<sup>69</sup> Discouraged workers are persons not in the labor force 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 qualify.

<sup>70</sup> Marginally attached workers are persons who wanted and were available for work and had looked for a job sometime in the prior 12 months but were not counted as unemployed because they had not actively searched for work in the 4 weeks preceding the survey. Discouraged workers are a subset of marginally attached workers.

<sup>71</sup> Part-time workers are persons working 1 to 34 hours per week.

<sup>72</sup> See Deborah Feyerick, "Tight Labor Market Holds Risks For Economy," *CNN.com*, February 4, 2000, available on the Internet at <http://europe.cnn.com/2000/US/02/04/labor.shortage/> (visited January 2002). Also see Steve Bills, "Retailers Scramble for help," *CNN.com*, November 24, 2000, available on the Internet at [http://money.cnn.com/2000/11/24/people/retail\\_jobs/](http://money.cnn.com/2000/11/24/people/retail_jobs/) (visited January 2002).

<sup>73</sup> Population growth in this section refers to growth in the civilian noninstitutional population age 16 years or older.

<sup>74</sup> For a discussion of potential sources of labor, see Jennifer L. Martel and David S. Langdon, "The job market in 2000: slowing down as the year ended," *Monthly Labor Review*, February 2001, pp. 15-16.

<sup>75</sup> The Board of Governors of the Federal Reserve System, for example, tracks changes in the pool of available workers to help evaluate labor supply conditions. One example is its "Monetary Policy Report to the Congress," February 17, 2000, available on the Internet at <http://www.federalreserve.gov/boarddocs/hh/2000/February/Testimony.htm> (visited February 2002).

<sup>76</sup> Strictly comparable data on those not in the labor force, but who want a job, are not available for years prior to 1994.

<sup>77</sup> The data in this section of the article are annual averages.

<sup>78</sup> These data were first available in 1979.

<sup>79</sup> The four regions and nine divisions are composed of the following entities: Northeast: *New England division*—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; *Middle Atlantic division*—New Jersey, New York, Pennsylvania; Midwest: *East North Central division*—Illinois, Indiana, Michigan, Ohio, Wisconsin; *West North Central division*—Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; South: *South Atlantic division*—Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia; *East South Central division*—Alabama, Kentucky, Mississippi, Tennessee; *West South Central division*—Arkansas, Louisiana, Oklahoma, Texas; West: *Mountain division*—Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming; *Pacific division*—Alaska, California, Hawaii, Oregon, Washington.

<sup>80</sup> Monthly series for the West region, the Pacific division, and California begin in 1980. Series for other regions, divisions, and States begin in 1978.

<sup>81</sup> Neither unemployment nor payroll employment data are available on a seasonally adjusted basis for metropolitan areas. The metropolitan area data presented here are not seasonally adjusted quarterly data, which preclude analysis of over-the-quarter changes.

<sup>82</sup> The National Bureau of Economic Research, the official arbiter of business cycle peaks and troughs, determined that a business cycle peak was reached in July 1990. Likewise, a peak was officially recognized to have been reached in March 2001. This section investigates some of the effects of the three quarters of recession in 2001, by com-

paring and contrasting them with the first three quarters of the recession in the early 1990s.

<sup>83</sup> Formerly referred to by the International Labor Organization as “visible” underemployment, time-related underemployment (as it is now known) “exists when the hours of work of an employed person are insufficient in relation to an alternative employment situation in which the person is willing and available to engage.” For further discussion of this concept, see International Labour Office, “Bulletin of Labour Statistics,” (February 1998-4.)

<sup>84</sup> Due to the CPS redesign in 1994, the category “part-time for eco-

nomics reasons” was redefined, effectively reducing the group of workers included. Adjustment factors were used in order to compare the results from the two relevant time periods. After adjustment, the increase in those working part time for economic reasons in the early 1990s period was slightly greater than 14 percent, while the increase in 2001 was around 31 percent. For a description of the effects of the redesign and the adjustment factors used, see Anne E. Polivka and Stephen M. Miller, “The CPS After the Redesign: Refocusing the Economic Lens,” U.S. Bureau of Labor Statistics Research Papers, March 1995, pp. 32-34, available on the Internet at <http://www.bls.gov/ore/abstract/ec/ec950090.htm> (visited January 2002).

---

## Where are you publishing your research?

The *Monthly Labor Review* will consider for publication studies of the labor force, labor-management relations, business conditions, industry productivity, compensation, occupational safety and health, demographic trends, and other economic developments. Papers should be factual and analytical, not polemical in tone.

We prefer (but do not require) submission in the form of an electronic file in Microsoft Word, either on a diskette or as an attachment to e-mail. Please use separate files for the text of the article; the tables; and charts. We also accept hard copies of manuscripts.

Potential articles should be mailed to: Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, Washington, DC 20212, or by e-mail to [mlr@bls.gov](mailto:mlr@bls.gov)

---