



Monthly Labor Review

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In this issue:

- Negotiated rate changes in contracts
- The over estimated workweek
- Wages in fast food restaurants
- Young men in the workplace





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Articles

Negotiated changes in State and local government contracts, 1993 3
Record low increases in wage rates were recorded for 1.7 million public-sector workers covered by 1993 settlements
Michael H. Cimini

The overestimated workweek? What time-diary measures suggest 11
A comparison of the time-diary method with workweek estimate data reveals important and systematic differences
John P. Robinson and Ann Bostrom

Young workers

Occupational wages in the fast-food restaurant industry 24
A series of surveys found that earnings in fast-food establishments are closely tied to the minimum wage
Robert W. Van Giezen

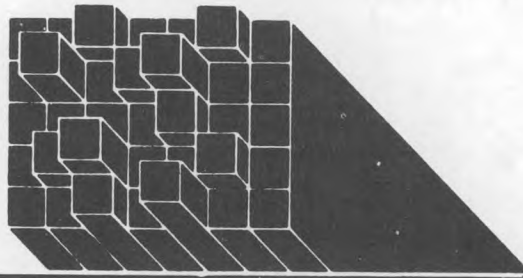
Young men and the transition to stable employment 31
The transition from school to work is more heterogeneous and optimistic than is often thought
Jacob Alex Klerman and Lynn A. Karoly

Reports

Productivity in industry and government, 1973-92 49
Mary Jablonski

Departments

Labor month in review 2
Research summaries 49
Major agreements expiring next month 57
Developments in industrial relations 58
Book reviews 63
Current labor statistics 65



Shiskin Award recipients

Joel Popkin of Joel Popkin and Co. and Richard D. Allen of the National Agricultural Statistics Service of the U.S. Department of Agriculture received the 1994 Julius Shiskin Award for Economic Statistics.

Joel Popkin was cited for fostering and implementing the extensive program of research that led to modernization of the Consumer Price Index while he was with the Bureau of Labor Statistics. Dr. Popkin more recently has developed an innovative "demand/supply ratio" that is used as a gauge of current and prospective inflationary pressure.

Richard D. Allen was recognized for his original and outstanding contributions to the application of statistics to agricultural economics. Dr. Allen played a major role in guiding the annual farm cost and returns survey, which provided critical information on both expenditures and costs of production.

The presentation was made along with an honorarium at the Washington Statistical Society's annual dinner in June.

The award is named in honor of the ninth U.S. Commissioner of Labor Statistics. It is designed to honor unusually original and important contributions in the development of economic statistics or in the use of economic statistics in interpreting the economy.

Jobs issues reach summit

The technical specifics of job creation have reached the highest policymaking level of what is known as the "G-7" process. In Naples, Italy, the Heads of State and Government of seven major industrial nations—the United States, Canada, France, Germany, Italy, Japan, and the United Kingdom—and the President of the European Commission met for the 20th time. For perhaps the first time, the Summit Communique detailed policies the conferees thought essential to reducing a level of joblessness that they found "... remains far too high, with over 24 million

unemployed in our countries alone."

The Communique detailed a commitment to concentrate on six areas of structural policy:

- Increasing investment in people, including developing a culture of lifetime learning.
- Reducing labor rigidities that add to employment costs or discourage job creation.
- Supporting active labor policies that help the unemployed look for jobs and create incentives to work in social support systems.
- Encouraging and promoting innovation.
- Pursuing opportunities to create jobs in new areas, such as quality of life and environmental protection.
- Promoting competition by eliminating unneeded regulations and removing impediments to small and mid-size firms.

Glass ceiling, brittle floor

Findings from a case study of more than 600 Canadian managers suggest that the "glass ceiling" does exist, at least for married workers, but that men who attempt to accommodate the dual demands of household and market labor are more heavily penalized than women.

In "Of Mommy Tracks and Glass Ceilings," in the Spring 1994 issue of *Relations Industrielles*, Alison M. Konrad and Kathy Cannings' regression analyses found that married women received smaller salaries, were offered less training, were more levels from top management, and perceived lower promotion opportunities, compared with married men. They also found that lower salaries and greater distance from senior positions were associated with higher participation in household labor.

One interesting finding appeared when Konrad and Cannings looked at how gender and household contribution interacted: "The negative interaction effect [between gender and participation in household la-

bor] indicated that the slope of the association between household labor and levels from top management was less strongly positive for women than for men..." (that is, the same increase in household contribution would send a male worker slightly further down the corporate ladder than it would a comparable female worker).

Paid time-off benefits

More than 80 percent of full-time workers in small establishments (fewer than 100 employees) are provided pay for time away from work. However, according to *Employee Benefits in Small Private Establishments, 1992* (BLS Bulletin 2441), family-related benefits are available to a minority of the workers. For example, 1 percent to 3 percent of workers are provided employers' assistance for child care, adoptions, eldercare, and insurance for long-term care. For parental leave, 2 percent of the workers have paid maternity leave; paid paternity leave is virtually nonexistent. Other paid benefits provided to a minority of workers include personal leave and lunch periods.

The most prevalent paid time-off benefit is vacations, provided to 90 percent of employees, followed by holidays, 80 percent; jury duty leave, 60 percent; breaks and funeral leave, each 50 percent; and military leave, 20 percent.

MLR rises in rank

In the June 1994 issue of the *Journal of Economic Literature*, David N. Leband and Michel J. Piette report on "The Relative Impacts of Economics Journals: 1970-1990." Their rankings are based on citations per unit of content, measured in articles or characters. In the rankings based on citations per printed character, a device to control for the actual amount of editorial copy published, *Monthly Labor Review* rose to 41st out of 130 journals ranked in 1990 from 90th of 108 in 1980. *Review* editors thank the contributors and publications staff who made this improvement possible. □

Negotiated changes in State and local government contracts, 1993

The net effect of negotiated increases, decreases, and freezes in settlements was a record-low increase in wage rates for the 1.7 million public-sector workers covered by 1993 settlements

Michael H. Cimini

Wage rate changes negotiated in 1993 in major collective bargaining settlements (those covering 1,000 workers or more) in State and local government were smaller, on average, than in the contracts they replaced.¹ This pattern has persisted for 4 consecutive years. In addition, the changes matched the record-low rates of those in 1992.

The smaller changes reflected the economic climate facing negotiators in the public sector. Most negotiators contended with decreasing tax revenues, increasing budget deficits, and, at best, slowly expanding economies. State and local government negotiators concentrated on how to keep expenditures down without reducing public services. For union negotiators, job security was the primary concern, followed by health care, then other economic items.

The majority of State and local government contracts were settled without protracted bargaining, unlike in 1992 when several States negotiated long after their old contracts had expired. The 1993 negotiated contracts continued the trend toward "backloading" (that is, delaying all or most of a wage rate increase until after the first contract year), curbing health care costs, and contracting out of some government services. Bargaining generally occurred without the threat of layoffs or furloughs, as management and labor compromised on issues and bargained realistically.

Wage changes in settlements

Major settlements in 1993 provided changes in wage rates averaging increases of 1.1 percent in the first contract year and 2.1 percent annually over the term of the contract during the 12-month period ended in December 1993. (See table 1.) The last time the parties to these settlements bargained, the contracts provided larger increases (2.9 percent in the first year and 3.0 percent annually over the life of the contract)—the pattern for the last 4 years. In addition, changes under 1993 settlements tied the record lows recorded in 1992. The measure of wage rate changes excludes potential changes under cost-of-living adjustments (COLA's) and lump-sum payments. The average change is the net effect of increases, decreases, and no change in wages.

A total of 2.7 million workers are covered by collective bargaining settlements in State and local government; 1.7 million (or 63 percent) of them were covered by negotiations concluded in 1993. This was the highest rate of bargaining activity since 1985, when 68 percent of State and local government workers were covered under settlements.

Of the 1.7 million workers covered by 1993 settlements, about 1.1 million (about 66 percent) were employed by local government. The wage rate changes for these workers averaged an in-

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Table 1. Average (mean) changes in wage rates in State and local government collective bargaining settlements covering 1,000 workers or more, 12-month period ending in December, 1989-93

Measure	1989	1990	1991	1992	1993
First-year change:¹					
Current settlements	5.1	4.9	2.3	1.1	1.1
Replaced settlements	5.0	5.0	4.9	4.6	2.9
Annual change over life of the contract:²					
Current settlements	5.1	5.0	2.8	2.1	2.1
Replaced settlements	5.2	5.1	4.9	4.3	3.0

¹ Changes under settlements reached in the period and effective within 12 months of the contract effective date.

² Changes under settlements reached in the period expressed as an average annual rate over the life of the contract.

NOTE: Average (mean) changes include net increases, decreases, and zero change; excludes lump-sum payments and potential changes from COLA clauses.

crease of 1.9 percent annually over the contract term, compared with 2.4 percent in State government (576,000 workers). (See table 2.) The lower change in local government contracts reflects smaller increases as well as a higher proportion of local government workers for whom wages were frozen or cut in 1993. In most years since 1984, the average change in wage rates over the contract term were higher in local government than in State government.

About 78 percent (1.3 million) of the State and local government workers covered by settlements negotiated in 1993 will receive wage increases during the term of their contracts; 20 percent (339,000), typically local government workers in education, will not have a wage change; and 3 percent (46,000) — all in local government—will have their wages cut. (See table 3.) This contrasts with the 1984-90 period, when 94 to 99 percent of workers under settlements received wage increases, and few, if any, had their wages cut.

Government function. Settlements in education—primarily for teachers, but also for administrators and service employees—covered 47 percent (812,000) of the workers under 1993 settlements. These settlements provided wage rate changes averaging an increase of 1.9 percent a year over the contract term. Settlements in general administration covered 39 percent (661,000) of workers and called for a 2.1-percent average wage rate increase; protective services, 120,000 workers and a 3.0-percent increase; and health services, 68,000 workers and a 2.3-percent increase. (See table 2.) In 1993, unlike the years before 1991, wage rate changes were smaller under settlements in education than in the remainder of government.

Backloaded contracts. One way to contain labor costs under negotiated settlements is to back-

load the agreement. (Prior to 1992, backloaded agreements were not prevalent in State and local government contracts.) In 1993 settlements, 50 percent of workers were covered by backloaded contracts; 6 percent were covered by front-loaded contracts (that is, most of the wage increases occurred in the first year); and the remaining 44 percent by 1-year contracts or by multiyear contracts with the same rate of change in the first year and annually over the contract term. Backloaded settlements averaged a wage rate increase of 0.6 percent for the first contract year and 2.6 percent annually over the life of the contract. In front-loaded settlements, wage rate changes averaged increases of 1.2 percent in the first year and 0.1 percent annually over the contract term. Backloaded agreements were more prevalent in State government than in local government, and in settlements involving transportation, health services, and general administration units. The following tabulation shows the number of workers covered by backloaded contracts and the number of workers under backloaded agreements as a percent of workers under all major agreements in State and local government in 1993:

	Number	Percent
State and local government ..	856,400	50
State government	332,800	57
Local government	523,600	46
Government function:		
Transportation	21,100	84
Health services	45,200	66
General administration . . .	431,800	65
Protective services	62,400	52
Education	277,900	34

Contract duration. State and local government settlements negotiated in 1993 had a longer average duration than the agreements they replaced—26 months, compared with 22 months. (Table 4 shows duration of contracts by selected characteristics.) Although slightly more than a third of all State and local government workers were covered by 1993 settlements with a duration of less than 12 months, the average duration of settlements in 1993 was longer than in most prior years, reflecting the comparatively large proportions of workers, 37 percent (or 625,000 workers), covered by settlements with a duration of 36 months or longer. Settlements extending for 3 or more years had wage changes averaging an increase of 2.7 percent a year, compared with 1.7 percent a year for contracts with a duration of 12 or fewer months. (See table 4.) The lower average wage change in shorter term contracts reflects, in part, the influence of settlements

in primary education, which had lower wage changes than the other major government functions.

Compensation changes

Wages are only part of the economic package affected by a settlement; benefits also may change. Thus, a comparison of changes in compensation (wages and benefits) permits a more comprehensive analysis than a comparison based on changes in wages only. Data on compensation changes are for major collective bargaining settlements covering 5,000 or more workers.

Rate changes. The measure of change in compensation rates covers the ongoing wage and benefit rate structure, but excludes lump-sum payments which are not part of the ongoing rate. In settlements covering 5,000 or more workers—63 percent of all workers under State and local government bargaining in 1993—the average change in compensation rates was an increase of 0.9 percent in the first year and 1.8 percent annually over the contract term. (See table 2.) These

were the lowest (or next to lowest) compensation rate changes recorded since the series began in 1984. More than three-fourths of workers covered by State and local government settlements were under settlements with compensation rate increases, and one-fifth of workers did not receive an increase.

Compensation rate changes in 1993 settlements averaged an annual increase of 2.1 percent over the contract term in State government and 1.6 percent in local government. Typically, the average change over the contract term has been higher in local government than in State government. The reversal of the relationship in 1993 reflects the large proportion of State government workers under settlements with above-average increases in wages and wage-related benefits, and the large proportion of local government workers under settlements with below-average increases in wages and wage-related benefits or a wage cut.

Settlements in general administration accounted for 49 percent (523,000) of workers in-

Table 2. Average (mean) changes in wage and compensation rates, State and local government collective bargaining settlements negotiated in 1993

[In percent]

Measure	First-year change ¹	Annual change over the life of the contracts ²	Number of workers (thousands) ³	Number of settlements
Wage changes in settlements covering 1,000 workers or more				
All State and local government	1.1	2.1	1,711	398
State government	1.3	2.4	576	93
Local government	1.0	1.9	1,134	305
Government function:				
General government and administration .....	.9	2.1	661	93
Education	1.3	1.9	812	220
Primary and secondary	1.3	1.8	717	193
Colleges and universities	1.3	2.0	96	27
Protective services	1.7	3.0	120	41
Health services	1.0	2.3	68	24
Other ⁴	1.3	2.4	48	20
Compensation changes in settlements covering 5,000 workers or more				
All State and local government .....	.9	1.8	1,070	78
State government	1.2	2.1	443	29
Local government .....	.7	1.6	627	49
Government function:				
General government and administration .....	.7	1.9	523	28
Education	1.0	1.4	442	37
Other ⁵	1.2	3.0	105	13

¹ Changes under settlements reached in the period and effective within 12 months of the contract effective date.

² Changes under settlements reached in the period expressed as an average annual rate over the life of the contract.

³ Because of rounding, sums of individual employment items may not equal totals.

⁴ Includes units in transportation, construction, recreation, social services, and housing authorities.

⁵ Includes units in health services, protective services, transportation, and housing authorities.

NOTE: Changes are the result of net increases, decreases, and zero change in wages. All measures exclude any cash or benefit lump-sum payments and potential changes from COLA clauses.

volved in these large settlements in 1993. They provided compensation rate changes averaging an increase of 1.9 percent a year. Settlements in education covered 41 percent (442,000) of workers and called for a 1.4-percent annual average compensation rate increase.

Cost changes. The measure of change in compensation costs in settlements covering 5,000 or more workers includes the ongoing wage and benefit rate structure and lump-sum payments and also accounts for the length of time wage and benefit changes are in effect during the contract.

The change in compensation cost over the life of the contract in 1993 averaged an increase of 1.0 percent a year. (See table 5.) This was the next-to-lowest compensation cost increase recorded since compensation cost changes were first measured in 1988. Settlements in State government (for 443,000 workers) averaged an increase of 1.2 percent a year, compared with 0.8 percent in local government (for 627,000 workers).

Changes in employer costs for cash payments to workers (including wages and lump-sum payments) and wages alone each averaged an increase of 1.0 percent a year over the life of the contract. (Typically, relatively few State and local government workers are covered by settle-

ments with lump-sum payments; in 1993, almost three-fifths of the 248,000 workers under settlements specifying lump-sum payments were employed by the States of New York and Michigan.) Changes in benefit costs averaged an increase of 0.8 percent a year over the contract term. (See table 5.)

Wage rate change—all agreements

Workers under all major collective bargaining agreements in the public sector can receive changes in wage rates from several sources: settlements that occurred in the year, settlements reached in earlier years, and cost-of-living clauses (typically, based on a formula tied to the Consumer Price Index).

The average change in wage rates for the 2.7 million workers under all major contracts in effect in State and local government in 1993 was an increase (the net effect of increases and decreases from all sources) of 2.8 percent—1.6 percent from settlements reached in 1993, 1.1 percent from agreements reached earlier, and less than 0.05 percent from cost-of-living adjustments. (See table 6.) This was the third lowest wage rate change under all major settlements in any year since the series began in 1984 and re-

Table 3. Distribution of workers by average changes in wage rates, State and local government collective bargaining settlements negotiated in 1993 covering 1,000 workers or more

Measure	First-year change ¹			Annual change over life of the contract ²		
	All government	State government	Local government	All government	State government	Local government
Number of workers (thousands) ³ . . .	1,711	576	1,134	1,711	576	1,134
Percent of workers under settlements with—						
No wage change	58	52	60	20	18	21
Wage decreases ⁴	3	0	4	3	0	4
Wage increases	40	48	36	78	82	75
Under 3 percent	13	11	14	45	34	50
3 and under 4 percent	18	33	11	20	33	14
4 and under 5 percent	4	2	5	9	13	7
5 percent and over	4	2	6	4	2	4
Changes (percent): ⁵						
Mean change	1.1	1.3	1.0	2.1	2.4	1.9
Median change	0	0	0	2.2	2.7	2.2
Mean increase	3.0	2.7	3.2	2.8	3.0	2.7
Median increase	3.0	3.0	3.0	2.4	3.0	2.2

¹ Changes under settlements reached in the period and effective within 12 months of the contract effective date.
² Changes under settlements reached in the period expressed as an average annual rate over the life of the contract.
³ Because of rounding, sums of individual employment items may not equal totals.
⁴ Distributions are not shown separately to protect confidentiality.
⁵ Mean and median changes include net increases, decreases, and zero change. Mean and median increases refer to settlements with a net increase. Data exclude lump-sum payments and potential changes from COLA clauses.

Table 4. Duration of contracts covering 1,000 workers or more with rate changes in major collective bargaining settlements negotiated in 1993, by selected characteristics

Measure	All contracts	12 months or less	More than 12 months, but less than 24 months	24 months	More than 24 months, but less than 36 months	36 months	More than 36 months
Number of settlements	398	168	33	79	16	60	42
Number of workers (thousands)	1,711	622	91	334	38	212	413
Average contract duration (months)	25.7	11.5	15.6	24.0	26.5	36.0	45.3
Percent change in wages: ¹							
Annualized over the life of the contract	2.1	1.7	1.2	1.7	2.4	3.5	2.3
First contract year ²	1.1	1.7	.9	.9	1.7	1.7	.1
Second contract year ³	1.9	...	.8	2.4	1.6	2.9	1.2
Third contract year ⁴	4.7	...	...	...	2.1	6.2	4.1

¹ Changes are the result of net increases, decreases, and zero change; data exclude lump-sum payments and potential changes from COLA clauses.

² Data are not annualized.

³ Average is based only on settlements with a duration greater than 12 months.

⁴ Average is based only on settlements with a duration greater than 24 months.

flected a substantial decline from the 1984-90 period, when the annual wage rate change was an increase ranging from 4.6 percent to 5.7 percent.

The comparatively low average wage change in 1993 resulted from substantial drops in wage changes brought about by settlements negotiated in prior years and fairly modest wage rate changes specified in current settlements. The change from settlements reached in earlier years (a 1.1-percent increase) was the lowest since 1984, when the series was first tabulated. Because of the low prevalence of COLA provisions in State and local government agreements, the contribution from COLA's in 1993, as in earlier years, was minimal. About 27,700 workers had COLA reviews in 1993—24,000 of them (all in local government) had COLA increases averaging 1.6 percent.

Wage rate changes for the 1.1 million workers under all major contracts in State government averaged an increase of 3.5 percent, compared with a 2.3-percent increase for 1.6 million workers under such contracts in local government. (In all but one year since 1987, the average wage rate change for local government employees exceeded the average change for State government employees.) The larger change for State government workers primarily reflected the effects of changes from contracts reached earlier—a 1.8-percent increase for State government employees, compared with a 0.7-percent increase for local government employees.

Several factors play a role in the size of the average wage rate change. The proportion of workers receiving a wage increase and the size

of the increase push up the average wage rate change. The proportion of workers with no change in wages, and the proportion whose wages decrease, coupled with the size of the decrease, moderate the overall wage rate change.

Approximately 1.8 million workers (68 percent) received a wage rate increase (the net effect of increases and decreases from all sources) averaging 4.1 percent, the lowest in any year since the data were first tabulated in 1984. About 880,000 (32 percent) of the 2.7 million workers covered by major contracts in State and local government had no wage change during 1993. Nearly 46,000 workers (2 percent) had a net wage decrease.

Specific settlements

The following discussion highlights wage and benefit changes in public sector settlements in selected States and cities. Unions are affiliated with the AFL-CIO, except where listed as independent.

Florida negotiated agreements for seven bargaining units covering 116,000 employees. About 69,700 workers, represented by the American Federation of State, County and Municipal Employees, agreed to contract terms specifying a wage increase of 3 percent on October 1, 1993. (The contract will be reopened for wage and benefit terms in 1994.) The Florida Nurses Association (Independent), representing 4,700 employees, agreed to similar contract terms.

The Florida University System negotiated agreements with the United Faculty of Florida

for 7,000 faculty members and 3,200 graduate assistants. For both units, the 2-year agreements provided a wage increase of 2 percent on October 1, 1993 (the contract for graduate assistants also called for a reopener on wages in 1994). Negotiators for the University System also signed a 3-year contract with the State, County and Municipal Employees for 13,200 noninstructional workers, who will receive a 3-percent wage increase in October 1993, and wage and benefit reopeners in 1994 and 1995.

The Florida Police Benevolent Association (Independent), bargaining for 18,300 protective service employees negotiated 3-year agreements providing wage increases of 3 percent in October 1993, and wage and benefit reopeners in 1994 and 1995.²

Massachusetts and three bargaining units, covering 42,300 employees represented by an alliance comprising the State, County and Municipal Employees, the Service Employees Interna-

tional Union, and the National Association of Government Employees, negotiated 3-year agreements providing wage increases of 6 percent, retroactive to December 1992, and 7 percent in June 1993.³

Michigan reached agreement on contracts covering approximately 48,700 employees in 11 bargaining units. All of the settlements provided for controlling future health care costs and using the savings to provide additional raises for workers. One of the settlements, with the United Automobile Workers, also included a lump-sum payment of \$750 in October 1994.

Three unions, covering 8,700 employees, ratified identical 26-month agreements that provided wage increases of 1 percent in October 1993, 2 percent in October 1994, and 3 percent in October 1995; and lump-sum payments of \$750 in October 1994 and \$600 in October of both 1995 and 1996. Similar terms were negotiated for an additional 9,000 workers, except the lump-sum payments were \$250, \$500, and \$600, respectively.

Wage and benefit freezes were negotiated in agreements with the State, County and Municipal Employees covering 4,300 institutional employees and the Michigan State Police Troopers Association covering 1,700 enlisted personnel.⁴

New York concluded negotiations with 60,000 workers, including 56,000 professional, scientific, and technical employees, represented by the Professional Employees Federation (Independent), whose members had been without a contract since 1991. The 4-year agreement provided, among other terms, wage increases of 4 percent retroactive to April 1, 1993, 4 percent in April 1994, and 1.25 percent in October 1994; lump-sum payments to pay back 3 of the 5 days of pay that were held by the State under a 1990 law; replacement of the employee benefit fund covering dental and vision care and prescription drugs with the same system that governs benefits of nonunion employees; and a managed health care program for employees on workers' compensation which gives them up to 60 percent of their salary for using a network physician.⁵

Pennsylvania concluded negotiations with eight bargaining units covering 73,000 employees. The single largest unit, 42,000 workers, approved a 3-year agreement providing wage increases of 3 percent in July 1993, and 3.5 percent in July of both 1994 and 1995; a 60-cent-an-hour shift differential in July 1993 (65 cents in 1994 and 75 cents in 1995); a compressed pay scale; and payment of step increases in January of each year. Three additional bargaining units, covering almost 15,000 workers, accepted similar contract terms, except for the increase in shift differentials.⁶

Table 5. Average (mean) changes in the cost of compensation and components, annualized over the life of the contract, State and local government collective bargaining settlements covering 5,000 workers or more, 12-month period ending in December 1991-93

[In percent]

Component	1991	1992	1993
All State and local government:			
Compensation	2.0	0.8	1.0
Cash payments ¹	1.3	1.0	1.0
Wages	1.3	.9	1.0
Benefits	2.0	.7	.8
Without contingent pay provisions:			
Compensation	2.0	.8	1.0
Cash payments ¹	1.3	.9	1.0
Wages	1.3	.9	1.0
Benefits	2.0	.7	.8
With contingent pay provisions: ²			
Compensation	—	.9	—
Cash payments ¹	—	1.0	—
Wages	—	1.0	—
Benefits	—	.8	—
State government:			
Compensation	2.4	.9	1.2
Cash payments ¹	1.5	.9	1.3
Wages	1.5	.9	1.2
Benefits	2.3	.7	.9
Local government:			
Compensation	1.2	.8	.8
Cash payments ¹	1.1	1.1	.9
Wages	1.0	1.0	.8
Benefits	1.5	.7	.7

¹ Cash payments include wages and lump-sum payments.

² Include COLA clauses and/or contingent lump-sum payment clauses.

NOTE: Changes include net increases, decreases and no change; exclude potential change from contingent pay provisions. Data are for changes under settlements reached in the period expressed as an average annual (compound) rate over the life of the contract. Dash indicates data not available.

The city of *Chicago* (Illinois) negotiated for 10,900 patrol officers and the Chicago Transit Authority concluded a settlement for 10,000 transit employees. The 42-month police contract provided, among other terms, wage increases of 3 percent retroactive to January 1992, 4 percent retroactive to January 1993, 4 percent in January 1994, and 2 percent in January 1995; and lump-sum payments of \$260 in January of each year of 1993, 1994, and 1995. The transit workers' 3-year contract provided wage increases of \$1.05 an hour over the term; an employee copayment equal to 75 percent of all annual increases in health care premiums beginning January 1, 1994; and an increase in the ratio of part-time to full-time bus drivers.⁷

The Chicago Teachers Union (American Federation of Teachers) reached agreement with the Board of Education for 30,000 teachers. The 2-year pact called for a wage freeze over the term and instituted employee contributions to health care of 1.5 percent of annual salary.

Los Angeles County (California) concluded agreements covering more than 52,000 employees. About 33,700 artisans, clerical, office, blue-collar, and social and health care employees, most represented by the Service Employees, were covered by 2-year agreements that provided a 2-percent wage increase in October 1994. Nearly 8,200 health care, skilled craft, and social services workers, represented by the Service Employees and the Building Construction and Trades Council, were covered by 2-year agreements calling for no economic or language changes in contract terms. An additional 6,500 peace officers were covered by 2-year agreements that included a 4-percent wage increase in June 1993.

Los Angeles (California) *Unified School District*, the Nation's second largest school district, completed negotiations with its teachers and several groups of noninstructional employees. The 33,000 members of the United Teachers of Los Angeles ratified a 2-year agreement that provided for a reduction in annual salary in the first year—8 percent through furloughs and 2 percent through a reduction in the salary schedule; cost containment features in the health benefits program; and a wage and benefit reopener in June 1993. The agreement was not reopened because of school district revenue problems. However, contracts were reopened for 32,600 noninstructional employees; the resulting 1-year agreements continued existing contract terms with minor language changes.

New York City (New York) reached agreement with several uniformed and nonuniformed em-

Table 6. **Average annual changes in wage rates in State and local government collective bargaining agreements covering 1,000 workers or more, 1991–93, by source**

[In percent]

Item	1991	1992	1993
Average wage rate changes	2.6	1.9	2.8
Change from:			
Current settlements .....	.6	.8	1.6
Prior settlements	1.8	1.1	1.1
COLA provisions	1	(¹)	(¹)
Change, by government function:			
General government and administration	2.6	1.9	2.8
Education	2.5	2.0	2.5
Primary and secondary	2.6	2.1	2.3
Colleges and universities	2.2	1.1	3.3
Protective services	2.8	1.2	2.9
Health services	2.2	1.9	3.7
Transportation	2.3	3.4	2.5
Other	3.1	.7	3.1
Average wage rate increase ²	4.7	4.6	4.1
Increase from:			
Current settlements	3.7	5.1	4.0
Prior settlements	4.5	4.3	3.8
COLA provisions	2.1	2.7	1.6
Number of workers receiving wage increases (thousands) ³	1,425.5	1,125.3	1,849.4
Receiving increase from:			
Current settlements	428.6	441.7	1,119.0
Prior settlements	1,062.2	676.2	803.9
COLA provisions	176.3	22.6	24.0
Number of workers not receiving a wage increase (thousands)	1,198.7	1,544.3	880.0

¹ Value less than 0.05 percent.

² Reflects only contracts in which the net effect of increases and decreases from all sources is a wage rate increase.

³ The employment total does not equal the sum of employment for each source because some workers receive wage changes from more than one source.

NOTE: Changes include increases, decreases, and zero change in wages stemming from current settlements, settlements reached in a prior period, and COLA clauses.

ployee unions through a series of pattern contracts. The largest number of workers (112,000) was represented by the State, County and Municipal Employees, which settled on a 39-month agreement providing a \$700 pensionable lump-sum payment upon ratification; wage increases of 2 percent in July of both 1993 and 1994, and 3 percent in December 1994; an annual contribution by the city of \$1,025 per employee to the union-administered welfare fund in July 1993 (\$1,135 in 1994), in addition to a lump-sum payment to the fund of \$125 per employee retroactive to January 1993; and equity fund payments totaling \$20 million for all employees under the city's coalition bargaining. This settlement served as a pattern for an additional 30,000 employees of the city's Board of Education.

Late in 1993, 87,000 other Board of Education employees, including 66,000 teachers, reached agreement on 48-1/2 month accords calling for 2-percent salary increases retroactive to

Negotiated Wage Changes in Government

April 1993 and in April 1994, 3 percent in October 1994, and 1.84 percent in April 1995; and \$100 increases per employee in the union-administered welfare fund in July of 1994 and 1995, in addition to a lump-sum payment of \$125 per employee upon ratification.

The city and 10,500 correction officers represented by the Correction Officers Benevolent Association (Independent) signed a 15-month agreement that provided wage increases of 3.5 percent retroactive to July 1990 and 1 percent retroactive to July 1991, and reduced annuities for those hired after July 1993.

The City University of New York and 17,800 teachers and administrators represented by the Professional Staff Congress negotiated a 64-month contract that provided wage increases of 3 percent retroactive to November 1990, 1.5 percent retroactive to November 1992, and 4 percent in both February and November of 1994; and \$975 annual contributions per employee to the joint welfare fund retroactive to September 1990 (\$1,075 in 1994 and \$1,175 in 1995), in addition to lump-sum payments of \$125 per employee to the fund upon ratification of the agreement and approximately \$7 million in April 1994. □

Footnotes

¹ For data on 1993 settlements in private industry, see "Compensation gains moderated in 1993 private industry settlements," *Monthly Labor Review*, May 1993, pp. 46–56.

Comparisons of major collective bargaining settlements for State and local government with those for private industry should note differences in occupational mix, bargaining practices, and settlement characteristics. Professional and other white-collar employees, for example, make up a much larger proportion of the workers covered by government than by private industry settlements, while lump-sum payments and cost-of-living adjustment clauses are less common in government than in private industry settlements. Also, State and local government bargaining frequently excludes items that are prescribed by law (pension benefits and holidays, for example); these items are typical bargaining issues in private industry. For a detailed description of how occupational mix and industry activity affect the comparison, see

Richard E. Schumann, "State and local government pay increase outpace five-year rise in private industry," *Monthly Labor Review*, February 1987, pp. 18–20.

² See *Monthly Labor Review*, January 1994, p. 31, for additional details of settlements in Florida.

³ See *Monthly Labor Review*, January 1994, p. 31, for additional details of settlements in Massachusetts.

⁴ See *Monthly Labor Review*, January 1994, p. 31, for additional details of settlements in Michigan.

⁵ See *Monthly Labor Review*, January 1994, pp. 31–32, for additional details of settlements in New York.

⁶ See *Monthly Labor Review*, January 1994, p. 32, for additional details of settlements in Pennsylvania.

⁷ See *Monthly Labor Review*, January 1994, p. 32, for additional details of settlements in Chicago.

The overestimated workweek? What time diary measures suggest

The comprehensive time-diary method allows analysts to distinguish work from nonwork activities; a comparison with workweek estimates reveals important and systematic differences

John P. Robinson
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The amount of time people spend at their jobs can be an important social and economic indicator of a society's quality of life. Measured hours devoted to work are important in many ways, as A. Mata-Greenwood describes, "... the regulation of working time is an aspect which has a direct and measurable impact on workers' health, level of strength and fatigue, on the establishment's productivity and costs, and on the society's general quality of life."¹ Thus, one of the central arguments of the rising quality of life in 20th century Western countries has been the reduction in the hours people spend at work.

Figures on hours spent at work allow analysts to see whether changes in productivity are attributable to changed production of outputs, or to changed time required to produce these outputs. They further allow analysts to gauge whether workers remain as adept in production as previously, whether workers in one industry are working more or fewer hours than those in other industries, or whether unionized workers work fewer hours than other workers.

This article describes problems that arise for respondents who are surveyed using the workweek estimate approach and comparable figures from the total time-diary approach to calculate hours of work. It also describes reliability and

validity studies supporting the diary method. Finally, results showing deviations between the two approaches are presented, as well as the effects of other selected variables.

Other measurement approaches

As central as issues related to hours at work are, it is surprising how little statistical effort has been expended examining the basic validity of these data. The oldest method uses data based on the jobs available in firms. Firms and industries provide data largely based on payroll accounts of employee work hours on jobs—or more precisely, the hours employees are paid for. These hours are calculated at the aggregate level of the firm on the basis of the job, not on the basis of the individual worker. Thus, comparisons cannot be made between employees who work fewer hours versus those who work more hours, or among workers who are of different ages, genders, and so forth. These figures also do not identify the total hours of individual workers who moonlight in additional jobs, have paid days off, and the like. Moreover, these figures, often, do not cover certain sectors of the economy, particularly the self-employed, unpaid family workers, and persons employed by very small or new firms.²

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Analysts often rely on data gathered by government surveys, such as the Current Population Survey (CPS).³ The CPS, conducted by the U.S. Bureau of the Census for the Bureau of Labor Statistics, asks respondents to report their hours at work per week at any and all jobs. Such "workweek estimate" questions are asked in other surveys, but they vary with each survey. Most of the surveys ask about the hours at work in the week preceding the study; others ask about normal, usual, average, or expected work hours.

In general, there is the implicit assumption in these estimate questions that respondents are able to answer them accurately. Thus, the question in the case of "last week" estimates assumes that respondents will recall for each day of the preceding week whether they worked or not, and if so, the number of hours they worked. Respondents have just a few seconds to answer the question, which is embedded in a longer survey. Then, it is presumed that the respondent will correctly add up the amounts for each day across all 7 days of the week.

There are several implicit assumptions in this estimate question. Even if respondents were able to reconstruct such information accurately from memory, would they reveal it to the interviewer? Would they worry that their estimate might not be what the interviewer or the research organization expected? Similarly, respondents might reasonably want to portray themselves as impressively as possible, either as very hardworking, or as not being too tied to the workplace (if there are young children in the family, or if they want to present themselves to interviewers as an "easy-going" person, not obsessed with making money). Moreover, if that last week was in fact atypical, might not these respondents attempt to "smooth out" their answers to conform to their "normal" workweek or to some societal norm? Anecdotal evidence from interviewers suggests that respondents spend less time answering this question each successive time they complete the survey, which increases the likelihood that a response will be a norm or average. (While the new CPS has a sequence of questions to help minimize the likelihood of this happening, this does not address the main differences described in this article.⁴)

Another factor to consider is whether respondents clearly understand whether or not they should exclude or include the commute to work, work breaks, machine down time, changing clothes at work, the lunch break, work brought home, and the like. Even if they are given specific instructions, are they able to compartmentalize their work time neatly into the categories requested?

The potential problems with workweek estimates become more acute when one confronts the myriad definitions related to the interests of

labor force analysts. For example, Mata-Greenwood has distinguished at least eight working time concepts in the literature, such as "time worked" (time actually worked); versus "time for work" (time scheduled for work); "contractual time" (time formally contracted to work); and "time paid" (the hourly basis for pay).⁵ Each of these are dependent on such fine-grained distinctions that they are probably indiscernible to most respondents.

There is, moreover, the matter of how respondents define "workweek," which may be in terms of their contractual arrangement with their employer, rather than actual clock time. Hence, workweek answers tend to cluster at exactly 40 hours, the most prevalent workweek norm in this country. However, the "normal," "9-to-5" job only adds up to 40 hours, if the respondent works straight through the day without using time for lunch or other extended breaks. (Also, contracted hours for employment have not changed much, but the ability to undertake personal activities within this contractual period may have expanded greatly in the last 20 years.) Thus, the estimate question approach assumes that respondents will understand the timeframe of the question and the definitions of work and nonwork activities, retrieve the hours accurately from memory, sum the hours properly, and willingly disclose this accurate information to the interviewer. These assumptions are totally independent of any temptation to portray oneself in a socially undesirable or self-deprecatory light. Thus, the estimate approach appears to place great demands and expectations on the part of a typical respondent.

The time-diary approach

An alternative, more elaborate approach to measuring hours at work is the comprehensive time diary, one in which respondents recall all of their activities, work or nonwork, for a week or more — typically, the 24 hours of a single day. Rather than hours at work being the focus of the diary, and thus subject to unneeded emphasis in the reporting process, respondents have no cues about which activities the interviewer might be pleased about or interested in. Moreover, the task for respondents is focused on the sequence of activities and when they occurred, rather than their having much opportunity to project any larger image of themselves in their activity reports. While respondents do have a chance to give the answer that they want to provide, they are not told which activities are of survey interest, because all of the activities are.

Like other survey questions about behavior, work estimate questions, similar to those used in the CPS, usually examine people's activities in isolation from the natural temporal context in

which they are embedded. Thus, they ask respondents to compress their actual behavioral experiences by implicitly saying whether they “often” or “usually” do something. In contrast, time-diary accounts report activities as they naturally and sequentially occur in daily life. Thus, studies of time use allow examination of human activities in “real time”—as individuals are actually involved in the stream of daily behavior.

Time diaries can be seen as a prime example of the “micro-behavioral” approach to survey research.⁶ This micro-behavioral approach recognizes the limited ability of respondents to report very complex behavior in a survey context. In the time diary, the survey question is limited to the most elementary experience about which respondents can accurately report. The micro-behavioral approach also provides researchers with a more basic and flexible data base from which to draw conclusions about human activity.

The time diary is a micro-behavioral technique for collecting self-reports in an open-ended fashion on an activity-by-activity basis. This technique capitalizes on the most attractive measurement properties of the time variable; namely, completeness, equal distribution, and understandability. Thus:

- All daily activity is potentially recorded over a 24-hour period.
- All 1,440 minutes of the day are equally distributed across respondents (thus allowing certain “trade-offs” between activities to be examined);
- Time accounts are mutually exclusive and exhaustive in that each of the 1,440 minutes is assigned to one and only one main activity; and
- Respondents are allowed to use a timeframe and accounting variable that is maximally understandable to them and accessible to memory. The open-ended nature of activity reporting means these activity reports are automatically geared to detecting new and unanticipated activities (for example, telecommuting, use of new communications technologies), as well as capturing the sequential context of how daily life is experienced.

In contrast, survey questions based on recall or estimates of time use implicitly assume that respondents will sort through and recall from memory only selected and partial behaviors. In attempting to recall only work time, respondents are likely to have trouble not only identifying, but recalling all their “work” episodes.

The time-diary method allows respondents to report the totality of their daily activity in a single account, one that for most people is consistent with the way events are sequentially organized

in their experience and probably stored in episodic memory.

Thus, time diaries provide an ideal method for cross-person comparisons of daily behavior. Not only are respondents’ daily reports standardized across groups, but the full daily context of their work experiences is recorded. Moreover, data on activities preceding work or following it at the end of the work day are recorded, resulting in more complete and systematic reports of daily behavior.

Time-diary data bases

The present analysis is based on national data available through the Survey Research Center at the University of Michigan and the University of Maryland. In this data series, national time-diary studies are available for more than 30 years. We focus on the 18–64 age group, included in time-use studies from 1965, 1975, and 1985. (See table 1.) In the 1985 study conducted by the Survey Research Center of the University of Maryland, single-day diaries were collected across the entire year. Three modes of diary collection were used for comparison: personal, mail-back, and telephone, with little difference in obtained time estimates. Respondents report each activity, as well as where they were, who they were with, and various other aspects. Methodological details on the 1965, 1975, and 1985 studies are provided in the appendix.

Prior to the 1985 national study with 5,358 total respondents aged 18 and older, two national time-diary studies had been conducted in 1965⁷ and 1975⁸, using this general approach. These open-ended diary entries were coded and arranged using the basic activity coding scheme developed for the 1965 Multinational Time Budget Research Project.⁹ The main value of the open-ended diary approach is that activities can

Table 1. Methodological features of national time diary studies, 1965, 1975, and 1985

Characteristic	1965	1975	1985
Data collected by	University of Michigan	University of Michigan	University of Maryland
Sample size	1,244	2,409	5,358
Age range	18–64	18 and older	18 and older
Survey mode	Personal	Personal	Telephone, mail-back, and personal
Diary period (days)	1–2	1	1–2
Daily hours covered	24	24	24
Diary method	Tomorrow and additional 10 percent, yesterday	Yesterday	Tomorrow (72 percent) and yesterday (28 percent)

NOTE: Further description of study details can be found in the appendix.

be recorded or recombined, depending on the analyst's unique assumptions or purposes.

The activity code for the 1985 national study has some attractive features. First, it has been tested and found reliable in 25 countries, including virtually all Eastern and Western European countries, over the last two decades. Second, extensive, national data are comparable with earlier data. And third, the activity code can be easily adapted to include new or additional code categories of interest to various researchers.

Diary data, when aggregated, provide generalizable national estimates of the full range of alternative daily activities: from "contracted" time (work or the commute to work), to "committed" time (family care), to personal care (sleeping, eating, hygiene), and to all the types of activities that occur in free time. The multiple uses and perspective afforded by time-diary data have led to a recent proliferation of research and literature in this field.

Reliability. In the 1965 and 1975 studies, estimates from time diaries produced rather reliable and replicable results at the aggregate level. For example, there was a 0.95 correlation between time-use patterns found in the 1965-66 national time diaries ($n=1,244$) and the aggregate figures for the single site of Jackson, Michigan ($n=788$).¹⁰ Similar high correspondence was found for the American data and for time-diary data from Canada, both in 1971 and in 1982.¹¹ A correlation of 0.85 was found between time expenditure patterns for the U.S.-Jackson, MI, time study in which respondents filled out diaries on the "day after" and a random tenth of the respondents also filled out a "day before" diary. A smaller replication study in Jackson in 1973 found an aggregate correlation of 0.88. (Unpublished reliability studies for the 1985 data show similar results.)

Validity. Almost all diary studies depend on the self-report method, rather than on some form of observation. Unfortunately, the data are open to questions based on validity. Can they be verified by some independent method of observation or report?

One such study concluded that standard television-rating service figures on the time participants spent watching TV provided higher estimates of viewing behavior than those recorded in the time diaries. The TV viewing behavior of a small sample of 20 households was monitored over a week's time by means of a video camera.¹² The results indicated that rating-service methods of TV exposure (audimeters and viewing diaries) produced estimates of viewing that were 20 to 50 percent higher than primary or secondary activities reported in time diaries.¹³

Three subsequent validity studies examined the full range of activities, not just television viewing, and employed larger, more representative samples. In the first study, a 1973 random sample of 60 residents of Ann Arbor and Jackson, Michigan kept beepers for a 1-day period and reported their activity whenever the beeper was activated (some 30 to 40 times during the day when most people are awake and active).¹⁴ Averaged across all 60 respondents, the correlation of activity durations from the beeper and from the diaries was 0.81 for the Ann Arbor sample and 0.68 for the Jackson sample.

In a second study, a telephone sample of 249 respondents was interviewed as part of a 1973 national panel survey. Respondents were asked to report their activities for a particular "random hour" during which they were awake—with no hint from the interviewer about what they had previously reported for that hour in their diary.¹⁵ An overall correlation of 0.81 was found between the two aggregate sets of data, that is between the activities reported in the random hours and in the diary entries for those same random hours.

A third study used the 1975-76 diaries to compare answers to the question, "With whom?" between respondents and their spouses.¹⁶ In more than 80 percent of the diary entries, these independently obtained husband and wife diaries agreed that their spouses were present or absent. A separate analysis of these 1975-76 data found a 0.93 correlation between time spent on various home energy-related activities (such as lighted homes or appliance use) and aggregate time-of-day patterns of energy use derived from utility meters.¹⁷

In conjunction with the reliability studies, then, the data from these validity studies provide some assurance about the basic generalizability of time-diary data. This has been the case as well in methodological studies conducted in other countries.¹⁸ Nonetheless, a definitive well-controlled study needs to be conducted, particularly for specific types of locations and activities of interest to labor analysts.

Limitations of the data sets

One can imagine several reasons the more detailed diary approach would provide lower estimates of work time. First, like most activities, work can be combined with other activities, in the sense that one can take care of personal business (such as paying bills), socializing (as in taking off early with work colleagues to go to a restaurant or bar), or attending to the mass media during scheduled work hours. While most workers might report this simply as work, other workers might report it for what it is—household work, social life, or TV viewing.

Second, some persons who work more than the usual hours might be subject to distorted perception, particularly because extensive hours could involve less regular work schedules in relation to those of other workers. To these respondents, the retrospective reporting of hours-at-work could be more difficult because they have fewer solid "anchor points" or time markers around which to base their estimates. They work during hours of the day and week when others do not, and, therefore, they might be least likely to include accurate estimates. Moreover, they may feel deprived by having to work when others do not, so that work time seems longer because of their social isolation from the mainstream of society that is not engaged in work at these points in time. If such work time is also subject to unscheduled interruptions and distractions, that would further add to the sense of longer time. These conditions can easily be seen to lead not only to distortion of where time goes, but to the lack of convenient and solid anchor points from which to make accurate estimates.

A further factor leading to more reported work hours involves the well-known statistical phenomenon of "regression to the mean" which arises when the estimating procedure asks respondents to estimate their hours worked "last week." To the extent that regression toward the mean is in operation, people who worked unusually longer hours in the week before the study period are likely to work fewer hours during the week or day reported in the diary. This would also lead to higher estimates than diary workweeks among those estimating longer workweeks (as well as longer diary hours for those estimating fewer workweeks "last week").¹⁹

It should be noted, however, that comparisons between the diary and estimated work hours in our studies are far from ideal. First, the workweek estimate questions often do not have the same time referent as the diary survey. Second, the estimate questions used in these diary studies differ from those used in government surveys and vary between each survey. Third, and related to these two points, the diary studies were simply not designed to match with the estimate questions, nor even to elicit precise data on time spent at work—but rather as general purpose procedures to measure time spent on all different kinds of activities, including nonwork activities that might occur during scheduled work time.

Consequently, diary data cannot be expected to capture any fine-grained distinctions in work time. Individual respondents sensitive to these distinctions might report various rest periods or travel during work in their diary accounts, but the diary instructions do not ask respondents to report such episodes at work on a systematic

basis. The diary accounts in this analysis are no more sensitive to reporting work activities than to any other daily activity, be it travel, household work, sleep, or TV viewing, which are all subject to the same reporting uncertainties.

A further problem is that the diary data are not available for the week, but for only a single day. That means that we can only construct "synthetic weeks" for groups of respondents by adding together equal proportions of Monday diaries, Tuesday diaries, (and so forth), and weekend diaries to estimate work hours across the week.

In brief, there are many ways in which both the diary and the estimate data fall short of ideal comparison. The studies simply were not designed for that purpose. Nonetheless, we shall examine both measurements to see if the pattern of results is consistent enough to warrant consideration of the diary approach for future, broad-based analysis of workweek measurements.

Methodology

The first step in making the data comparable is to merge the diary data for the 18–64 age group for 1965, 1975, and 1985. That gives a total of more than 7,000 diary respondents across these three studies, a sufficient number of respondents for the following categories of workweeks used in our analyses: 0 (all persons who did no work at all in the survey period, *including* those "with a job, not at work" due to: sickness, labor dispute, vacation); 1–19 hours of work per week (midpoint 10 hours); 20–29 (midpoint 25) hours; 30–34 (32) hours; 35–39 (37) hours; 40–44 (42) hours; 45–49 (47) hours; 50–54 (52) hours; 55–59 (57) hours; 60–64 (62) hours; 65–74 (70) hours; and 75 hours or more. (The midpoints are used as the points in chart 1.)

These 12 categories are the prime independent estimate variable, with which we compare the hours of paid work as reported in the diary. Our dependent variable thus becomes the difference between the two where: $Diff = Estimate - Diary$. Thus, the estimate-diary difference takes on a value of 0 when the two measures of the workweek are identical. Positive values of the estimate-diary difference occur when the average estimated workweek exceeds the amount of work hours reported in the diary over a week's time. Negative values indicate more work hours extracted from the diary surveys than those implied in the estimate response.

In addition to differences in hours between the CPS estimated data and diary data, we examine the differences between the two measurements separately for men and for women. There are differences in reported work hours between men and women in virtually all surveys.

Results

First, a comparison of the CPS distribution of work hours for those working 20 or more hours a week for 1985 with those for the 1985 University of Maryland Americans' Use of Time Project sample shows a similar percent distribution to the estimate question on weekly hours at work:

	CPS estimate question	University of Maryland estimate question
Work hours, total	100.0	100.0
20-29	8.8	7.3
30-34	6.3	5.5
35-39	6.6	8.0
40-44	42.4	43.7
45-49	10.3	10.1
50-54	11.8	9.8
55-59	3.4	4.2
60-64	5.9	5.7
65-74	2.9	3.2
75 or more	1.5	2.5

This indicates that the 1985 time diary sample was rather similar to the larger CPS sample in its response to estimated work hours' question to what the larger CPS sample reported.

Table 2 shows the calculations of diary work hours from the aggregated diaries of each level of estimated work hours for 1965, 1975, and 1985. The first column shows the average values of diary work hours across all 3 years combined and weighted equally. It can be seen that values of diary work hours do rise steadily with the estimated hours, indicating that those who estimate more work hours do report more work hours in their diaries, as expected. Moreover, the relation is close to monotonic, rising from 2.8 hours for those estimating no work to 55.2 hours for those estimating 65-74 hours per week, then 54.9 hours for those reporting 75 or more hours per week. That last figure, being slightly lower, provides the only departure from overall monotonicity in this column.

The middle columns of table 2 show that the relation essentially holds for each of the 3 survey years of study, although many more examples of non-monotonicity are found within each year — such as the 46.2-hour figure for those estimating 75 hours or more in 1965 and the 57.9-hour figure for those estimating 55-59 hours in 1975.

Column 5 shows the resulting values of the difference between the estimate and the diary workweek from these comparisons. Because this difference is based on actual hours and not the ranges of estimated hours, the values may be slightly different from what would be calculated from the table itself. Thus, for the 60-64 hour category, the 14-hour value of the difference between the estimated and diary hours is larger than

the 11-hour figure that would result from the 50.7-hour value of total diary work hours (1965, 1975, and 1985) being subtracted from the midpoint of the estimate responses (62 hours).

Nonetheless, it is clear that values of the estimate-diary difference do rise as values of estimate responses increase, being -3 hours for the zero-hour category, 2 hours for the 40-44-hour category and 25 hours for the 75 hours or more category. There is a major departure for the 35-39-hour category however, where the 7-hour figure is larger than either 2-hour figure for the 30-34- or 40-44-hour groups. Otherwise, it is clear that values for the difference between the two methods increase as the estimate response increases, indicating greater overestimation among those working more hours, as hypothesized.

Another pattern in table 2 is that values of the difference are lowest in 1965 (1 hour), higher in 1975 (4 hours), and highest in 1985 (7 hours). This suggests that, over the 20-year-period, respondents were becoming progressively more inaccurate in more recent surveys.

Multivariate analysis

To control for third variables that could account for these differences, the data were entered into a multivariate analysis of variance. (See table 3.)²⁰ The attractive feature of this program is a multiple classification analysis which provides adjustments in different values of categorical variables, based on the statistical contributions of the other variables of interest.²¹ In other words, the multiple classification analysis shows the effects of each independent variable if other variables were equal.

In the present analysis, we want to equalize the effects of survey-year differences in years, gender, and days of the week on these different values of the estimate responses. This would ensure that the differences in table 2 are not attributable to disproportionate numbers of week-ends, women, or 1985 diary days, for example, in the calculations. Multiple classification analysis also provides results that have been adjusted for such differences.

The multiple classification analysis results shown in table 3 do perform some form of a corrective role. We restrict the sample to those working 20 hours or more, and the first group that shows positive values of the difference between the estimated work hours and the diary hours in table 2. For this group of workers, the total sample value of the difference is about 5 hours a week, both before and after the multiple classification analysis. That is 5 hours lower than the estimated average 43-hour workweek (shown at the bottom of table 2) for this sample and puts

Table 2. Diary workhours per week by estimated workweek hours, 1965, 1975, and 1985 time diary surveys

Estimated workweek hours	1965-85 average	Diary hours at work			Estimate diary difference (DIFF)	1965-85 diary hour difference
		1965	1975	1985		
0	2.8	0.5	1.7	6.2	-3	5.7
1-19	17.2	20.5	14.6	16.6	-6	-3.9
20-29	24.3	27.1	24.5	21.3	2	-5.8
30-34	30.1	30.9	30.0	29.4	2	-1.5
35-39	30.8	31.6	32.6	28.1	7	-3.5
40-44	38.6	41.3	38.2	36.2	2	-5.3
45-49	44.3	49.8	41.5	41.7	3	-8.1
50-54	44.6	49.9	42.4	41.6	9	-8.3
55-59	47.9	42.5	57.9	43.2	10	0.7
60-64	50.7	55.7	52.1	44.2	14	-11.5
65-74	55.2	57.6	55.1	52.8	15	-4.8
75 or more	54.9	46.2	63.5	54.9	25	8.7
Average estimated workweek (20 hours or more)						
Men .....	...	47.1	46.5	46.4	...	...
Women .....	...	39.9	39.2	40.6	...	...

the overestimate closer to 12 percent (43/38-1) for those working 20 hours or more.

The first set of data in table 3 indicate that the basic table 2 results not only hold up, but are slightly enhanced by the multiple classification adjustments for survey year, gender, and day of week. Before adjustment, the estimate-diary difference between 20-29-hour work groups and those working 75 hours or more is 29 hours (29-0), and after adjustment that figure is 31 hours (30-[-1]). That is reflected in the rise of the correlation coefficient (Eta) from 0.17 to 0.19 after adjustment. Also, the "after adjustment" results have fewer irregularities in the progression from 20- to 75-hours-or-more work groups than the "before adjustment" results do. Thus, the multiple classification analysis does provide slightly more consistent evidence to support the hypothesis.

Another example of the effects of the multiple classification analysis shows that the aforementioned increase in the estimate-diary difference between 1965 and 1985 not only is reflected in the 1-hour versus 7-hour gap between 1965 and 1985, but in the slightly reduced 1-hour versus 6-hour difference after the multiple classification analysis adjustment. That statistically significant difference indicates that workers in 1985 were more likely to overestimate their workweeks relative to the diary than were workers in 1965. Among the potential reasons for this increased difference are the increase in service jobs with no fixed hourly schedule, the rise in the amount of flexible work schedules in general, increased pressures for family and personal business during work hours, and the increased blending of work and nonwork time.

Gender differences indicate the presence of a significant gap in workweek estimates. What

makes these differences surprising is that women are more likely to overestimate their workweeks, and work shorter workweeks than men (and as noted at the top of table 2, shorter workweeks are associated with lower values of the estimate-diary difference). Thus, the 2-hour gap between men and women doubles to 4 hours after the multiple classification analysis adjustment, again a difference that is statistically significant.

By virtually any measure of work time, women work fewer hours than men on their paid jobs. Thus, although the basic relation remains robust across years and across days of the week of the diary interview, gender is another important correlate of work time.

The data from table 2 have been subdivided into separate figures for men and for women and are presented in chart 1 for the 1985 data. It can be seen that the two lines diverge notably, except in the low to normal workweek categories (namely the 20- to 34-hour workweek categories and the 45- to 49-hour category). Among men and women reporting workweeks less than 20 hours per week (including the zero-hour category of the nonemployed), it is the men who underreport work hours, while women report diary work hours that are rather consistent with their estimated hours. For categories of more than 35 hours per week, however, women's values of the estimate-diary difference become clearly and consistently higher than men's values (with the exception of the 45-49 hour category as noted earlier), particularly past the 50-hour workweek, for which women's values are almost double those of men.

These results could be explained in terms of general traditional role expectations and experiences of men and women. Women are more likely

Table 3. Difference in estimated versus diary work hours (Diff), by estimated workweek and other selected variables, 1965, 1975, and 1985 data combined

Variable	DIFF	Before multiple classification analysis	After multiple classification adjustment
		DIFF = + 5 hours	DIFF = + 5 hours
Estimated work hours per week:			
20-29	(296)	0	-1
30-34	(248)	1	0
35-39	(394)	6	4
40-44	(2,083)	3	3
45-49	(533)	3	4
50-54	(466)	7	8
55-59	(183)	9	9
60-64	(262)	12	14
65-74	(149)	15	14
75 and over	(110)	29	30
Correlation (Eta)		1.17	1.19
Year:			
1965	(816)	1	1
1975	(1,305)	4	4
1985	(2,602)	7	6
Correlation (Eta)		1.07	1.06
Gender:			
Men	(2,702)	4	3
Women	(2,022)	6	7
Correlation (Eta)		1.04	1.08
Day:			
Weekday	(3,336)	-4	-4
Saturday	(720)	23	23
Sunday	(668)	30	30
Correlation (Eta)		1.52	1.52

¹ Difference statistically significant at 0.001 level as measured by the correlation coefficient, Eta.

to have had part-time jobs and have more familiarity with the hourly requirements of fitting life around such schedules. When women take on jobs requiring more hours than the usual 40 hours per week, they may still be expected to fulfill other family support roles as well, making it more likely that their actual work hours would be interrupted, irregular, and perhaps shorter than expected, compared with those of men in the same jobs with fewer outside expectations. The more irregular the schedule, the more difficult the estimation task. There are perhaps stronger social expectations that men be employed and not have short-workweek jobs. This might partly explain their larger values for the estimate-diary difference under nonemployment and short workweek conditions. It may also be that their hours are likely to be more variable under such conditions, making the estimation task more difficult. Another explanation is that for some women, having a part-time job (or working less than 35-40 hours per week) might appear to them as being not employed at all, or that they define and see themselves as unemployed for reasons related to "unemployment" benefits. Whatever the

reason, it seems inappropriate to assign them to a zero-work category in calculations of work time for entire populations.

The final variable in table 3 is day of the week, with the expected result that weekend diaries significantly underestimate the workweek, while weekday diaries overestimate it. Nonetheless, the day of the week is a crucial variable to control and adjust when making comparisons across groups and survey years.

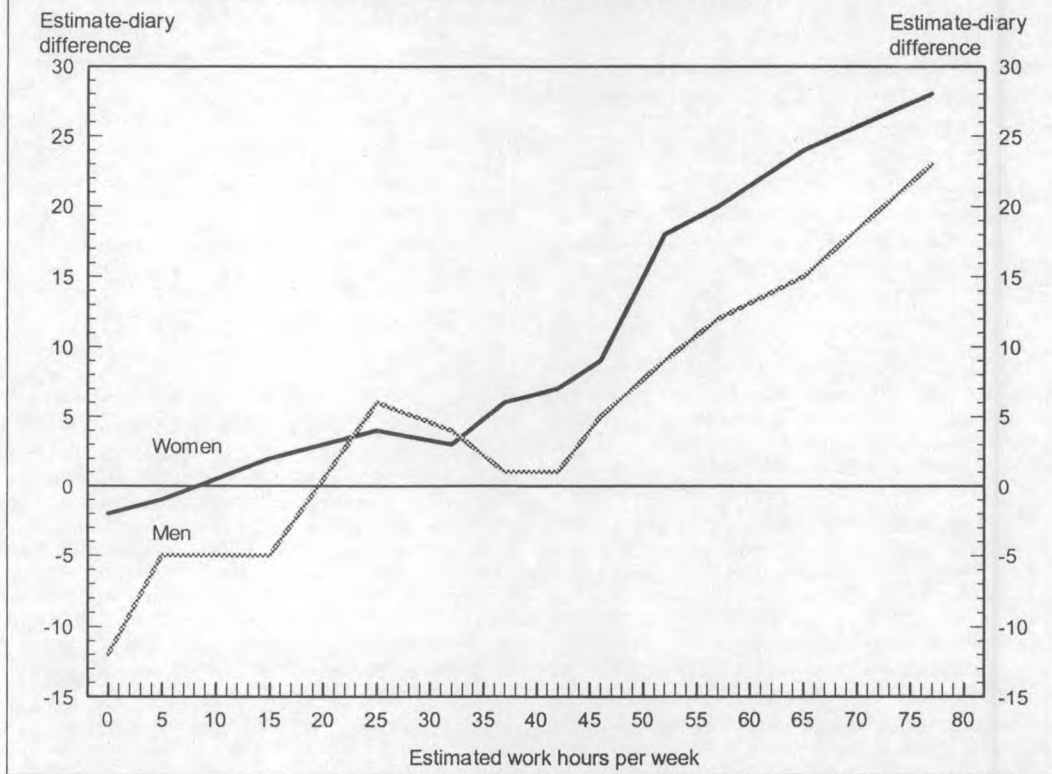
Conclusions and recommendations

We have found systematic and significant deviations from the workweeks that people estimate and the time devoted to work that these same people report in total time diaries that they keep. We interpret the differences between the estimated hours and the diary recorded time devoted to work as reflecting the greater accuracy of the diary or as reflecting the diary's greater detail from which we can extract more precise work activities; and we have presented several explanations for the overestimate of actual time at work, generated from the estimated workweek approach. The gap remains rather robust across the 3 years studied, and thus does not seem to be a function of the way the estimate question was worded, the reference period of the question, the type of time-diary format (personal versus telephone) or the day of the week that the diary was kept. The gap is larger in more recent years, possibly as a result of the increase in service occupations.

Values of the estimate-diary deviation do vary in systematically and approximately linear fashion with the estimated length of the workweek, most clearly in the aggregate across surveys, but also rather systematically within each survey year. Values were negative among those claiming to be unemployed or estimating less than 20 hours of work per week. They were slightly above average for those estimating 20-44-hour workweeks and became progressively higher among those claiming workweeks of 45 hours and higher. Among workers claiming to work more than 55 hours per week, the gap was often more than 10 hours per week, indicating reports considerably above the actual hours worked. We further generally found values of the estimate-diary difference to be higher among women than men.

The generally linear relation of the estimate-diary difference in work hours generally rules out an explanation of the results in terms of simple regression toward the mean, because for that to occur, we should find more curvilinearity in the data. That is, we should also find above-average values of the difference for those working fewer hours (last week). In contrast, the data show below-average values of the difference.

Chart 1. Values of the difference between estimated and diary work hours for men and women, 1985 data (in hours per week)



The higher values of the estimate-diary difference among workers who estimate more hours per workweek have important implications, particularly with higher proportions of the U.S. work force in this category.²² It would appear that simply taking these estimates at face value and averaging them would lead to serious overestimates.

The diary data suggest that only rare individuals put in more than a 55–60-hour workweek, with those estimating 60 or more hours on the job averaging closer to 53-hour weeks. In these high-hour workweek categories, the ratio of estimate-diary difference to actual hours worked is as high as 50 percent. Among those in normal 35–44-hour categories, overestimation is not nearly as high—closer to 10 percent. Indeed, this is a level that could be explained by workers' including their lunch hours or their work commutes as part of their hours of work. Without specific prompting or monitoring by an interviewer, it would not be unreasonable for workers to consider this part of the workweek, especially in the stereotypical 9-to-5 job.

What these results have yet to show is why these differences occur. It is well to remember that the diary data employed in this analysis were not designed nor intended to uncover the discrepancies we have described. Nor were the estimate

questions in the CPS originally designed to estimate hours at work. (The CPS questions perform many functions, too numerous to list here.) What the data do clearly demonstrate and support, however, is the need to conduct such a well-designed methodological experiment—one in which questions and interview instructions on the workweek from government surveys would be strictly followed, along with time diaries that would carefully delineate some of the types of work time distinctions of interest to labor analysts.

It is also possible that some improvements to the current collection methods could be feasibly incorporated into government surveys like the CPS, by focusing respondent attention on a shorter reporting period. For example, CPS respondents could be asked to report their work hours "yesterday." For those who did work yesterday, follow-up questions could ascertain when the respondents actually started work, when they took lunch, or other breaks—and if they tended to other nonwork matters between the beginning and ending times of work. They could also be asked about work brought home yesterday, or work done in other nonwork locations.

Thus, this research suggests that a more detailed measurement strategy, like the total time diary method, is useful for capturing the com-

plexity of people's daily worklives. Obviously, more attention is needed on ways to recapture what takes place on a workday. What is recommended now are studies employing observational and diary methods that would provide appropriately complex records against which to measure and understand problems that arise when respondents report their time at work. □

Footnotes

¹ J. Mata-Greenwood, *An Integrated Framework for the Measurement of Working Time*. Working Papers No. 92-2 (Geneva, Switzerland, STAT, International Labour Organization, 1992).

² The establishment surveys that collect data on hours at work are the Current Employment Statistics survey (CES, also known as the 790), and the Hours at Work Survey. The list of establishments from which the samples are selected is a composite of State Unemployment Insurance reports for the 50 States and the District of Columbia and covers about 98 percent of employees on nonfarm payrolls in the U.S.

³ The Current Population Survey collects monthly data from 60,000 households in the United States. The households are selected to represent the U.S. population 16 years of age and older. Personal interviews are conducted on a rotating basis so that three-fourths of the sample is the same for any two consecutive months.

⁴ Beginning with data for January 1994, changes have been introduced into the cps questionnaire and collection methodology. For details on the new cps questions, see Anne Polivka and Jennifer Rothgeb, "Redesigning the questionnaire," *Monthly Labor Review*, September, 1993, pp. 10-28.

⁵ Mata-Greenwood, *Integrated Framework*.

⁶ John Robinson, "The Validity and Reliability of Diaries Versus Alternative Time Use Measures," in F. Thomas Juster and Frank Stafford, eds., *Time, Goods, and Well-Being* (Ann Arbor, MI, Institute for Social Research, The University of Michigan, 1985), pp. 33-62.

⁷ The study, conducted in 1965 by the Survey Research Center, University of Michigan, had 1,244 adult respondents aged 18-24 to keep a single-day diary of activities, mainly in the fall of that year; respondents living in rural and nonemployed households were excluded. See John Robinson, *How Americans Use Time* (New York, Praeger, 1977) and "Changes in Americans' Use of Time, 1965-1975" (Cleveland, OH, Communication Research Center, 1976). See appendix for more details.

⁸ The 1975 study conducted by the Survey Research Center, University of Michigan had 1,519 respondents aged 18 and older to keep diaries for a single day in the fall of that year; see Robinson, "Changes in Americans' Use of Time." See appendix for more details; in addition, diaries were obtained from 788 spouses of these designated respondents. See Juster and Stafford, eds., *Time, Goods, and Well-Being*. Further details are listed in the appendix.

⁹ Alexander Szalai and others, *The Use of Time* (The Hague, Netherlands, Mouton, 1972).

¹⁰ Robinson, *How Americans Use Time*.

¹¹ Andrew Harvey and David Elliot, *Time and Time Again* (Ottawa-Hull, Canada, Employment and Immigration Commission, 1983).

¹² R. Bechtel, C. Achepohl and R. Akers, "Correlates Between Observed Behavior and Questionnaire Responses, in Television Viewing," in E.A. Rubenstein, G.A. Comstock, and J.P. Murray, eds., *Television in Day-to-Day Life: Pat-*

terns and Use (Washington, DC, U.S. Government Printing Office, 1972).

¹³ Charles Allen, "Photographing the TV Audience," *Journal of Advertising Research*, 1968, 8(1), pp. 2-8; and Bechtel and others, "Correlates Between Observed Behavior."

¹⁴ Robinson, "The Validity and Reliability."

¹⁵ *Ibid.*

¹⁶ Thomas F. Juster, "The Validity and Reliability of Diaries versus Alternative Time Use Measures," in F. Thomas Juster and Frank Stafford, eds., *Time, Goods, and Well-Being* (Ann Arbor, MI, Institute for Social Research, The University of Michigan, 1985).

¹⁷ Daniel Hill, Implications of Home Production and Inventory Adjustment Processes for Time-of-Day Demand for Electricity," in F. Thomas Juster and Frank Stafford, eds., *Time, Goods, and Well-Being*.

¹⁸ Gershuny and others, "Time Budgets: Preliminary Analyses of a National Survey," *Quarterly Journal of Social Affairs*, (2), 1985; and William Michelson, *Public Policy in Temporal Perspective* (The Hague, Mouton, 1978).

¹⁹ Overestimation of the 40-hour week also arises when holidays, sicktime and other leave benefits might not have been recalled or precluded from the report. Because of true differences in the occurrence of lost and extra hours, this yields a net overestimate in the hours worked. See W.C. Edwards, R. Levine, and S. Cohany, "Procedures for validating reports of hours worked and for classifying discrepancies between questionnaire reports and validation totals, *Proceedings of the American Statistical Association: Section on Survey Research Methods* (Washington, DC, American Statistical Association, 1989), pp. 496-501.

²⁰ The Analysis of Variance program of Statistical Packages for the Social Sciences for Personal Computers, Norius, 1985.

²¹ For more information, see F. Andrews, J. Morgan, J. Sonquist, and L. Klem, *Multiple Classification Analysis* (Ann Arbor, MI, Institute for Social Research, 1973).

²² Juliet Schor, *The Overworked American* (New York, Basic Books, 1991).

APPENDIX: Background of the studies

Methodology of the 1985 study

The 1985 Americans' Use of Time study employed the same basic open-ended diary approach as the 1965 and 1975 national studies. In the 1985 study, however, an explicit attempt was made to spread the collection of diary days across the entire calendar year—from January through December of 1985. Data were retrieved from three survey modes using the diary and estimated workweek questions.

Mail-back sample. The data for the main (mail-back) study were collected from a sample of Americans who were first contacted by telephone, using the random-digit-dial method of selecting telephone numbers. All calls were made from the central telephone facility at the Survey Research Center of the University of Maryland, College Park.

Once a working-telephone household was contacted, one respondent aged 18 and older in each

household was selected at random. That person was given a brief (2–5 minutes) orientation interview, followed by an invitation to participate in the diary/mail-out part of the study. If that respondent agreed, diaries were then mailed out for each member of the participating household aged 12 and older to complete for a particular day in the subsequent week.

Followup calls interviews were made 4 to 6 days later to ensure that respondents had received these materials and understood how to complete them. After respondents had completed these diaries, they then mailed all their completed forms back to College Park for coding and analysis. Some 3,349 diaries from 99 households were returned using this mail-out procedure during the 12 months of 1985. It is the diaries obtained from adults aged 18 and older, however, that form the data base for the analyses described in this article. Other 1985 data included parallel diary data from 809 additional respondents interviewed in a separate personal interview sample in the fall and winter of 1985–86, and from an additional 1,210 “yesterday” diaries obtained by telephone as part of the initial contact for the mail-back diaries.

Collection of the mail-back data, then, was obtained using basically the same “tomorrow” approach as employed in the 1965–66 study. The main procedural difference was that a personal interviewer was not present to check on the adequacy of diary entries. This check was instead done by telephone as soon as the diaries had been mailed back for coding and analysis. If any discrepancies were detected (for example, significant gaps of missing times or indecipherable diary entries), the respondent involved was recontacted by telephone to clarify any ambiguities.

Households were given special monetary incentives and gifts (a pen with a digital watch) to ensure that other family members in the selected households participated in keeping a diary. This also ensured that the sample would be approximately self-weighting, as well as covering approximately an entire year’s activities.

In addition to the estimates of daily time use from the diary, the study also obtained information on the employment status, age, education, race, and gender from each member of the household. Additional questions ascertained the stock of certain technology available in the household, as well as certain physical characteristics of the dwelling unit.

The sample was designed to represent all telephone households in the coterminous United States. The sample first covered 173 area codes/three-digit prefixes selected at random from a master random-digit-dial sample frame of five base numbers prepared by the Sampling Department of the Institute for Social Research at the University of Michigan. If that base number lo-

cated a working household telephone number, it was then used to generate additional clusters of random numbers within that area code and prefix. The initial list of 500 numbers had been stratified by geographical region of the country. That ensured that the sample telephone numbers had an adequate representation from all regions of the country. The sample was designed to yield about 1,800 households (and 4,000 individuals) during the calendar year.

Telephone sample. The telephone sample consisted of the random sample of the population who were contacted in the first phase of the random-digit-dial sample. This consisted of the randomly selected adult (aged 18 or older) who responded to the first interview. Some 67 percent of respondents contacted by telephone, however, did complete a day-before diary over the telephone. This was the highest response rate for any of the three data collection modes.

Personal sample. In addition to the mail-back and telephone diaries, a separate national sample of 809 diaries were collected by personal in-home interviews. This sample was drawn from a subset of 20 primary sampling units developed by random probability methods for the continuing national samples of the Institute for Survey Research at Temple University in Philadelphia. That stratified sample was further stratified and subjected to a “controlled selection” to ensure that the subset of 20 primary sampling units retained sufficient representation by rural-urban character within each of the four regions of the country.

Respondents in this sample were asked to follow much the same procedures as for the initial telephone sample. One adult selected at random was asked to complete a retrospective diary from memory for the previous day. The interviewer then left diaries for all adult respondents in the household to complete for the following day. The interviewer then returned the day following the initial survey day to collect the diaries and to ensure they were filled out adequately and accurately. For example, if the interviewer contacted the household on a Tuesday, the random adult respondent first filled out a retrospective diary for Monday; the interviewer then left diary forms for that respondent and other household adults to fill out for Wednesday, and the interviewer returned to collect those completed forms and ask additional questions about the household on Thursday. As in mail-back diary procedure, respondents were given monetary and other incentives for participating.

Diary coding. In the 1985 time-diary form each respondent is expected to write out each *primary*

activity in which they engaged, the time that the activity began and ended, where it took place, who was present during the activity, and what other activities were performed during this same time. In this way, the diary form remained basically the same as that used in the 1965 and 1975 studies.

To illustrate to respondents the types of activities and level of detail expected of them to complete diaries, an example of a complete diary form was enclosed in each packet mailed to the household (or left behind during the home visit). The example form was filled out in considerable detail, with several hand-written comments by the presumed "diary keeper" to help the interpretation of unusual diary entries (for example, going home during work; caring for children while playing sports). In general, the example form was intended to ensure that respondents would include enough detail in their diaries; this seemed successful because mailed-back diaries contained about the same number of primary activities (about 25 per day) as found in the 1965 "tomorrow" diaries.

Once received and checked, these diaries were then entered on a computer by trained coding staff, using the direct data entry features of the University of California at Berkeley Computer Assisted Telephone Interviewing (CATI) system. Activities were coded into one of more than 250 activity codes elaborated from the 174 categories developed at the University of Michigan for the 1975 data; this in turn represented an elaboration of the 96 basic code categories that had been developed for the 1965 Multinational Time-Use Project.¹

The University of Maryland used the same complete document of coding conventions that were developed by the Survey Research Center at the University of Michigan for its 1975 time diary project. Each activity in the diary was coded descriptively as a separate block of 21 digits in length. This comprised the primary activity (a three-digit code) during the period, the time the activity began and ended (each coded in 4-digit military time, for example, 8 AM = 0800; 8 PM = 2000) location (1 digit), social partners (2 digits), secondary activity (3 digits), enjoyment level (1 digit) and media use (3 digits). When this 21-digit entry for all activities in the diary was entered and computed, the totals were programmed into the machine to ensure that each day's diary entries added to exactly 1,440 minutes (24.0 hours). These "variable-field" data (that is, varying depending on the number of activities reported) were then processed by a special computer program that generated "fixed-field" compilations of diary time for each of the 94 activities across the day, that is, total daily minutes spent

working, cooking, watching TV, and so forth, for that respondent for that day.

The averages of these fixed field totals are presented in the analytic tables in this article. The weekly hour data in the tables are also weighted slightly by day of the week and by five major demographic factors (education, sex, race, marital status, and work hours) to ensure that all days of the week are equally represented and that the overall sample figure corresponds with the U.S. Bureau of the Census figures for these important demographic variables.

Methodology of the 1975 national study

The data for the 1975 study were collected from a sample of Americans interviewed in person during October-November, 1975, as part of the 1975 fall omnibus study conducted by the Institute for Social Research at the University of Michigan. The respondents in the 1975 omnibus were chosen to form a representative sample of American adults 18 years of age and older, living in the coterminous United States. As part of the time-use measurement effort, spouses of the respondents were interviewed as well.

The sample was designed to represent units in the coterminous United States exclusive of those on military reservations. The 74 sample points, located in 37 States and the District of Columbia, included the New York-Northeastern New Jersey and the Chicago-Northwestern Indiana consolidated areas, the 10 largest standard metropolitan statistical areas (SMSA's) outside of the two standard consolidated areas, 32 other SMSA's, and 30 counties or county groups representing the nonmetropolitan and less urban portions of the country. In this multi-stage area probability sample, first-stage stratification of SMSA's and counties was carried out independently within each of the four major geographical regions—Northeast, North Central, South and West—each of which received representation in proportion to its population. Probability selection was enforced at all stages of sampling; the interviewers had no freedom of choice among housing units or among household members within a sample dwelling.

Data processing. The data were obtained in the field through personal interviews. In processing the data, several innovations were used which added to data analysis capabilities. Telephone reinterviews on the study were conducted from Ann Arbor rather than from the field, allowing better quality control over the conduct of the interview.

Considerable use was made of direct data entry capabilities, enabling the staff to bypass the preparation of code sheets and punch cards. Time

diaries for the respondent and spouse were entered on line to direct access magnetic disk. Information from edited diaries was entered via computer terminal with standard check-coding procedures being performed at this time. For the time diaries, certain consistency checks (that is, ending time of one activity must be compatible with starting time of the next activity; all activities must add up to 1,440 minutes) were built into the entry program.

Methodology of the 1965 study

The study involved a sample of over 2,000 American adults aged 18–65 who kept complete diaries of their activities for a single day—mainly between November 1 and December 15, 1965, but also in the winter and spring of 1966. The sample was deliberately chosen to be an urban and employed one, conforming to the guidelines of the multinational study of which it was a part.² Thus, residents of non-SMSA's (namely, areas with cities of fewer than 50,000 persons) were excluded, as well as residents of households in which no member aged 18–65 was part of the labor force; and farmers. Respondents were randomly assigned to fill out diaries on a weekday or on a weekend.

Of the total sample, 1,244 adults were part of the national urban sample; another 788 came from the city of Jackson, MI, and its environs. The Jackson data are not reported here.

The field procedures involved the “tomorrow” approach, that is, the interviewer contacted the respondent and conducted a brief “warm-up” interview on the first day and left the diary for the respondent to enter the next day’s activities. The interviewer returned to the respondent’s home on the subsequent day (that is, the day after “tomorrow”) to ensure that the diary had been filled out correctly and to fill in any missing parts.

When the diaries were returned to the Survey Research Center, they were edited to ensure com-

pleteness and consistency. Missing time periods were noted, as well as trip estimates where these were not pointed out by respondents. Primary activities were coded into one of the 96 activity categories.³ These durations were then summarized, and deviations of greater than 10 minutes from the 1,440 minutes total were noted and the diaries recorded to be within that 10-minute limit. Deviations of less than 10 minutes were added to or subtracted from the activity of maximum duration, that activity usually being sleep.

Comparison of the studies

All three studies were based on strict probability sampling methods across the Nation. Only the 1985 study was spread across the entire year. Moreover, the 1985 national data were mainly collected by prospective mail-back diaries, while the 1975 study employed the retrospective recall of activities done “yesterday.” The 1965 and 1975 studies had somewhat higher overall response rates (72 percent each), although not much higher than the telephone portion of the national study (67 percent). The 1985 study had more than twice the number of adult respondents over age 18 than the 1975 study (n=5,358, versus 2,409).

The 1985 national study was more evenly spread across the year and across days of the week, while the 1975 study oversampled Sundays and undersampled Saturdays. All studies used open-end diary entries across the full 24 hours of a single day and the same basic code for diary activities—although the 1975 and 1985 studies employed more than twice as many activity codes.

Footnotes to the appendix

¹ Alexander Szalai and others, *The Use of Time* (The Hague, Netherlands, Mouton, 1972).

² *Ibid.*

³ *Ibid.*

Occupational wages in the fast-food restaurant industry

Employees of fast-food restaurants are predominantly teenagers who work part time, are on the job less than 1 year, and whose earnings are closely tied to the minimum wage

Robert W. Van Giezen

The fast-food restaurant industry has been one of the fastest growing industries in the United States. Over the past 20 years, it has accounted for a larger proportion of food budgets, reflecting, among other reasons, greater spending power and changing lifestyles prompted by the increasing participation of women in the labor force and the rise of one-person households. In the 1970's, fast-food restaurant sales expanded an average of 20 percent annually before "slowing" to 10 percent in the 1980's.¹ The industry has grown to more than 100,000 stores and \$60 billion in annual sales.² Fast-food businesses now constitute more than 40 percent of the Nation's restaurants.³

Employment also has grown rapidly: fast-food restaurants employ more than 2.3 million workers—more than 40 percent of the nearly 6 million employees who work at eating places.⁴ Fast-food restaurants rely heavily for their work force on teenagers and others with little work experience, or those looking for part-time employment. Nearly 70 percent of employees are 20 years or younger, and the average work week is 29.5 hours. Turnover is high, with only a little more than half the work force remaining 1 year or longer. An analysis of the turnover rate among employees in fast-food restaurants reveals that 75 percent of employees remain 6 months, 53 percent remain 1 year, 25 percent stay 2 years;

only 12 percent remain 3 years or longer. In addition, nearly two-thirds of employees are women, and 23 percent are nonwhite.⁵ For many teenagers, a fast-food restaurant is their first work experience. For example, one researcher has estimated that the first job for 1 in 15 workers in the United States was at a McDonald's restaurant.⁶

Average earnings for fast-food workers ranged from \$4.33 an hour in Puerto Rico to \$5.70 in Honolulu, HI, according to surveys conducted by the Bureau of Labor Statistics from November 1992 to March 1993.⁷ Earnings for fast-food shift leaders also were lowest in Puerto Rico (\$4.64) and highest in Guam (\$7.34). (See table 1.)

The surveys

The studies covered establishments employing 20 workers or more in fast-food restaurants, part of industry 5812, as defined in the 1987 edition of the *Standard Industrial Classification Manual*. For the purposes of this study, fast-food restaurants are establishments in which a limited menu is offered, food is prepared on the premises, waiter or waitress service is not available, alcoholic beverages are not served, and food is prepared in advance or almost immediately upon the order.

Two nonsupervisory occupations were studied: fast-food worker and fast-food shift leader.

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Fast-food workers perform one or more functions in preparing food, taking and filling orders, or collecting payment. Fast-food shift leaders performed the same tasks, and in addition, assisted management in directing other workers, controlling the amount and timing of food production, and opening and closing the restaurant.⁸ Full- and part-time workers were included, although employees hired under the youth subminimum wage provisions were excluded.⁹

The two occupations studied make up the overwhelming majority of employees in fast-food restaurants. For example, restaurant employment in the San Diego metropolitan area was estimated at 12,849 in December 1990. The number of fast-food workers and fast-food shift leaders was estimated at 11,423—nearly 89 percent of total employment. The remaining workers were primarily managers and assistant managers in the restaurants, and office personnel in multi-unit restaurant chains.

The results of the surveys

1992–93 surveys. Data from the surveys, conducted from November 1992 to March 1993, are available for all survey areas, except for the Bremerton, WA, metropolitan area in which a high nonresponse rate prevented publication of data.¹⁰ (See table 1.)

Earnings of fast-food workers were tied closely to the minimum wage. In nearly three-fourths of the areas, averages were within 50 cents of the minimum wage, with only 7 of 43 areas averaging more than \$5 per hour. Hourly earnings were lowest in Puerto Rico (\$4.33), where the minimum wage was \$4.25 per hour, and were highest in Honolulu, HI (\$5.70), where the minimum hourly wage was \$5.25.

Earnings varied among shift leaders, particularly those outside the continental United States. Nearly all areas reported average hourly earnings of \$5 or more for leaders, with a majority averaging \$5.75 or more per hour. Lowest earnings were recorded in Puerto Rico, \$4.64; the highest were in Guam (\$7.34), followed by Honolulu, (\$7.33) and Alaska (\$6.91).

Shift leaders typically earned 15 percent to 35 percent more per hour than fast-food workers. The earnings differential between fast-food workers and fast-food shift leaders was narrowest in Puerto Rico (7.2 percent) and was widest in York County, VA (46.0 percent), and Guam (45.9 percent).

Employment of fast-food workers ranged from 175 workers in Island County, WA, to 10,600 in Dallas County, TX. The greatest number of fast-food shift leaders was in San Diego County, CA (1,282), and the smallest number was in York County, VA, and Monroe County, FL (12).

Exhibit 1. Areas studied in wage surveys of fast-food restaurants

Area	Definition of Area
Alameda County, CA	Part of Oakland, CA, PMSA
Alaska	State
Anne Arundel County, MD	Part of Baltimore, MD, MSA
Bell County, TX	Part of Killeen-Temple, TX, MSA
Bremerton, WA	MSA
Charleston County, SC	Part of Charleston, SC, MSA
Christian County, KY	Part of Clarksville-Hopkinsville, TN-KY, MSA
Colorado Springs, CO	MSA
Dallas County, TX	Part of Dallas, TX, PMSA
Duval County, FL	Part of Jacksonville, FL, MSA
El Paso, TX	MSA
Escambia County, FL	Part of Pensacola, FL, MSA
Guam	Territory
Hardin County, KY	Nonmetropolitan County
Harrison County, MS	Part of Biloxi-Gulfport, MS, MSA
Honolulu, HI	MSA
Island County, WA	Nonmetropolitan County
King County, WA	Part of Seattle, WA, PMSA
Kings County, CA	Nonmetropolitan County
Lake County, IL	PMSA
Lauderdale County, MS	Nonmetropolitan County
Leavenworth County, KS	Part of Kansas City, MO-KS, MSA
Monroe County, FL	Nonmetropolitan County
Montgomery County, MD	Part of Washington DC-MD-VA, PMSA
Montgomery County, TN	Part of Clarksville-Hopkinsville, TN-KY, MSA
Newport County, RI	Part of Fall River, MA-RI, PMSA, and Providence, RI, PMSA
Norfolk, VA	Part of Norfolk-Virginia Beach-Newport News, VA, MSA
Orange County, FL	Part of Orlando, FL, MSA
Orleans Parish, LA	Part of New Orleans, LA, MSA
Oxnard-Ventura, CA	PMSA
Panama City, FL	MSA
Philadelphia County, PA	Part of Philadelphia, PA-NJ, PMSA
Puerto Rico	Commonwealth
Riley County, KS	Nonmetropolitan County
San Diego, CA	MSA
San Francisco County, CA	Part of San Francisco, CA, PMSA
San Jose, CA	PMSA
Santa Rosa County, FL	Part of Pensacola, FL, MSA
Shelby County, TN	Part of Memphis, TN-AR-MS, MSA
Solano County, CA	Part of Vallejo-Fairfield-Napa, CA, PMSA
Southeastern Maine	Part of Lewiston-Auburn, ME, MSA and Portsmouth-Dover,-Rochester, NH-ME, MSA; all of Portland, ME, MSA
St. Mary's County, MD	Nonmetropolitan County
Washington, DC	Part of Washington, DC-MD-VA, MSA
York County, VA	Part of Norfolk-Virginia Beach-Newport News, MSA

NOTE: Metropolitan statistical areas (MSA) and primary metropolitan statistical areas (PMSA) are defined by the U.S. Office of Management and Budget, 1984.

1990–91 surveys. Data were unavailable because of nonresponse rates in Alameda County, CA; Monroe County, FL; and San Francisco, CA. A Southeastern Maine survey was not conducted.

Nearly half of the areas reported average earnings for fast-food workers in the range of 25 cents of the minimum wage. Earnings ranged from \$3.89 in Bell County, TX, to \$5.35 in Honolulu, HI. The lowest earnings typically were in the deep South and the highest earnings were on the west coast. (See table 2.) Two high paying areas in the South—Anne Arundel County, MD, and Montgomery County, MD, are in the Washington-Baltimore metropolitan area.¹¹

The relationship between the pay rate of fast-food shift leaders and workers was similar to that observed in the 1992–93 survey; leaders typi-

Wages in Fast-Food Restaurants

cally earned between 15 and 30 percent more than fast-food workers. The earnings for fast-food shift leader ranged from \$4.37 in Bell County, TX, to \$6.80 in Anne Arundel County, MD. The earnings differentials between fast-food shift leader and fast-food worker also were lowest in Bell County, TX (12.3 percent), and highest in Anne Arundel County, MD (38.2).

Employment patterns were similar to those found in the 1992–93 surveys. Again, employ-

ment was highest for fast-food workers in Dallas County, TX (10,287), and shift leaders in San Diego, CA (1,190). Island County, WA, reported the fewest fast-food workers (163); Newport County, RI, had the fewest shift leaders (11).

The impact of minimum wage changes

In both the 1990–91 and 1992–93 surveys, nearly two-fifths of the areas averaged wages of 20 cents

Table 1. Average earnings of workers in fast-food restaurants, 43 areas, November 1992 to March 1993

Area	Occupation		Differential ¹	
	Fast-food worker	Fast-food shift leader	Dollar	Percent
Hourly minimum wage: \$4.25				
Puerto Rico	\$4.33	\$4.64	\$.31	7.2
Christian County, KY	4.34	—	—	—
Harrison County, MS	4.34	5.06	.72	16.6
Bell County, TX	4.35	4.98	.63	14.5
Montgomery County, TN	4.36	4.89	.53	12.2
Orleans Parish, LA	4.37	5.04	.67	15.3
El Paso, TX	4.37	5.14	.77	17.6
Kings County, CA	4.38	5.00	.62	14.2
Riley County, KS	4.39	5.03	.64	14.6
Lauderdale County, MS	4.39	5.55	1.16	26.4
Leavenworth County, KS	4.40	5.15	.75	17.0
Colorado Springs, CO	4.43	5.33	.90	20.3
Escambia County, FL	4.44	5.11	.67	15.1
Charleston County, SC	4.45	5.38	.93	20.9
Panama City, FL	4.45	5.50	1.05	23.6
Shelby County, TN	4.45	5.88	1.43	32.1
Hardin County, KY	4.46	5.83	1.37	30.7
Santa Rosa County, FL	4.51	5.47	.96	21.3
Duval County, FL	4.51	5.59	1.08	23.9
Island County, WA	4.52	5.98	1.46	32.3
Norfolk, VA	4.59	5.82	1.23	26.8
Dallas County, TX	4.59	5.86	1.27	27.7
Solano County, CA	4.61	5.91	1.30	28.2
Oxnard—Ventura, CA	4.62	5.95	1.33	28.8
Philadelphia County, PA	4.62	6.33	1.71	37.0
San Diego, CA	4.63	6.04	1.41	30.5
Orange County, FL	4.65	5.58	.93	20.0
Southeastern Maine	4.72	6.40	1.68	35.6
York County, VA	4.74	6.92	2.18	46.0
San Jose, CA	4.75	6.41	1.66	34.9
St. Mary's County, MD	4.76	5.65	.89	18.7
Lake County, IL	4.83	6.54	1.71	35.4
San Francisco County, CA	4.88	6.26	1.38	28.3
Alameda County, CA	4.89	6.50	1.61	36.0
Anne Arundel County, MD	4.94	6.76	1.82	36.8
King County, WA	5.05	6.57	1.52	30.1
Montgomery County, MD	5.12	6.63	1.51	29.5
Monroe County, FL	5.45	6.47	1.02	18.7
Hourly minimum wage: \$4.45				
Newport County, RI	4.86	6.60	1.74	35.8
Hourly minimum wage: \$4.50				
Guam	5.03	7.34	2.31	45.9
Hourly minimum wage: \$4.75				
Washington, DC	5.10	6.50	1.40	27.5
Alaska	5.44	6.91	1.47	27.0
Hourly minimum wage: \$5.25				
Honolulu, HI	5.70	7.33	1.63	28.6

¹ The differential indicates the difference in earnings between fast food workers and fast food shift leaders.

NOTE: Dashes indicate data did not meet publication criteria.

Table 2. Average earnings of workers in fast-food restaurants, 40 areas, November 1990 to January 1991

Area	Occupation		Differential ¹	
	Fast-food worker	Fast-food shift leader	Dollar	Percent
Hourly minimum wage: \$3.80				
Bell County, TX	\$3.89	\$4.37	\$.48	12.3
Christian County, KY	3.90	—	—	—
Montgomery County, TN	3.90	4.55	.65	16.6
Harrison County, MS	3.90	4.78	.88	22.6
Puerto Rico	3.91	4.42	.51	13.0
Lauderdale County, MS	3.91	5.00	1.09	27.9
Orleans Parish, LA	3.92	4.59	.67	17.1
Escambia County, FL	3.93	4.83	.90	22.9
Panama City, FL	3.94	4.61	.67	17.0
Riley County, KS	3.95	4.74	.79	20.0
El Paso, TX	3.99	4.55	.56	14.0
Santa Rosa County, FL	3.99	—	—	—
Shelby County, TN	4.00	—	—	—
Colorado Springs, CO	4.01	4.60	.59	14.7
Hardin County, KY	4.01	5.20	1.19	29.7
Norfolk, VA	4.06	4.99	.93	22.9
Leavenworth County, KS	4.06	5.07	1.01	24.9
Duval County, FL	4.08	5.10	1.02	25.0
Charleston County, SC	4.14	5.10	.96	23.2
Dallas County, TX	4.22	5.21	.99	23.5
St. Mary's County, MD	4.30	—	—	—
York County, VA	4.36	—	—	—
Philadelphia County, PA	4.46	6.09	1.63	36.5
Lake County, IL	4.48	5.57	1.09	24.3
Orange County, FL	4.60	5.29	.69	15.0
Anne Arundel County, MD	4.92	6.80	1.88	38.2
Montgomery County, MD	5.21	6.63	1.42	27.3
Hourly minimum wage: \$3.85				
Honolulu, HI	5.35	6.68	1.33	24.9
Hourly minimum wage: \$4.00				
Guam	4.31	5.66	1.35	31.3
Hourly minimum wage: \$4.25				
Kings County, CA	4.36	5.05	.69	15.8
Island County, WA	4.43	—	—	—
Bremerton, WA	4.49	5.56	1.07	23.8
Solano County, CA	4.50	5.53	1.03	22.9
San Diego, CA	4.56	5.81	1.25	27.4
San Jose, CA	4.63	5.94	1.31	28.3
Oxnard—Ventura, CA	4.69	6.14	1.45	30.9
Newport County, RI	4.99	6.49	1.50	30.1
King County, WA	5.05	6.48	1.43	28.3
Hourly minimum wage: \$4.30				
Alaska	5.14	6.14	1.00	19.5
Hourly minimum wage: \$4.75				
Washington, DC	5.10	6.05	.95	18.6

¹ The differential indicates the difference in earnings between fast food workers and fast food shift leaders.

Note: Dashes indicate data did not meet publication criteria.

within the applicable minimum wage. (See chart 1.) Similarly, about three-quarters of the areas had averages within 50 cents of the minimum wage.

During the two years between surveys, the Federal minimum wage, under the Federal Fair Labor Standards Act of 1989, increased from \$3.80 to \$4.25 per hour on April 1, 1991.

The impact of minimum wage changes on earnings of fast-food workers in the industry is apparent. Earnings of fast-food workers in-

creased an average of 30 cents per hour in the 39 areas providing comparable data from both sets of surveys.¹² The eight areas with no change in the minimum wage registered, on average, only a .04-cent hourly rise in earnings. In contrast, the 28 areas in which the Federal minimum wage rose 45 cents averaged a gain of 37 cents. Areas with the lowest earnings in the 1990–91 surveys tended to show the largest earnings increases in 1992–93.¹³

Wages in Fast-Food Restaurants

The following tabulation shows average change in earnings of fast-food workers from 1990-91 to 1992-93:

	Average change
All 39 areas	\$.30
8 areas with no change in minimum wage ..	.04
31 areas with change in minimum wage ..	.37
23 areas with 1990-91 wage rates equal to or less than \$4.37* .....	.45
8 areas with 1990-91 wage rates more than \$4.37* .....	.13

*\$4.37 is 15 percent greater than the Federal minimum wage of \$3.80.

One effect of the minimum wage increase was to narrow the earnings gap between the highest and lowest paying areas. Because wage rates increased more in lower paying than in higher paying areas, differences among areas were less pronounced in 1992-93 than in 1990-91. The effect of the narrowing is demonstrated by comparing the distribution of area average earnings in the two periods. One method of measuring the dispersion of distributions is to compute a standard deviation, which is an indication of

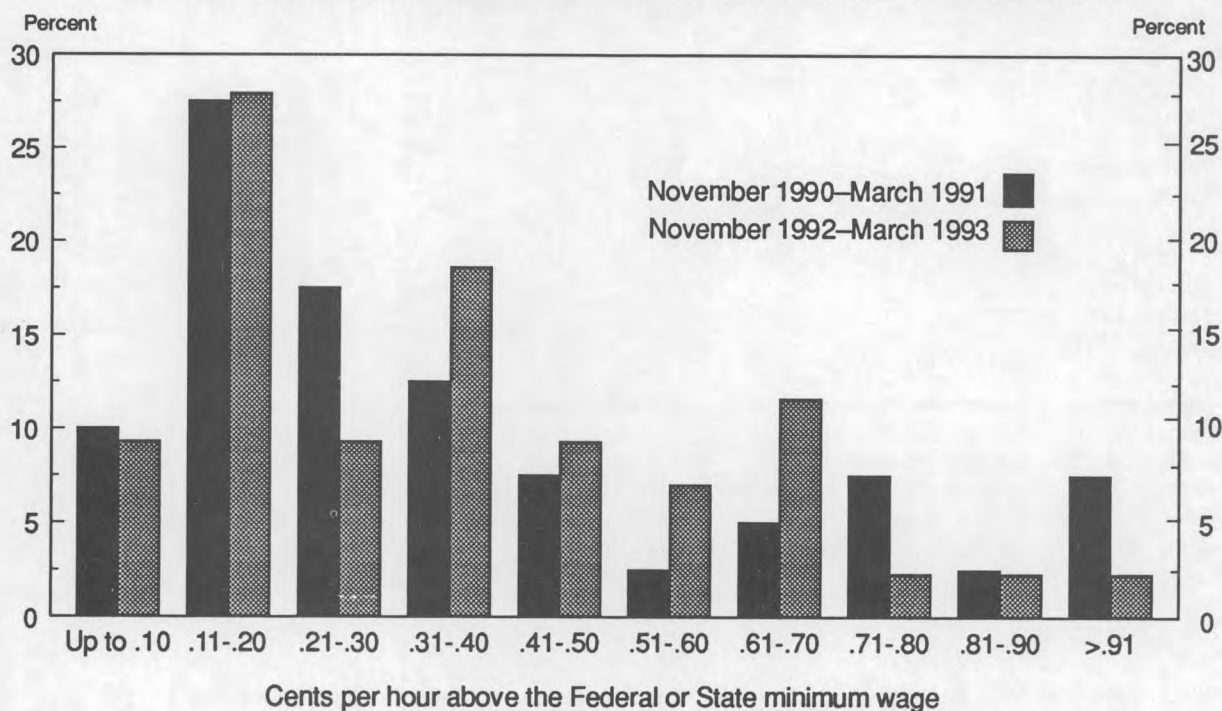
the degree to which individual values differ from the average of all observed values. The higher the standard deviation, the more dispersed the distribution.

In the 1990-91 period, the average earnings for fast-food workers was \$4.34 an hour, with a standard deviation of 43 cents. In 1992-93, average earnings had risen to \$4.67, but the standard deviation declined to 33 cents. (The average earnings in each period was computed by using an unweighted arithmetic average of all survey means.)

Other economic conditions also may have helped close the earnings gap among areas. The Northeast and west coast, which had the highest earnings of fast-food workers, were more severely affected by economic recession and higher unemployment than were the South and Midwest. For example, the average unemployment rate in California in 1992 was 9.1 percent. In contrast, unemployment in the Pensacola, FL, metropolitan area, which included Escambia County and Santa Rosa County, averaged 6.0 percent.¹⁴

Other studies have looked at the relationship between the minimum wage and earnings. Economists Lawrence F. Katz and Alan B. Krueger studied the impact of the increase of the Federal

Chart 1. Distribution of survey areas by the average earnings above the minimum wage paid to fast food workers, November 1990-March 1991 and November 1992-March 1993



minimum wage law in Texas.¹⁵ A survey conducted in December 1990 found that 47 percent of restaurants were starting workers at exactly the minimum wage (\$3.80). However, a follow-up survey in July and August 1991 found that 95 percent of restaurants increased the starting wage by the amount of the increase in the minimum wage, and 75.8 percent of the restaurants paid new hires exactly the minimum wage (\$4.25).

Krueger joined economist David Card to evaluate the impact of the April 1992 rise in the New Jersey minimum wage from \$4.25 to \$5.05 per hour for more than 400 fast-food restaurants in both New Jersey and Pennsylvania.¹⁶ The first survey conducted in late February and early March 1992 found the average starting wage in New Jersey to be \$4.61, with 30.5 percent of restaurants paying new workers the minimum wage of \$4.25. In Pennsylvania, the starting wage was \$4.63, with 32.9 percent of restaurants hiring workers at the minimum wage.

A second survey conducted in November and December 1992 found that the average starting wage for entry-level workers in the fast-food industry rose to \$5.08 in New Jersey. However, 85.2 percent of fast-food restaurants hired at the new minimum wage of \$5.05. In Pennsylvania, where the minimum wage remained at \$4.25, the average starting wage in the fast-food industry dropped to \$4.62, but fewer restaurants hired workers at the minimum wage (25.3 percent).

In addition to measuring wages changed by the minimum wage, Katz and Krueger and Card and Krueger attempted to measure the impact on employment and prices. The results of both studies indicate that raising the minimum wage increased employment, rather than reduce it as might be expected. In the Krueger and Card study, prices increased more in New Jersey than in Pennsylvania, indicating that most of the cost of the higher minimum wage was passed on to the customer.

Wages of shift leaders. The changes in earnings for shift leaders followed a similar pattern for fast-food workers. In a comparison of the seven areas without a change in the minimum wage law, the average gain in earnings was 3.4 percent. Similarly, for the 23 areas with an increase of 45 cents, the increase in earnings was 9.1 percent.¹⁷

The narrowing of wages of shift leader earnings between the 1990-91 and 1992-93 periods also was not as pronounced as among fast-food workers. Average earnings in 1990-91 were \$5.40 an hour, and had risen to \$5.90 in 1992-93. The standard deviations in both periods were 73 cents and 70 cents.

IN SUM, the results of the BLS surveys of fast-food restaurants indicate that wages of most fast-

Table 3. Change in average earnings of workers in fast-food restaurants between the 1990-91 and 1992-93 surveys

Area and change in minimum wage	Fast-food worker		Fast-food shift leader	
	Dollar	Percent	Dollar	Percent
No change:				
Oxnard-Ventura, CA	\$.07	-1.5	\$.19	-3.1
King County, WA	.00	.0	.09	1.4
Washington, DC	.00	.0	.45	7.4
Kings County, CA	.02	.5	-.05	-1.0
San Diego, CA	.07	1.5	.23	4.0
Island County, WA	.09	2.0	—	—
Solano County, CA	.11	2.4	.38	6.9
San Jose, CA	.12	2.6	.47	7.9
20-cent increase:				
Newport County, RI	-.13	-2.6	.11	1.7
45-cent increase:				
Montgomery County, MD	-.09	-1.7	.00	0.0
Anne Arundel County, MD	.02	0.4	-.04	-0.6
Orange County, FL	.05	1.1	.29	5.5
Philadelphia County, PA	.16	3.6	.24	3.9
Alaska	.30	5.8	.77	12.5
Charleston County, SC	.31	7.5	.28	5.5
Leavenworth County, KS	.34	8.4	.08	1.6
Lake County, IL	.35	7.8	.97	17.4
Dallas County, TX	.37	8.8	.65	12.5
El Paso, TX	.38	9.5	.59	13.0
York County, VA	.38	8.7	—	—
Puerto Rico	.42	10.7	.22	5.0
Colorado Springs, CO	.42	10.5	.73	15.9
Duval County, FL	.43	10.5	.49	9.6
Christian County, KY	.44	11.3	—	—
Harrison County, MS	.44	11.3	.28	5.9
Riley County, KS	.44	11.1	.29	6.1
Shelby County, TN	.45	11.3	—	—
Hardin County, KY	.45	11.2	.63	12.1
Orleans Parish, LA	.45	11.5	.64	9.8
St. Mary's County, MD	.46	10.7	—	—
Bell County, TX	.46	11.8	.61	14.0
Montgomery County, TN	.46	11.8	.34	7.5
Lauderdale County, MS	.48	12.3	.55	11.0
Escambia County, FL	.51	13.0	.28	5.8
Panama City, FL	.51	12.9	.89	19.3
Santa Rosa County, FL	.52	13.0	—	—
Norfolk, VA	.53	13.1	.83	16.6
50-cent increase:				
Guam	.72	16.7	1.68	29.7
\$1.40 increase:				
Honolulu, HI	.35	6.5	.65	9.7

NOTE: Dashes indicate that data were not available from both surveys; thus, a change in earnings was not computed.

food workers are tied closely to the minimum wage. In the surveys conducted in 1990-91, only 3 of 40 areas reported earnings of fast-food workers of more than \$1 above the minimum wage laws; by 1992-93, only 1 area reported earnings of more than \$1 above the minimum wage.

The change in the Federal minimum wage law in 1991 prompted a narrowing of earnings gaps among areas. Average earnings narrowed in 1992-93 as earnings in "lower wage" areas increased more rapidly than "higher wage" areas.

Fast-food shift leaders earned, on average, approximately 25 percent more than fast-food

Wages in Fast-Food Restaurants

workers, with only a slight increase in the differential between the two survey cycles. The

narrowing of earnings found for fast-food workers was less pronounced for shift leaders. □

Footnotes

¹ John Mariani, *America Eats Out* (New York, William Morrow and Co., Inc., 1991), p. 174.

² Marjorie Eberts and Margaret Gisler, *Opportunities in Fast-food Careers* (Chicago, NTC Publishing Group, 1989), p. 4.

³ Mariani, *America Eats Out*, p. 174.

⁴ *1987 Census of Retail Trade*, RC87-5-1 Subject Series: Establishment and Firm Size (Bureau of the Census, January 1990), table 6, pp. 1-26.

⁵ Eberts and Gisler, *Opportunities in Fast-food Careers*, pp. 30-31.

⁶ John Love, *McDonald's: Behind the Golden Arches* (New York, Bantam Books, 1986).

⁷ The Bureau of Labor Statistics conducts occupational wage surveys under contract for the Employment Standards Administration (ESA) of the U.S. Department of Labor in administering the Service Contract Act of 1965. The legislation requires the Secretary of Labor to establish minimum rates of pay for establishments providing services valued at more than \$2,500 to the Federal Government. Because many labor markets subject to the act are not surveyed, BLS, under contract to ESA, conducts cross-industry surveys of more than 120 areas. In addition, special industry studies with industry-specific occupations also are conducted to determine prevailing wages.

⁸ Fast-food worker (crew person, team member, associate). A nonsupervisory full- or part-time worker in a fast-food restaurant who performs one or more repetitious and standardized tasks at an assigned station. Duties include one or more of the following: Preparing simple food items such as french fries, fish or chicken portions, hamburgers, and beverages in a highly standardized manner, often controlled by automatic or simple timing devices; taking customers' orders; filling orders; and collecting payment. May rotate among stations. May also clean equipment or premises.

Fast-food shift leader (crew chief, team leader). A nonsupervisory full- or part-time worker who performs the duties of a fast-food worker. In addition, from time to time after training, a fast-food shift leader performs other duties requiring a limited amount of discretion such as assisting management in directing other fast-food workers, controlling amount and timing of food production, and opening and closing restaurant.

⁹ The youth subminimum provision of the Fair Labor Standards Amendments of 1989 permits employers, in certain circumstances, to pay employees under the age of 20 a "training wage" of at least 85 percent of the minimum wage for up to 90 days.

¹⁰ The Federal minimum wage was \$4.25 per hour. Surveys also were conducted in Alaska, Guam, Hawaii, Rhode Island, and the District of Columbia. In all these jurisdictions, laws authorizing a higher minimum wage superseded the Federal law.

¹¹ The Federal minimum wage was \$3.80 per hour. In addition to the areas listed in footnote 7, a higher minimum wage was in effect in California and Washington. High non-response rates prevented publication of data from the November 1990 to January 1991 surveys for Alameda County, CA; Monroe County, FL; and San Francisco County, CA.

¹² The average earnings in each time period was computed by using a simple unweighted arithmetic average of all survey means (adding the average wage from each area and dividing by the number of areas).

¹³ To determine how closely earnings levels and changes in earnings were related, a correlation, or measurement of how values vary together systematically, was computed. For the 39 areas allowing comparison, a correlation was computed, comparing the average earnings in 1990-91 to the change in earnings from 1990-91 to 1992-93. This analysis showed a correlation of -.784. In other words, the relationship was strong between low average earnings registered by the 1990-91 surveys and large increases in earnings reported by the 1992-93 surveys. (A correlation of +1.0 signifies a perfect positive relationship, a -1.0 indicates a perfect negative relationship.) The correlation value is different from zero at the .01 level of significance.

¹⁴ *Employment and Earnings* (Bureau of Labor Statistics, May 1993), p. 178.

¹⁵ Lawrence F. Katz and Alan B. Krueger, "The Effect of the Minimum Wage on the Fast-Food Industry," *Industrial and Labor Relations Review*, October 1992.

¹⁶ David Card and Alan B. Krueger, *Minimum Wages and Employment: A Case Study of the Fast-food Industry in New Jersey and Pennsylvania*, Working Paper 315 (Princeton, NJ, Princeton University, Industrial Relations Section, March 1993).

¹⁷ An analysis of the relationship between the level of earnings and the change in earnings computed for fast-food workers also was calculated for fast-food shift leaders employing the same methodology. A correlation between the average earnings of shift leaders in 1990-91 and the change in earnings from 1990-91 to 1992-93 was -.352. Although the minimum wage had an impact on shift leaders, it was not as strong as with fast-food workers. The correlation value is significantly different from zero at the .05 level.

Young men and the transition to stable employment

The transition from school to work among male high school students is more heterogeneous—and successful—than is often thought; by age 20, half of all graduates have jobs that will last more than 2 years, and by age 22, more than 3 years, but there is considerable variation within and across levels of education

Jacob Alex Klerman
and
Lynn A. Karoly

Although the vast majority of our young people leave high school to go directly to work, we typically offer them little or no assistance in this transition. . . . The result is that typical high school graduates mill about in the labor market, moving from one dead-end job to another until the age of 23 or 24.

—Report by the Commission on the Skills of the American Workforce entitled *America's Choice: High Skills or Low Wages*, 1990, p. 46

One frequently heard criticism of the U.S. education system is that it fails to provide a smooth transition for the average student who proceeds to the labor market directly after graduating from high school. Such young people are often characterized as facing a “period of floundering”—from high school graduation through their mid-20’s—during which they move into and out of the labor force, holding numerous jobs, none for very long, and being unemployed in between. Instead of settling into longer term jobs, these youth are portrayed as “milling about” or “churning,” with no clear progression toward any career.¹

This article explores whether the preceding characterization of the transition from school to work is accurate for the bulk of U.S. youth. We use data on young men from the National Longitudinal Survey of Youth to estimate the distri-

bution of their ages at entrance into jobs lasting various lengths of time—specifically, 1, 2, and 3 years. We view the time taken to reach a job with a 1-, 2- or 3-year tenure as the period of “settling down.” Although we do not examine the characteristics of these jobs (for example, the wages they pay or their “quality”), our approach offers a useful way to characterize the amount of “milling about” in the labor market by U.S. youth.

Consistent with much of the the previous literature on the subject, we find that young U.S. males hold a large number of jobs in their first few years in the labor market (even after excluding jobs held prior to leaving full-time schooling). Nevertheless, our dynamic perspective provides little support for the conventional wisdom that the typical male high school graduate does not settle into a long-term employment relationship until his mid-20’s. For the youth cohort of the National Longitudinal Survey, the median male high school graduate secured a job that would last more than a year shortly after his 19th birthday, a job that would last more than 2 years shortly after his 20th birthday, and a job that would last longer than 3 years while he was 22.

There is, however, considerable heterogeneity among these young jobseekers: whereas the median male high school graduate secured his

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"3-year job" while he was 22, his classmate in the first quartile of high school graduates obtained that job while he was 19, and his classmate in the fourth quartile of high school graduates did not get such a job until after he turned 25. There is also heterogeneity across education groups: while the median male high school graduate secured his "3-year job" while he was 22, the median high school dropout, who first entered the labor force several years earlier, did not enter that job until he was 23, and, in contrast, the median college graduate, who entered the labor force 4 years later than the high school graduate did, entered his "3-year job" shortly after turning 23.

The article first briefly reviews some of the literature on the transition from school to work (that is, the process of "settling down"), then describes the data and methods we employ, and, finally, presents our empirical results. The article concludes with a summary of these results and a discussion of directions for future research.

Background

Non-college-bound young men leaving school are sometimes described as drifting from activity to activity until their mid-20's, when they finally settle into long-term commitments to full-time jobs. During the period beginning with their leaving school and ending in their finding stable employment (jobs lasting several years), young people are perceived as spending a long period of unproductive time in school, in "dead-end" jobs, unemployed, or not even looking for work, with a "consequent loss of training and productivity."² According to one source:

The early years in the labor market for many graduating students are characterized not by an absence of jobs but rather by a "churning" process. High turnover and frequent job change are evident during this period when youth sample different jobs or simply move from one low-skill job to another. The phenomenon of churning represents a characteristic of the youth labor market that has important implications for program design. . . . What happens when the period of churning has concluded? Evidence suggests that a substantial fraction of this cohort has been unable to "settle down" into quality jobs. In the past, most youth in their late twenties—even if they did not attend college—could expect eventually to obtain stable employment; this is no longer true. . . . [A]s many as 50 percent of high school youth had not found a steady job by the time they reached their late twenties.³

This characterization implies that the transition period is spent unproductively. Two other perspectives have been advanced. One characterizes the period as time spent in "productive

job shopping":⁴ in the individual-choice-oriented U.S. society, young people try out various jobs, until they find something amenable to their tastes.⁵ The other perspective views the period as one of equalizing leisure:⁶ the intermittent employment pattern of non-college-bound youth allows them to reproduce the leisure pattern of their college-bound peers, who spend 4 years in an environment with a long summer vacation, several other vacations during the year, and a relatively flexible weekly schedule.

Finally, some perceive the transition as proceeding smoothly.⁷ Meyer and Wise conclude that

In general, summary statistics based on the National Longitudinal Study (High School Class of 1972) do not suggest severe employment problems for these high school graduates. On the contrary, they suggest a group of persons moving rather smoothly into the labor market.⁸

In contrast, some foreign countries have education systems that are often characterized as having a close relationship between schools and employers. Formal institutions, such as apprenticeships in Germany, and informal institutions, such as the "contracts" between Japanese schools and employers, help students in other countries gain the skills employers want and then help the students make smooth transitions from school to work.⁹ Prewo writes:

Seventy percent of young Germans sign up for apprenticeships—and, if they perform well, guaranteed jobs. Contrast this with the aimless wandering from minimum-wage job to minimum-wage job of many American high-school graduates. At age 25, Americans who have not attended college often find themselves no higher up the job ladder than they were at age 18. Their German counterparts, by contrast, usually hold well-paying skilled jobs.¹⁰

The empirical facts and their correct interpretation are important as policymakers and educators design programs to improve the transition from school to work. Many analysts see this high level of turnover, or "churning," as the cause of workers' low levels of skill and low wages:¹¹ because young workers will not stay on the job long enough to allow employers to recoup training costs through increased productivity,¹² many employers will not hire them, and those who do hire them do so at low wages and do not provide much training.

Paul Osterman and Maria Iannozzi, who have a negative view of the transition period, make explicit the link from the empirical facts of "churning" or "milling about" to program design:

For the bulk of youth not bound for college, the problem that public policy must address is not the

simple absence of jobs but rather the difficulties these youth face in settling down into quality jobs in the adult labor market—a problem that has been exacerbated by rising skill requirements. If we accept a period of churning as part of the process, many of the ideas regarding improved information systems between schools and employers seem less compelling.¹³

The empirical questions are “How long does the churning period last?” and “Is it an inevitable part of the process of entering the labor market?”

Data and methods

The data. The civilian sample of the Bureau of Labor Statistics sponsored National Longitudinal Survey of Youth began in 1979 with 12,686 young people aged 14 to 22 that year.¹⁴ Blacks, Hispanics, and economically disadvantaged whites were oversampled. The sampled individuals have been reinterviewed annually through 1990; thus, the sample is now old enough (25 to 32 years in 1990) for us to examine nearly completed transitions from school to work.

Each year, the interview collected complete retrospective calendars of employment. Beginning in 1981, monthly school attendance records were also collected.¹⁵ Using these data, we constructed monthly records of school attendance and work for each person in the sample for the period January 1, 1978, to the last completed interview date, usually mid-1990.

All of the individual education and employment histories were censored (that is, we do not know what happens at later ages) as of the 1990 interview, when the young people were 25 to 32 years of age. Furthermore, there was some attrition of the sample. To use all of the collected data, when computing the time to certain events or the percentage of people experiencing an event (by age or by time since an event), we computed monthly hazard rates. (For any event, the hazard rate is the probability of the event occurring in a given month, conditional upon its not having occurred until that month.) We then transformed these rates back into the percentage of people experiencing (or not experiencing) the event as of a given age or time since an earlier event. Although the raw data (on percentage of people experiencing an event) are sometimes nonmonotonic, due to sampling error (and, perhaps, nonstationarity with respect to calendar time, a property that is ignored in this article), our transformation procedure forces the plots to be monotonic. (That is, the percentage of people who have received a high school diploma never drops.)

Defining school-leaving groups. School-to-work transition patterns vary widely by the level

of schooling attained when the individual leaves school. Not only does the age at which the person leaves school vary, but (as we will show below), the pace of settling into stable employment in the period since the person left school also varies. Following this empirical observation, as well as most of the literature on the transition from school to work, we stratified our analyses by educational attainment at the time the individual left school. However, the heterogeneity and complexity of transitions among school, work, and leisure make operationalizing the concept of leaving school difficult and render the results sensitive to the definition chosen.¹⁶

We assigned each individual in the sample to a *school-leaving group*. Conceptually, an individual has left school when his primary activity is no longer school. However, summer vacation should not be considered leaving school. In practice, we used the following definition: an individual *leaves school* when he is no longer in school or when he has graduated from high school and is working full time.¹⁷ Given this definition, we then filled in gaps in school attendance that were probably due to school breaks (including the transition from high school to college). If the gap began in May, we filled in up to 5 months (that is, May through September); in June, we filled in 4 months (June through September). Gaps that began in any other month were allowed to last up to 3 months without signaling that the person had left school.

Once it was determined for an individual in the sample that a gap in schooling indicated that the individual had left school, the date at which he had left was set to the first month of the gap, and a permanent school-leaving group was assigned to the individual based on his school attendance and whether he received a degree at any time up to that date.¹⁸ Even if the person returned to school later, and even if he subsequently attained a degree, the school-leaving group ascribed to him was not changed. In what follows, we examine the importance of an individual's returning to school—and thus, the difference between the school-leaving group ascribed to that individual and his educational attainment at a given point in time. The five (mutually exclusive and exhaustive) school-leaving groups defined in this article are *high school dropouts*, *high school graduates*, those with *some college*, *college graduates*, and those with *some postcollege education*.

Restrictions on the sample. Because the National Longitudinal Survey of Youth oversampled blacks, Hispanics, and poor whites, the results that follow are all weighted by the 1979 interview weight, which corrects for the oversampling and for differential nonresponse to the first in-

interview. We make no further correction for nonresponse to subsequent interviews or permanent attrition of the panel. Also, all of the results reported pertain to men only; we deliberately circumvent the complexity introduced into women's work histories by childbirth, either before a woman enters the labor market or when it interrupts her career. This means, of course, that the three-activity (school, work, and nonwork) analysis we present fails to capture a crucial element of young women's work histories.

Because our analysis required complete school and work histories up to a given date, we imposed important restrictions on the sample beyond the standard requirement that there be no missing data. First, we must have observed the beginning of the transition from school to work. Specifically, we required that the individual still be in school as of the period covered (retrospectively) by the first interview (January 1, 1978). Second, we included individuals' experiences in the estimation only until they missed an interview. After that, even if they were interviewed subsequently, the information obtained was not included in our calculations (because we could not fill in the experiences they had during the gap caused by the missed interview).

These restrictions, combined with the sampling scheme for the National Longitudinal Study of Youth (that is, it is a stratified sample from several cohort-year groups), made the sample extremely unbalanced. We oversampled men who were younger at the first interview and those who received more education. Table 1 shows the weighted distribution of school-leaving groups by age at the first interview. The percentage of high school dropouts fell 1.4 percentage points (from 35.32 to 33.95) between those aged 15 years and those aged 16 years at the first inter-

view. The drop was fully 9.3 percentage points between ages 16 and 17. This difference was due primarily to the increase in the fraction of men who left school before the retrospective period covered by the first interview, which began in January 1, 1978 (next-to-last column of the table). The proportion of men in this category increased steadily with the age at the first interview, and the total number of men in the category represented nearly 30 percent of the original sample from the National Longitudinal Survey of Youth. These men constituted the main group of individuals excluded from our sample. Problems with missing data led us to delete another 7.2 percent of the original sample.

Table 2 contains the final sample sizes by school-leaving group. The column headed "Number" lists the raw sample size of each group. Sample sizes for the first three groups are well over 700, and for college graduates, the number is greater than 300. The sample size for those with some postcollege education is under 150; consequently, we do not report results for them. The last three columns show the unweighted, weighted, and reweighted percentage distributions of the sample, respectively. The weighted percentages are derived from interview weights from the 1979 National Longitudinal Survey of Youth, which correct for nonresponse errors in the first wave of the survey. The reweighted percentages represent our best estimate of the true distribution of membership in school-leaving groups. The reweighted distribution is computed by aggregating across those aged 14 and 15 years at the first interview. (See table 1.) We use the reweighted estimates in the analyses that follow when we make statements about all youths (pooling across school-leaving groups).

Table 1. Distribution of school-leaving groups for men, by age at first interview, 1979

[In percent]

Age	Number	High school dropouts	High school graduates	Some college	College graduates	Some post-college education	Left school before January 1978 ¹	Missing data ²
All ages ..	5,579	17.78	22.30	13.95	7.35	2.71	28.67	7.24
14	504	33.31	35.00	16.62	4.97	1.59	.00	8.31
15	807	35.32	31.83	17.87	7.02	2.99	.13	4.84
16	781	33.95	31.39	13.17	7.38	1.57	1.12	11.42
17	753	24.63	33.03	16.05	7.03	1.97	7.73	9.56
18	770	15.46	30.80	12.64	6.37	2.08	22.82	9.93
19	642	3.79	19.16	14.34	6.70	5.19	44.61	6.21
20	620	.76	2.07	12.89	8.77	2.70	68.12	4.69
21	558	.00	.62	9.49	11.12	3.83	70.88	4.06
22	144	.00	.00	7.95	4.46	1.34	83.13	3.14

¹ And therefore categorized as missing data and excluded from sample.

² Specific missing-data problems, in order of importance, are: unable to distinguish high school diploma from equivalency certificate; gap caused by missing interview during which time individual left school; still in school; invalid date of receipt of bachelor's degree.

Thus, we estimate that, according to our definition of school-leaving groups, over the early 1980's, the youth population was about one-third high school dropouts (36.9 percent) and another third high school graduates (35.4 percent). About 1 in 5 men proceeded directly to postsecondary education, but did not receive a bachelor's degree before leaving school (18.5 percent), while fewer than 1 in 10 left school with a college degree (6.6 percent). Less than 3 percent proceeded directly from college to postcollege education (2.6 percent). The percentage of high school dropouts reported here is considerably higher than that reported in most other sources, and the percentage of college graduates is considerably lower.¹⁹ Before discussing our main results, we reconcile the difference between the distribution of sample members by school-leaving groups and the distribution by completed schooling. This discrepancy is due to a subsequent return to school after leaving it.

Return to school after leaving. We assigned men from the National Longitudinal Survey of Youth to school-leaving groups based on the degree, if any, they had earned as of the first time they were not in school (as their primary activity) for longer than the typical school break. Thus, by our definition, an individual leaves school when he works full time (with or without attending school simultaneously) or engages in an activity other than attending school for more than 3 to 5 months.

The assigned school-leaving group does not, however, indicate the final degree attained. To the extent that individuals return to school, either by combining full-time or part-time work with schooling or by attending school only after a break in their education, their school-leaving groups and attained schooling will differ. Thus, some high school students may be working 35 or more hours per week and attending school. In that case, we would permanently classify them into our dropout school-leaving group, even though they subsequently attained a high school degree or attended postsecondary school.

Table 3 addresses the extent to which individuals returned to school, by school-leaving group.²⁰ It presents the only results on completed schooling in this article. All other results pertain to the school-leaving group, regardless of how much actual schooling has been completed.

The table shows that a considerable number of men returned to school, even those who did not eventually receive a degree. More than 80 percent of those with some college (which includes men who received associate's degrees) returned to school, and about 60 percent of those with some college returned to school on a full-time basis. Almost 70 percent of high school

Table 2. Sizes of school-leaving groups of men from National Longitudinal Survey of Youth

School-leaving group	Number	Percent		
		Unweighted	Weighted	Reweighted ¹
All men	5,579	100.0	100.0	100.0
High school dropouts	1,223	21.9	17.8	36.9
High school graduates	1,235	22.1	22.3	35.4
Some college	735	13.2	13.9	18.5
College graduates	312	5.6	7.3	6.6
Some postcollege education	119	2.1	2.7	2.6
Left school before January 1978 ²	1,498	26.9	28.7	—
Missing data ³	457	8.2	7.3	—

¹ Reweighted percentages within the observations for which we could assign a school-leaving group among 14- to 15-year-olds at the first interview. (Very few of those who left school before January 1978 fall into this category.)

² And therefore categorized as missing data and excluded from sample.

³ Specific missing-data problems, in order of importance, are: unable to distinguish high school diploma from equivalency certificate; gap caused by missing interview during which time individual left school; still in school; invalid date of receipt of bachelor's degree.

NOTE: Dash indicates not included in reweighted percentages.

dropouts eventually returned to school, and more than half of all high school dropouts did so on a full-time basis. Rates of returning were almost as high—about 60 percent—for those who first left school immediately after having completed high school or having received bachelor's degrees, although full-time attendance was much less likely for these two groups. Completion rates were, however, much lower than rates of returning to school.

The figures for high school dropouts help to explain why the dropout rates presented in this article are higher than those reported elsewhere in the literature. Our definition corresponds to the general image of dropouts as those who leave school without attaining a regular high school diploma. Chart 1 plots returning to school and receipt of a diploma for high school dropouts by the number of years since they left school. One-third of the young men in this cohort eventually received regular high school diplomas, and another third received high school equivalency certificates. Not surprisingly, 95 percent of the high school diplomas and 4 of 5 of the equivalency certificates were obtained within the first 3 years after leaving school.²¹ Thus, while the school-leaving group of high school dropouts represents about one-third of our sample (36.9 percent), their prevalence in the adult population is only two-thirds of that figure (24.8 percent), or even slightly more than one-third of that rate (14.3 percent) if we include the equivalency certificate in the high school degree category.²²

The pattern of returning to school shown in table 3 implies a relatively standard distribution of completed education across all school-leaving groups. Eventually, 75.2 percent of the men

Transition to Stable Employment

who returned to school received conventional high school degrees, and another 10.5 percent received equivalency certificates. The remaining high school dropouts were 14.3 percent of the population. Another 25.2 (21.1 + 4.1) percent of all men eventually received college degrees, while 4.1 percent of all men received at least master's degrees.

Thus, the distribution of the sample by school-leaving group differs from the distribution by completed schooling because a substantial frac-

tion of men obtained their final degrees after gaps in their school attendance. Those leaving school without high school degrees were nearly evenly divided between those who eventually received high school diplomas, those who received equivalency certificates, and those who received neither diplomas nor equivalency certificates. Similar patterns exist at higher levels of education. Less than half of those who eventually received bachelor's degrees remained in school continuously until they received their degrees.

Chart 1. Returning to school and receipt of a diploma for male high school dropouts

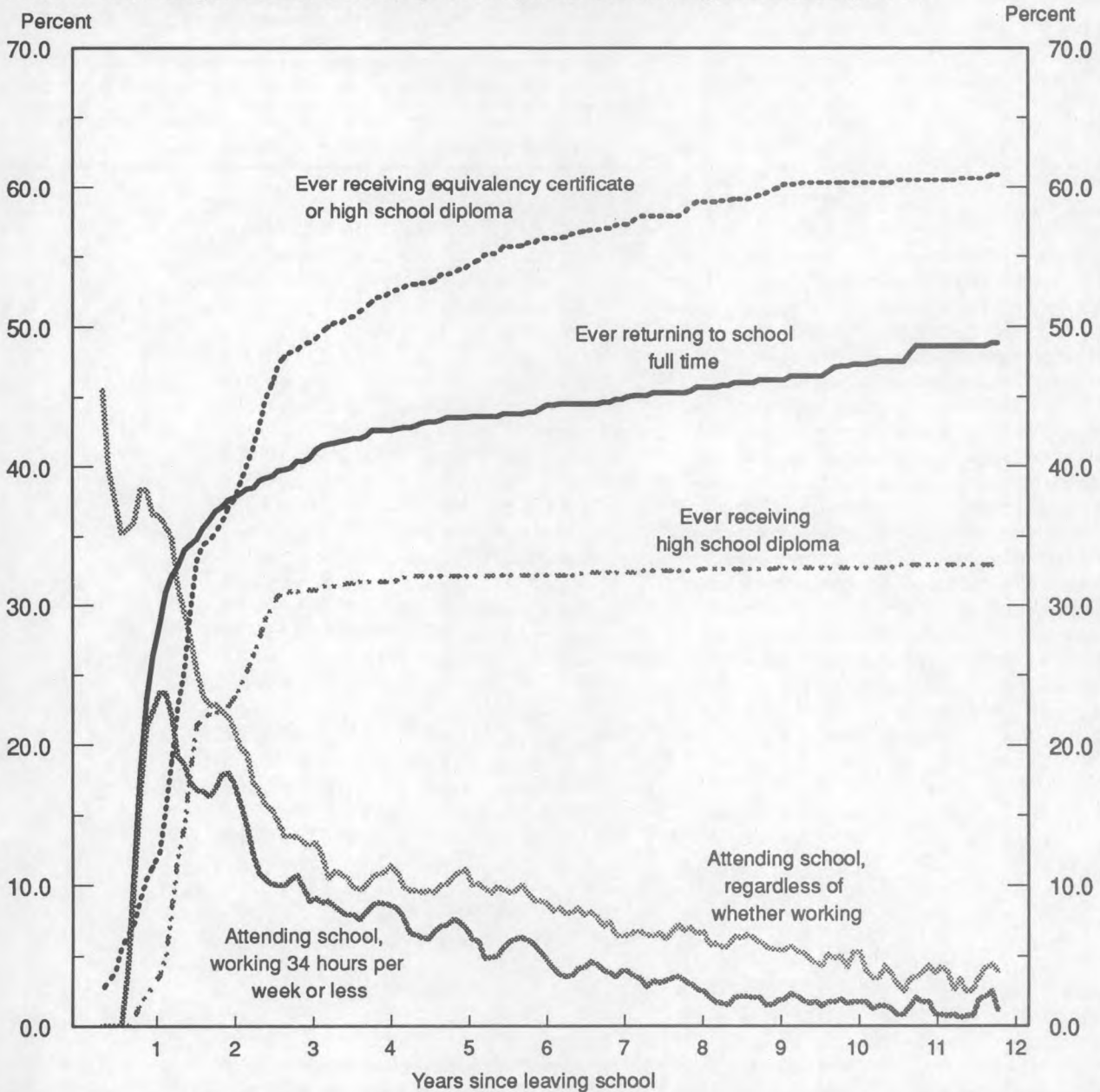


Table 3. Distribution of completed schooling for men, by school-leaving group¹

[In percent]

School-leaving group	Total	Returned to school		Final high school degree status ²			Final post-high school degree status	
		Ever	Full time ³	Dropout	Received equivalency certificate	Received diploma	Received bachelor's degree	Received master's degree or more
Total ⁴	100.0	...	...	14.3	10.5	75.2	21.1	4.1
High school dropouts	36.9	69.3	50.8	38.7	28.4	32.8	6.2	.8
High school graduates	35.4	61.3	31.0	.0	.0	100.0	7.9	.6
Some college	18.5	82.2	59.2	.0	.0	100.0	37.1	6.8
College graduates	6.6	59.7	22.4	.0	.0	100.0	100.0	13.5
Some postcollege education	2.6	55.9	32.2	.0	.0	100.0	100.0	54.5

¹ The sample consists of all individuals for whom we could assign a school-leaving group through the last interview they completed (in 1990). Final degree attainment is based on the last available interview.

² Data on final degree status are based on the last available interview. The three columns under this head are mutually exclusive and exhaustive. (That is, everyone either is a dropout, has received an equivalency certificate, or has received a high school diploma.)

³ Those in school full time are in school and working less than 35 hours per week.

⁴ The total is the reweighted percent from table 2 (computed from 14- and 15-year-olds at the first interview).

The transition to stable employment

Given our definition of leaving school (and realizing that there is some increase in the highest grade completed within the initial school-leaving group), we next explore the employment activities of young men by school-leaving group as they age. We begin with the conventional static picture, documenting patterns of schooling and employment at each age. A similar, but not identical, description could be generated from a cross-sectional survey such as the Current Population Survey.²³ The static analysis does not exploit the longitudinal nature of the data from the National Longitudinal Survey of Youth by which we can measure men's duration in various labor market statuses. In the dynamic analysis that follows, we examine patterns of job holding and job duration based on those men's longitudinal employment histories.

Static view of the transition from school to work. One picture of the transition from school to work can be gleaned from an analysis of changes in the work status of young men as they age. Our analysis differentiates four categories of work status (defined hierarchically—thus, those who might be included in two categories are included in the earlier category): working full time (35 or more hours per week); attending school and not working full time; working part time and not attending school; and neither working nor attending school. Note that, according to this analysis, men are classified as full-time workers even if they also attend school. The category is assigned the first month that the person turns the given age (not as an average over the

entire year in which the person was a given age). An individual is only included in the sample once he leaves school or begins to work full time (allowing him to be assigned a school-leaving group).²⁴

Table 4 presents the distribution of the sample of young men at each age across the four work status categories for 4 of the 5 school-leaving groups. (Because of the small sample size, data on those with some postcollege education are not presented.) For high school dropouts, the figures are consistent with Osterman's view of "hanging out":²⁵ at age 21, more than 20 percent of the high school dropouts were neither working nor in school, and through age 29, the figure did not drop below 14 percent. The table also indicates that there was some "hanging out" among high school graduates: through age 21, more than 20 percent were neither in school nor working full time. As with the high school dropouts, this fraction came down only slowly during a person's early 20's. Indeed, not until their 27th birthday did the percentage of high school graduates neither working full time nor in school drop below 10 percent. At that same age, 19.3 percent of high school dropouts were still neither working full time nor in school.

For the school-leaving groups with more education, it becomes relevant to ask whether we want to compare people by their chronological age or by the time elapsed since they left school. While the rows in table 4 present data for the various ages, each successive row represents approximately 1 additional year after a person leaves school. Comparing the entries for the four school-leaving groups, we see that the transition

Transition to Stable Employment

to full-time work became smoother as education increased. For college graduates, in approximately the second year after graduating (that is, at their 23rd birthday), less than 8 percent were not employed or in school, and only 6 percent were employed part time. Those with some college fared only slightly worse: at age 20 (at approximately the same point since they left school as did the college graduates), their nonemployment rate (that is, the incidence of those among them who were either unemployed or "out

of the labor force") was also under 8 percent, and their part-time employment rate was under 10 percent. The high school graduates, by contrast, fared much worse: at age 19, their nonemployment rate was 15.3 percent, and their part-time employment rate was 13.4 percent. And the high school dropouts fared worse still: at age 18, their nonemployment rate was 21.3 percent, and their part-time work rate was 10.0 percent. Thus, viewing full-time work as the norm, we find that the rates of full-time employment a little more than a year after leaving school are 80.8 for college graduates, 64.6 for those with some college, 62.1 for high school graduates, and 48.0 for high school dropouts.

As discussed previously, an alternative perspective is possible. The high rates of non-full-time work are consistent with the "leisure equalization hypothesis" discussed in the literature.²⁶ Panel 1 of chart 2 reinforces this perspective. Because the more educated school-leaving groups leave school later, the lines start farther to the right for each successive group. After age 25, once the nonemployment rate for college graduates drops sharply following their first 2 years out of school, the striking feature is the similarity of the nonemployment rate across all groups but high school dropouts. These men at the bottom of the education ladder stand out, with considerably higher rates of nonemployment over the entire period examined. The rates for high school graduates and for those with some college fall steadily as they age and their college-graduating peers leave school.

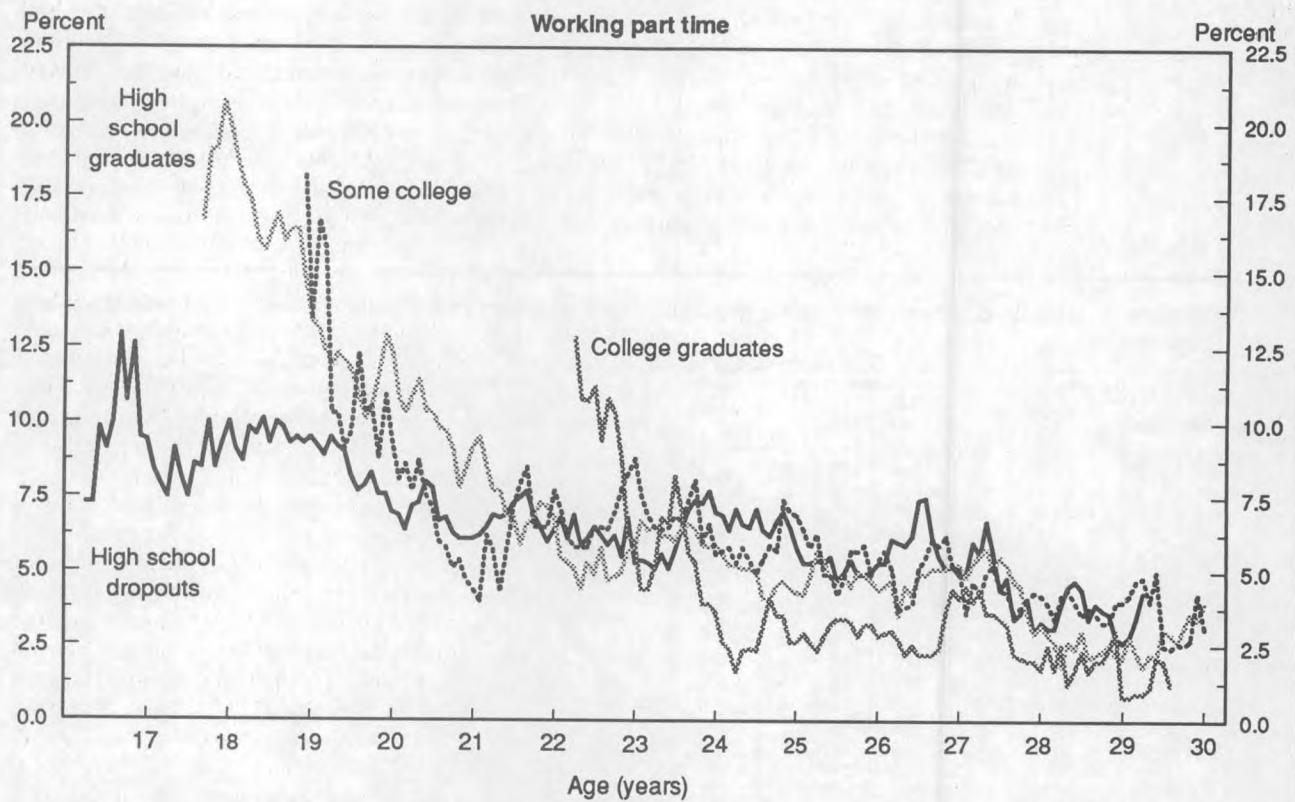
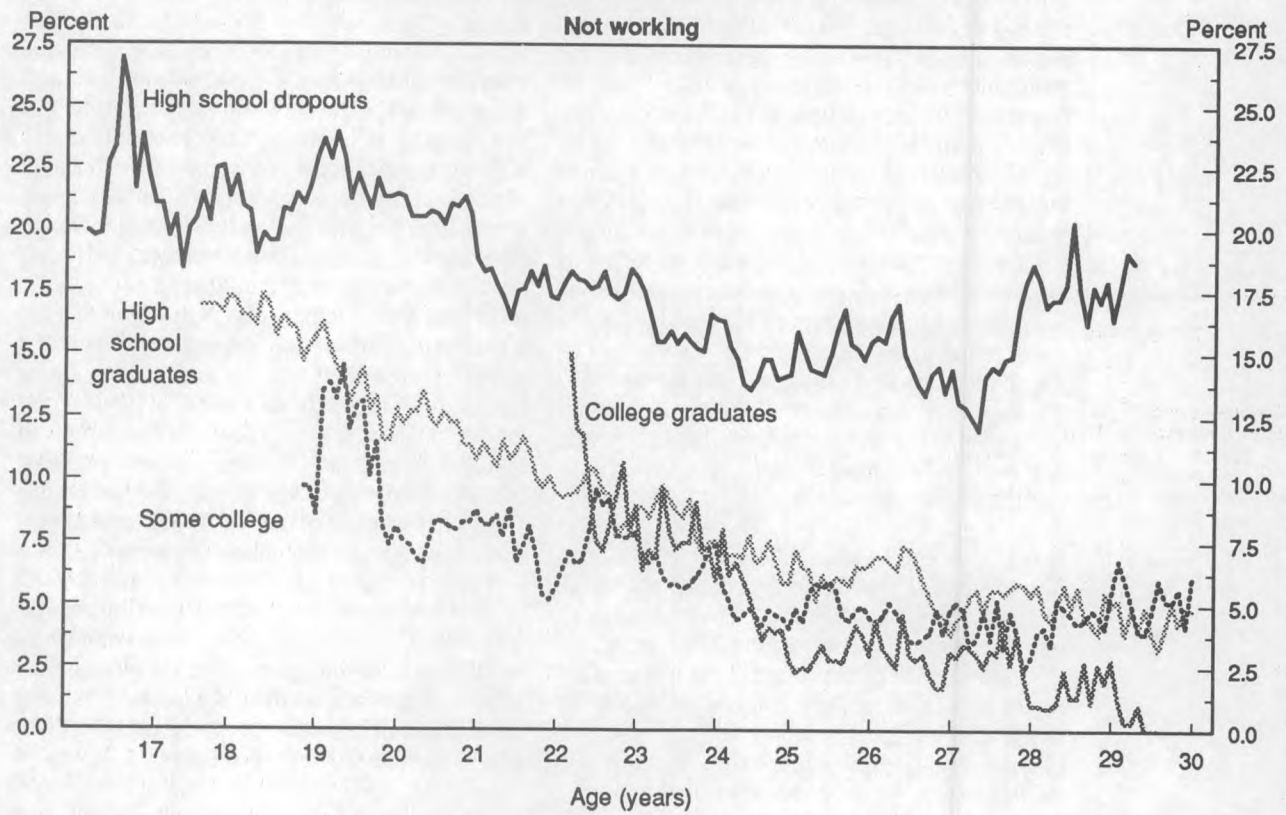
The results are similar for the fraction of each school-leaving group working part time at each age. (See chart 2, panel 2.) Again, except for high school dropouts, the other three school-leaving groups start out with a considerable amount of part-time work. This, however, is clearly transitional: within a few years of leaving school (about 3 for high school graduates, 2 for those with some college, and 1 for college graduates), the rates of part-time work fall sharply. Once again, the more educated school-leaving groups have a smoother transition, but the gaps between the groups close considerably over time.

Based on this static analysis of work status at each age, it appears that the outlier group is not high school graduates, but high school dropouts. Even at age 23, the nonemployment rate for dropouts is 18.4 percent, and their full-time employment rate is 71.3 percent. At age 25, the nonemployment rate is 14.2 percent, and the full-time employment rate only 77.9 percent. The latter figure is 10 percentage points below the rate for high school graduates and almost 13 percent below the rate for college graduates at the same age.²⁷

Table 4. Work status of men, by school-leaving group and age

School-leaving group and age (years)	Number	Percent			
		Working full time	In school, not working full time	Working part time, not in school	Not working, not in school
High school dropouts:					
17	437	51.7	16.7	9.4	22.2
18	820	48.0	20.6	10.0	21.3
19	1,031	55.6	13.2	9.5	21.7
20	1,070	62.7	9.1	7.0	21.3
21	1,069	66.7	6.6	6.1	20.6
22	1,056	70.6	5.7	6.4	17.3
23	1,039	71.3	5.1	5.3	18.4
24	1,014	73.1	3.3	7.0	16.6
25	992	77.9	2.2	5.8	14.2
26	898	77.5	1.7	5.3	15.5
27	661	79.6	1.1	4.9	14.4
28	412	75.2	3.0	3.3	18.6
29	193	79.9	1.1	2.6	16.4
High school graduates:					
18	446	58.4	4.5	19.8	17.3
19	1,025	62.1	9.2	13.4	15.3
20	1,173	66.6	9.4	12.3	11.6
21	1,177	71.2	8.3	9.2	11.4
22	1,165	76.5	6.5	6.8	10.1
23	1,157	80.8	5.0	5.8	8.4
24	1,143	84.2	2.4	5.9	7.5
25	1,123	87.9	1.9	4.3	5.9
26	1,035	87.4	1.5	4.4	6.6
27	817	88.9	2.1	5.2	3.8
28	598	90.3	1.0	3.2	5.4
29	376	89.3	3.6	2.1	5.0
30	183	89.5	1.9	3.9	4.8
Some college:					
19	165	66.6	10.3	13.4	9.7
20	385	64.6	18.6	9.4	7.4
21	536	63.6	23.6	4.4	8.3
22	620	62.0	25.2	7.7	5.2
23	656	66.0	17.4	8.8	7.7
24	675	76.4	10.6	5.6	7.3
25	668	80.7	8.3	6.9	4.1
26	634	82.9	7.2	5.4	4.5
27	516	85.3	4.9	5.1	4.8
28	425	89.7	3.2	4.2	2.9
29	323	87.0	3.4	4.0	5.5
30	228	85.8	4.8	3.1	6.3
31	156	85.8	5.1	2.7	6.3
College graduates:					
23	247	80.8	5.4	6.0	7.8
24	286	82.6	6.7	3.6	7.2
25	292	90.7	3.9	2.6	2.8
26	278	87.0	7.3	2.8	3.0
27	242	89.5	3.2	4.1	3.1
28	205	96.1	1.3	1.7	1.0
29	168	94.1	2.2	.8	2.8

Chart 2. Percent of men not working or working part time, by school-leaving group



Dynamic view of the transition from school to work. An advantage of the data from the National Longitudinal Survey of Youth is that we can go beyond the static view to consider the transition from school to work in a dynamic framework. The perception that non-college-bound youth "mill about" in the labor market in the early years after leaving school is a statement about the dynamics of employment. In this section, we use the information in the National Longitudinal Survey employment histories to evaluate further the employment experiences of young men. First, we examine the transition process in terms of the distribution of the number of jobs held at successive ages. Then we consider the transition to stable employment, measured by job duration. As before, in these dynamic analyses, we continue to analyze each school-leaving group separately.

(1) *Number of jobs held.* For each school-leaving group and age, table 5 presents the mean number of jobs held, as well as the number of jobs held by the person at the 25th, 50th, and 75th percentiles of the distribution of the number of jobs held. Jobs are counted only after the individual has left school and are defined as employment with a given employer. According to the table, young men held a large number of jobs in the years immediately after leaving school; this is consistent with findings reported elsewhere.²⁸ Whether it can be viewed as productive job shopping or unproductive "milling about," however, is not clear from the data.

Again, for number of jobs held, there were important differences by school-leaving group.²⁹ The number of jobs held by high school dropouts was large, compared with the numbers for

the other groups. The median male high school dropout had held 6 jobs by age 24 and 8 jobs by age 28. (The same is true for the mean male high school dropout.) A high school dropout at the 75th percentile, in contrast, had held 9 jobs at age 24 and 10 at age 28. As a summary measure, this represents about a job every other year at the median and nearly a job a year at the 75th percentile.

High school graduates started working about a year later (on average) than high school dropouts, and they accumulated jobs more slowly. After a year, they were accumulating about half a job a year at the median, less than a third of a job a year at the 25th percentile, and just over half a job a year at the 75th percentile. Similar patterns existed for those with some college. Finally, college graduates left school about 4 years later than high school graduates, and they accumulated new jobs the most slowly. Exact comparisons are difficult because most of them were still in their second or third job by the end of the survey.

These results suggest a considerable amount of "milling about" for all school-leaving groups. The amount is lower for those in the more educated school-leaving groups for the same number of years since entering the labor market following leaving school. However, an analysis of job duration suggests a different perspective.

(2) *Timing of the transition to stable employment.* We next use the longitudinal nature of the data in the National Longitudinal Survey of Youth to determine what percentage of a school-leaving group has ever held a job of a given duration—specifically, a job lasting for at least 1, at least 2, or at least 3 years. We view holding a job of 1 to 3 years' duration as one useful definition of stable employment, as opposed to "milling about."

Table 5. Number of jobs held, by school-leaving group and age, at mean and 25th, 50th, and 75th percentiles of distribution

Age	High school dropouts					High school graduates					Some college					College graduates				
	Number	Mean	Percentile			Number	Mean	Percentile			Number	Mean	Percentile			Number	Mean	Percentile		
			25th	50th	75th			25th	50th	75th			25th	50th	75th			25th	50th	75th
17 ...	1,122	0.5	0	0	1	1,225	0.0	0	0	0	729	0.0	0	0	0	307	0.0	0	0	0
18 ...	1,106	1.4	0	1	2	1,217	.4	0	0	1	727	.0	0	0	0	307	.0	0	0	0
19 ...	1,093	2.5	1	2	4	1,202	1.5	1	1	2	724	.3	0	0	0	306	.0	0	0	0
20 ...	1,082	3.5	2	3	5	1,193	2.5	1	2	3	721	1.0	0	1	2	304	.0	0	0	0
21 ...	1,074	4.3	2	4	6	1,179	3.3	2	3	4	707	1.8	0	2	3	303	.0	0	0	0
22 ...	1,059	5.2	3	5	7	1,168	4.0	2	4	5	700	2.7	1	2	4	301	.4	0	0	1
23 ...	1,040	5.9	3	5	8	1,160	4.7	2	4	6	693	3.6	2	3	5	297	1.3	1	1	2
24 ...	1,017	6.7	4	6	9	1,143	5.3	3	5	7	687	4.4	2	4	6	295	2.0	1	2	3
25 ...	994	7.3	4	7	¹⁰	1,125	5.9	3	5	8	672	5.0	3	5	7	294	2.5	1	2	3
26 ...	902	8.0	5	7	¹⁰	1,035	6.3	3	6	9	637	5.6	3	5	8	279	2.9	1	2	4
27 ...	662	8.6	5	8	¹⁰	817	6.7	4	6	9	517	6.2	3	5	8	242	3.3	2	3	4
28 ...	413	8.6	5	8	¹⁰	598	7.2	4	6	¹⁰	425	6.7	4	6	9	205	3.6	2	3	5
29 ...	194	8.8	6	9	¹⁰	376	7.6	4	7	¹⁰	323	7.0	4	6	9	169	3.8	2	3	5
30 ...	—	—	—	—	—	183	7.8	4	7	¹⁰	228	7.3	4	7	¹⁰	—	—	—	—	—
31 ...	—	—	—	—	—	—	—	—	—	—	156	7.7	4	7	¹⁰	—	—	—	—	—

¹ 10 or more jobs.

Note: Dash indicates fewer than 50 observations.

Chart 3. Percent of men ever in a job since leaving school, by duration of job and school-leaving group

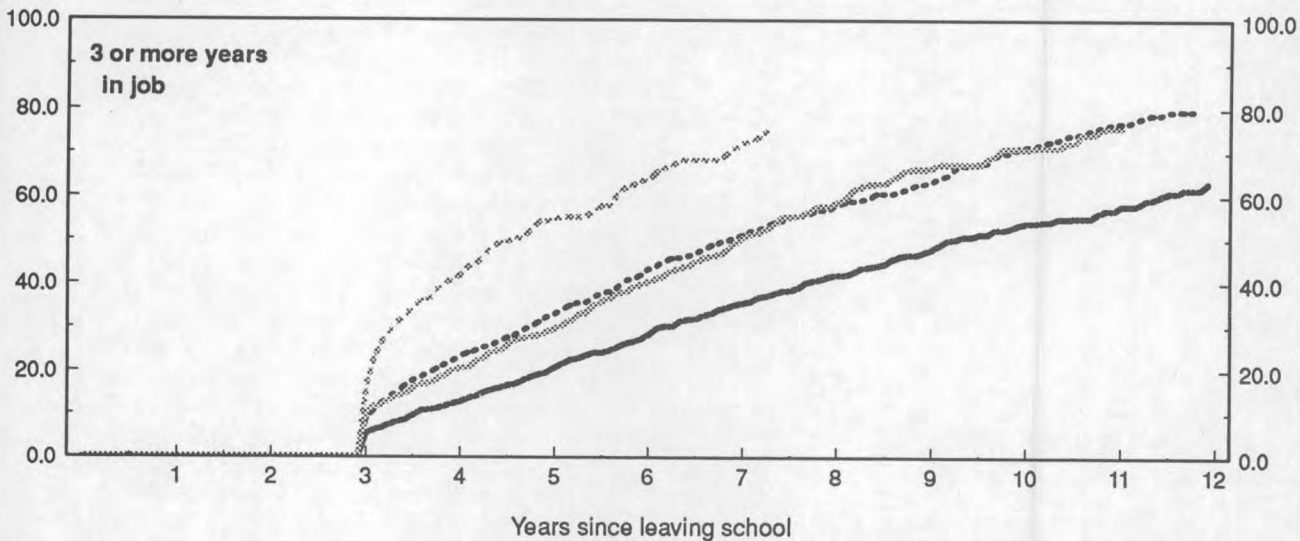
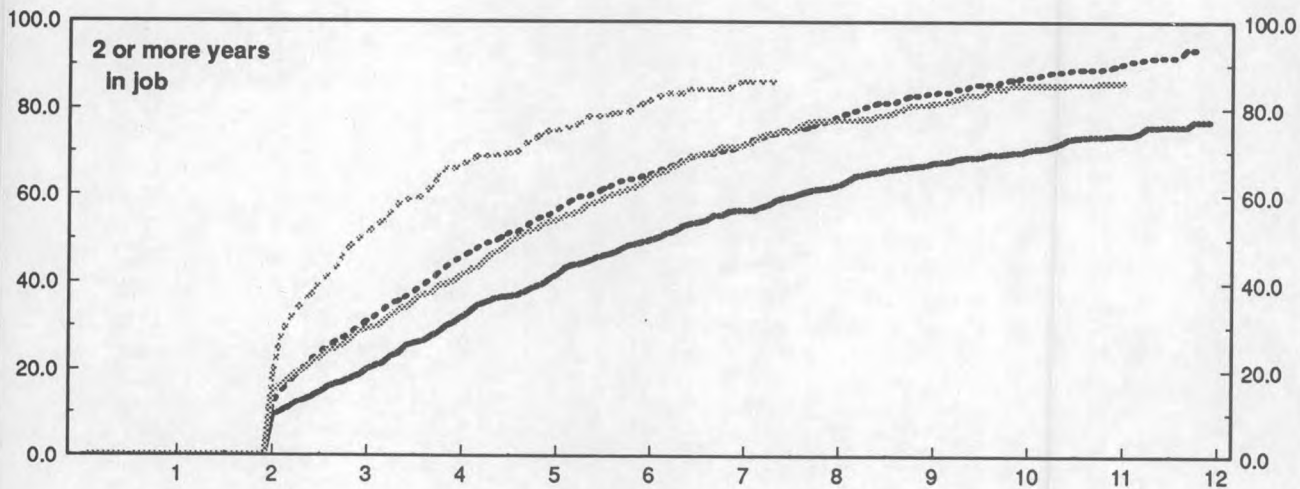
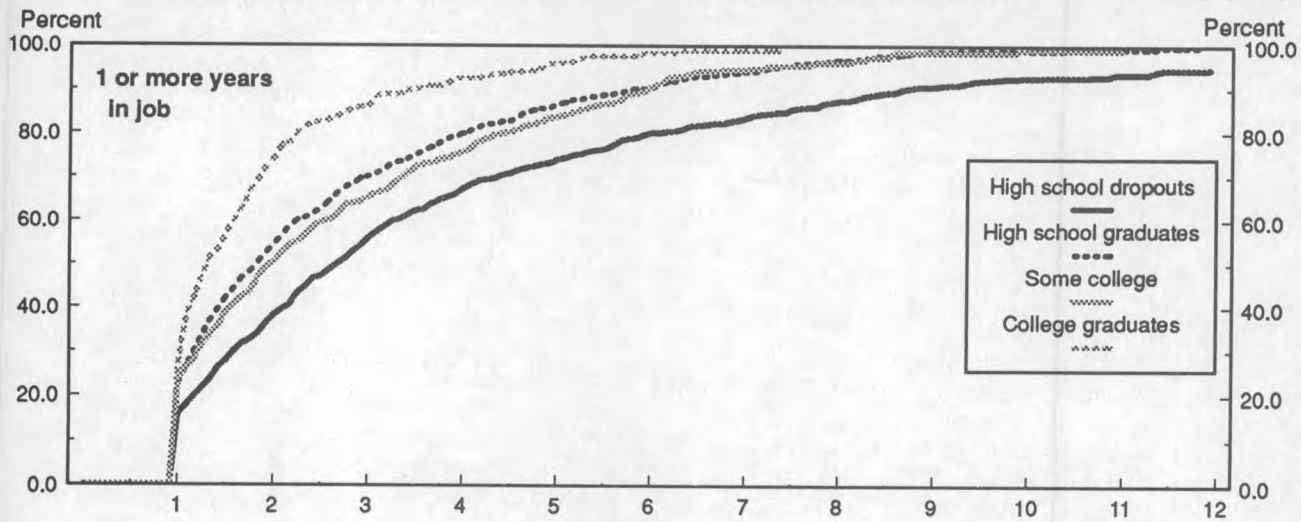


Table 6. Percent of men ever in a job since leaving school, by school-leaving group, duration of job, and age

School-leaving group and age	Number	Duration of longest job ever held		
		1 year	2 years	3 years
High school dropouts:				
16	1,132	0.0	0.0	0.0
17	1,122	2.1	.0	.0
18	1,106	11.9	1.2	.0
19	1,093	27.5	5.7	.8
20	1,082	49.0	13.7	2.8
21	1,074	63.2	28.6	7.5
22	1,059	72.2	39.1	18.4
23	1,040	77.4	46.6	26.0
24	1,017	81.9	54.1	32.4
25	994	86.4	61.4	40.1
26	902	90.0	66.2	47.1
27	662	91.8	70.3	52.7
28	413	93.7	73.7	56.8
29	194	93.8	75.6	60.8
High school graduates:				
16	1,227	.0	.0	.0
17	1,225	.0	.0	.0
18	1,217	.1	.0	.0
19	1,202	14.2	.1	.0
20	1,193	47.3	7.3	.1
21	1,179	67.4	27.4	5.2
22	1,168	77.1	41.8	19.7
23	1,160	84.9	53.4	30.5
24	1,143	90.5	63.7	41.3
25	1,125	94.3	70.9	49.9
26	1,035	95.9	77.4	57.0
27	817	98.2	83.4	63.6
28	598	98.6	87.1	70.1
29	376	98.6	89.0	75.7
30	183	99.2	91.7	79.5
Some college:				
16	732	.0	.0	.0
17	729	.0	.0	.0
18	727	.0	.0	.0
19	724	.6	.0	.0
20	721	8.4	.0	.0
21	707	24.8	4.5	.0
22	700	41.0	15.6	3.6
23	693	57.3	26.8	10.2
24	687	69.1	38.6	17.9
25	672	81.2	48.0	28.8
26	637	89.8	61.0	36.3
27	517	94.3	71.1	49.4
28	425	96.7	75.2	58.8
29	323	98.9	81.6	63.5
30	228	98.9	86.9	70.2
31	156	99.1	87.5	76.8
College graduates:				
16	309	.0	.0	.0
17	307	.0	.0	.0
18	307	.0	.0	.0
19	306	.0	.0	.0
20	304	.0	.0	.0
21	303	.0	.0	.0
22	301	.2	.0	.0
23	297	20.8	.0	.0
24	295	61.1	16.0	.0
25	294	78.8	40.9	13.6
26	279	90.4	60.7	35.4
27	242	94.9	73.4	50.5
28	205	97.4	81.3	60.6
29	169	98.2	84.1	68.0

While we do not evaluate whether these are "good jobs" on the basis of compensation or potential for career advancement, tenure on the job is one measure of the process of settling down and a possible indicator of the transition to a career job. Finally, we examine the sensitivity of our results to alternative definitions of job duration that have been used in the literature.

Chart 3 plots, for each year since leaving school, the percentage of men in each school-leaving group ever in a job that lasted 1, 2, or 3 years. For example, 5 years after leaving school, about 21 percent of high school dropouts had ever held a job that lasted 3 years, while 55 percent of college graduates had done so. About one-third of high school graduates and the same fraction of those with some college had achieved this status.

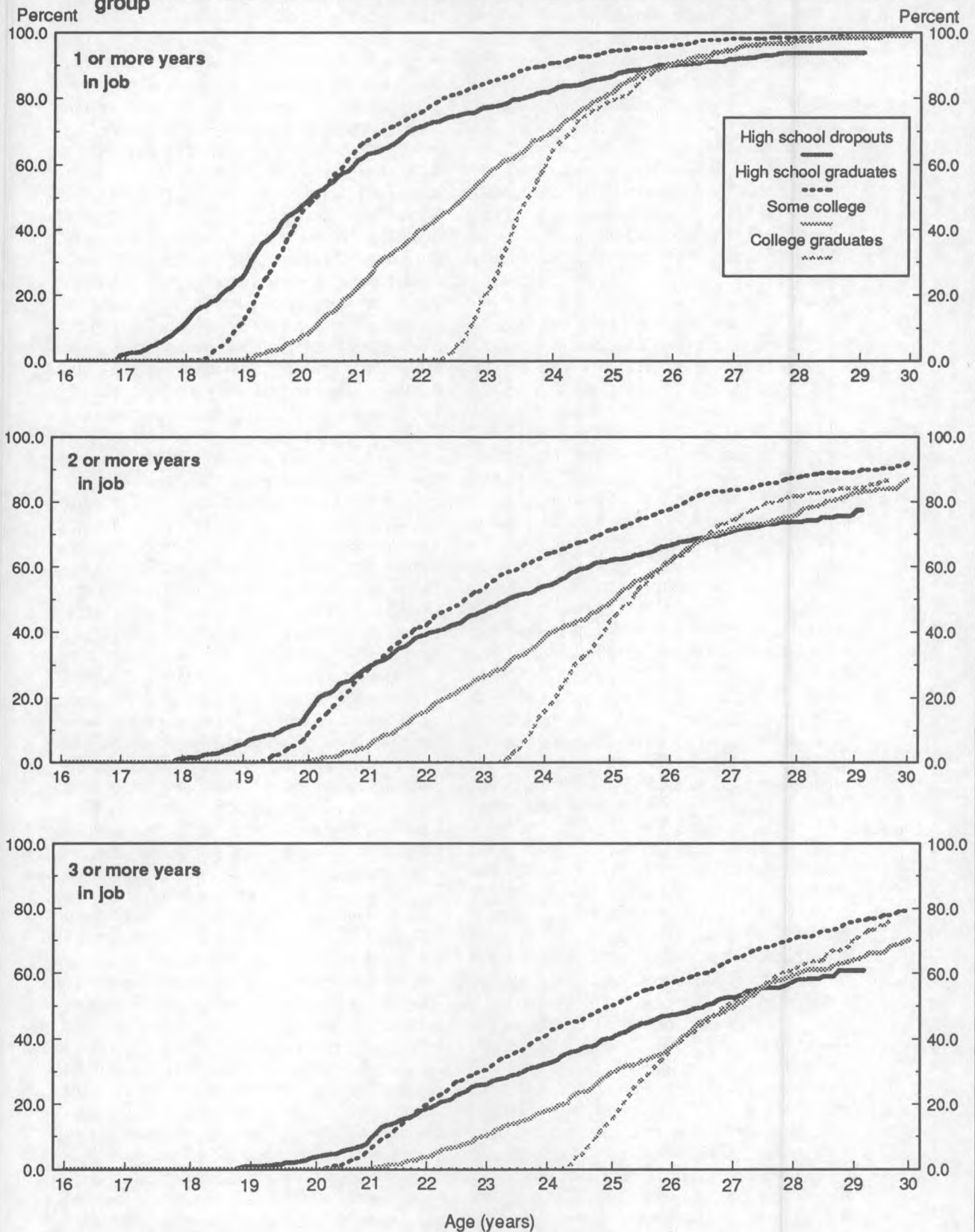
Similar general patterns existed for each measure of job duration. In all cases, measuring time since leaving school, college graduates made the transition to stable employment fastest, high school dropouts slowest. In the middle were high school graduates and those with some college; the behavior of these two groups was nearly indistinguishable.

Chart 4 displays the same information as chart 3, except by the age of the individual, rather than by the time since left school. Immediately after the person left school, the age at which he had left dominates the curve. High school dropouts were in the labor market for the longest period, so they had more time to experience a job lasting 1, 2, or 3 years.

Interestingly, this effect wore off quite quickly. Within 1 or 2 years after it was chronologically possible, high school graduates overtook high school dropouts in terms of the percentage who had ever held a job for 1, 2, or 3 years. By age 30, college graduates rose to the level of the other three groups. In some cases, college graduates overtook those with some college, as well as high school dropouts, within 1 or 2 years of the earliest time they could do so (that is, 4 or 5 years after they entered the labor market). In contrast, those with some college, while eventually overtaking high school dropouts, tended to lag behind high school graduates through age 30.

For college graduates, there was relatively little heterogeneity in the transition to stable employment. The median male college graduate held a job for 1 year before his 24th birthday, a job for 2 years before his 26th birthday, and a job for 3 years before his 27th birthday. (See table 6.) A man at the 25th percentile of the durational distribution also held a job lasting 1 year before age 24 and essentially stayed with that job, progressing to each later cutoff (2 years and 3 years) about a year later. Just before age 25, a man at the 75th percentile held a job for 1 year. He took 3 more years to stay in a job 2 years and had not yet

Chart 4. Percent of men ever in a job since leaving school, by age, duration of job, and school-leaving group



stayed in a job 3 years by age 29, when the data become too sparse for analysis.

The pattern for the median male with some college is similar to that for the median college graduate. (See table 6.) It is more heterogeneous, however, because of the variation in the date of leaving school and the fact that some men with some college return to school.

At the other extreme, the median male dropout did not hold a job for a year until just after his 20th birthday, despite the fact that he usually entered the labor force before his 17th birthday (See table 6.) The median dropout did not reach the 2-year tenure point until age 23 and the 3-year mark until age 26. This implies that the median dropout did not enter a job lasting 1 year until age 19, a job lasting 2 years until age 21, and a job lasting 3 years until age 23.³⁰

For high school dropouts, the variance was substantial. At the 25th percentile, dropouts reached the 1-, 2-, and 3-year tenure points before ages 19, 21, and 23, respectively, a pace that was faster than that of the median high school graduate. Dropouts at the 75th percentile did not reach the 1-year tenure point until age 22, and still had not reached the 2-year tenure point by age 29, when the data become too sparse for analysis.

Finally, we turn to the pattern for high school graduates, the focus of the concerns about the transition from school to work. The median high school graduate had held a job for at least 1 year by the time he turned 21, 2 years by the time he turned 23, and 3 years by the time he turned 26. (See table 6.) Subtracting the time required to achieve the stated tenure in each job, we conclude that the median male high school graduate entered a job that would last 1 year while he was 19, 2 years while he was 20, and 3 years while he was 22.³¹

If holding a job for 2 or even 3 years is not "milling about," then the patterns for high school graduates in table 6 do not support the impression conveyed in the report by the Commission on the Skills of the American Workforce³² that the typical high school student "mills about" in the labor market until age 23 or 24. True enough, the median high school graduate did not settle immediately (at 18 or 19) into a long-tenured job. However, characterizing the settling-down process as lasting into the mid-20's (for example, 23 or 24) is overly pessimistic for the typical member of that group. Furthermore, we reach this conclusion for a group of men that includes those who returned to school full time (nearly 30 percent of the sample). If we were to exclude those high school graduates who "failed" to make the transition to stable employment by a given age because they returned to school, the computed

median age at entry into stable employment among those who did not return to school would be even earlier,

Of course, while this is the pattern for the median high school graduate, the experience varies considerably at the extremes of the distribution. At the 25th percentile, high school graduates entered the 1-, 2-, and 3-year jobs when they were 18, 18, and 19 years, respectively, that is, from 1 to 3 years ahead of the median. This probably describes what is possible in the United States for young men with "successful" transitions. By contrast, at the 75th percentile, young male high school graduates experienced a transition from school to work that corresponds more closely to the common perception, embodied in the quote from the report by the Commission on the Skills of the American Workforce cited at the beginning of this article. At that level of the distribution, graduates entered their 1-, 2-, and 3-year jobs at ages 20, 23, and 25, respectively.

(3) *Sensitivity analysis.* The preceding results provide a considerably brighter picture than has been presented elsewhere in the literature using the same data.³³ The difference derives primarily from different methods of summarizing dynamic labor market data. We define "milling about" as ending *permanently* when a young person first stays in *any* job more than M years. When we find that to happen, we subtract M years, yielding the age at which the person first entered a job that would last M years.

At least two other concepts are possible: first, we could ask whether or not the job a person is *currently* in *will last* at least M years; and second, we can ask whether the *current* job *has already lasted* at least M years.³⁴

Table 7 compares the percent of high school graduates with job tenures of 1, 2, and 3 years under these different concepts of job tenure as of the time a person is exactly a given age, from ages 16 to 30. (For purposes of comparison, the table also presents results for high school dropouts, those with some college, and college graduates; the ordering of the ages is similar.) For each age and job tenure, these three numbers correspond to the three concepts just described. The column labeled "Longest" corresponds to the *longest* job a person has ever held as of the given age (the definition we adhere to). The column labeled "Eventual" corresponds to the *eventual* length of the *current* job at that age, and the column labeled "Current" corresponds to the length *to date* of the *current* job at that age. There is a formal relation among these concepts: the current duration of the job is always less than or equal to the eventual duration of the job, which is always less than or equal to the duration of the

Table 7. Percent of men with job tenures of 1, 2, and 3 years under different concepts of job tenure

Age	Number	1 year			2 years			3 years		
		Longest	Eventual	Current	Longest	Eventual	Current	Longest	Eventual	Current
High school dropouts:										
16	1,132	0.0	1.8	0.0	0.0	1.0	0.0	0.0	0.5	0.0
17	1,122	2.1	10.2	2.1	.0	5.2	.0	.0	2.4	.0
18	1,106	11.9	23.0	9.0	1.2	11.9	1.2	.0	6.8	.0
19	1,093	27.5	39.7	15.0	5.7	25.7	3.5	.8	17.3	.6
20	1,082	49.0	49.1	28.5	13.7	34.5	8.0	2.8	24.2	1.3
21	1,074	63.2	52.1	34.5	28.6	38.5	18.2	7.5	29.7	5.0
22	1,059	72.2	57.8	36.4	39.1	43.4	22.8	18.4	35.4	13.0
23	1,040	77.4	61.1	40.7	46.6	47.7	23.9	26.0	38.5	15.0
24	1,017	81.9	64.3	44.3	54.1	49.3	27.2	32.4	40.9	17.0
25	994	86.4	67.0	46.3	61.4	50.3	30.5	40.1	40.5	19.9
26	902	90.0	65.8	46.6	66.2	51.0	31.3	47.1	42.0	22.8
27	662	91.8	70.2	47.3	70.3	57.2	33.4	52.7	46.8	25.3
28	413	93.7	68.1	50.3	73.7	58.4	33.2	56.8	48.5	25.5
29	194	93.8	72.0	58.4	75.6	—	43.5	60.8	—	27.2
High school graduates:										
16	1,227	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	1,225	.0	.1	.0	.0	.1	.0	.0	.1	.0
18	1,217	.1	11.5	.1	.0	5.7	.0	.0	3.7	.0
19	1,202	14.2	44.2	11.6	.1	26.0	.1	.0	18.5	.0
20	1,193	47.3	59.1	34.2	7.3	40.7	6.5	.1	29.8	.1
21	1,179	67.4	63.7	42.4	27.4	49.0	21.5	5.2	39.5	4.3
22	1,168	77.1	66.1	45.3	41.8	54.8	28.0	19.7	46.0	15.5
23	1,160	84.9	75.2	52.2	53.4	60.4	34.1	30.5	50.0	21.4
24	1,143	90.5	74.5	54.7	63.7	62.7	37.5	41.3	53.0	25.9
25	1,125	94.3	78.7	58.1	70.9	67.1	41.1	49.9	58.6	30.7
26	1,035	95.9	81.0	61.3	77.4	70.8	45.4	57.0	63.5	33.8
27	817	98.2	86.4	66.8	83.4	76.0	51.1	63.6	67.3	39.1
28	598	98.6	85.2	68.8	87.1	76.2	53.4	70.1	67.1	42.9
29	376	98.6	85.6	66.8	89.0	76.2	52.0	75.7	68.7	44.3
30	183	99.2	91.2	73.3	91.7	—	56.1	79.5	—	45.8
Some college:										
16	732	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	729	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	727	.0	.5	.0	.0	.0	.0	.0	.0	.0
19	724	.6	7.4	.4	.0	4.2	.0	.0	3.5	.0
20	721	8.4	23.0	6.3	.0	15.0	.0	.0	9.7	.0
21	707	24.8	35.5	17.5	4.5	25.4	4.1	.0	17.0	.0
22	700	41.0	48.1	25.6	15.6	34.3	11.8	3.6	27.2	3.4
23	693	57.3	57.5	37.4	26.8	41.4	17.7	10.2	33.7	8.3
24	687	69.1	67.6	42.0	38.6	51.4	25.2	17.9	42.7	12.9
25	672	81.2	76.4	50.3	48.0	60.1	29.9	28.8	50.8	20.0
26	637	89.8	81.3	59.0	61.0	64.6	36.5	36.3	54.8	21.3
27	517	94.3	81.4	59.6	71.1	69.6	43.7	49.4	59.2	28.9
28	425	96.7	86.0	64.7	75.2	73.1	45.8	58.8	63.5	34.0
29	323	98.9	84.5	66.8	81.6	75.0	48.8	63.5	67.8	36.6
30	228	98.9	80.8	64.4	86.9	72.3	52.2	70.2	66.1	38.3
31	156	99.1	—	69.5	87.5	—	53.6	76.8	—	45.2
College graduates:										
16	309	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	307	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	307	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	306	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	304	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	303	.0	.2	.0	.0	.0	.0	.0	.0	.0
22	301	.2	18.9	.0	.0	14.2	.0	.0	12.4	.0
23	297	20.8	56.5	18.3	.0	38.2	.0	.0	33.0	.0
24	295	61.1	73.2	47.6	16.0	59.2	15.8	.0	48.8	.0
25	294	78.8	85.3	58.9	40.9	71.3	35.9	13.6	60.4	12.6
26	279	90.4	85.2	68.9	60.7	75.3	48.6	35.4	66.7	31.5
27	242	94.9	89.7	70.5	73.4	79.8	55.4	50.5	73.0	43.1
28	205	97.4	84.3	68.9	81.3	77.2	54.0	60.6	72.2	43.5
29	169	98.2	88.8	68.2	84.1	81.1	59.0	68.0	79.5	49.1

NOTE: Statistics are as of the birthday in the age column. "Number" denotes the number of individuals in the sample at least through the given age. Dash denotes fewer than 150 observations. Longest = Longest job ever held lasted at least *M* years. Eventual = Current job will eventually last at least *M* years. To compute this value, we need to be able to observe the person for another *M* years. Thus, some cells in the column headed "Eventual" will have fewer than 150 observations. Current = Current job has already lasted at least *M* years.

longest job held M years later (that is, M rows down the table in the column labeled "Longest").

According to the table, the time on the current job clearly gives the most negative results. Consider, for example, the job that the individual had held for 2 years as of age 26. More than half of all high school graduates, 54.6 percent (100.0 - 45.4), at age 26 had not been in their current job for even 2 years. Note, however, that for nearly half, 46.5 percent $[(70.8 - 45.4)/54.6]$, of those whose current job had not lasted 2 years, the current job would in fact last 2 years. Further, nearly one-quarter, 22.6 percent $[(77.4 - 70.8)/(100.0 - 70.8)]$, of the men whose current job would not last 2 years had already held a job that lasted 2 years. Put differently, half of all high school graduates at a given age were not in a job that would last 2 years until nearly age 27. However, just after his 21st birthday, the median high school graduate was in a job that would last at least 2 years. And even before his 20th birthday, the median high school graduate had, at some earlier point in his work career (perhaps not the current job), held a job that eventually lasted at least 2 years.

Following the labor economic literature on job matching,³⁵ we are reluctant to view all job turnover as bad. In fact, the literature suggests that most job changes involve sizable wage increases. From this perspective, we are concerned about measures of employment stability that consider individuals who, at an arbitrary point in time, have not been in their current job for several years as not having experienced a successful transition to stable employment.³⁶ A similar criticism applies to measures based on the eventual duration of the current job.

We agree that in and of itself, the failure to stay on a job for a significant period of time (1, 2, or, especially, 3 years) frequently indicates some problem. If employers do not expect young workers to stay on the job even for such a moderate period of time, they will not invest in training them. However, a worker who spends several years with one employer and then moves on to a new job (often with a large increase in pay) is not a failure: the new job could also last several years.

Even a short job (under a year) between two longer jobs need not be viewed as a failure. Perhaps the short job did not "work out"; perhaps it was deliberately viewed as temporary until an appropriate "career-enhancing" job became available. (The worker might even have known of that next good job.) For all of these reasons, we prefer our definition of the transition period as the time until the young worker first enters a job that will eventually last more than M years. And, again for the same reasons, we are concerned that the alternative definitions we have

discussed present an overly pessimistic view of labor market dynamics.

Conclusions

The analysis of data from the National Longitudinal Survey of Youth presented in this article supports the conclusion reached in previous research that a large share of young men are neither in school nor working full time after leaving school. In addition, in the years shortly after leaving school, they hold many jobs.

In our dynamic analyses of the transitions to stable employment, we use a different and, we argue, preferable measure of job duration than has been previously employed. As a result, we find less support for the common perception that the typical male high school graduate "mills about" in the labor market until well into his 20's. Indeed, while he was 20, the median male high school graduate (who did not proceed immediately to postsecondary education) had already entered a job that would last at least 2 years. The corresponding age for entering a job that would last 3 or more years is 22. These age patterns are remarkably similar across men who leave school earlier (high school dropouts) and those who leave school later (those who proceed directly from high school to postsecondary education, whether or not they receive a bachelor's degree).

The results suggest that the median male high school graduate does not move immediately from school to a long-term job. However, he will enter a long-term job (of at least 2 or 3 years' duration) in his early 20's—not the mid- or late 20's claimed by some other analysts. Thus, for the median male student, the transition to more stable employment does not appear to be a major problem: the 2- or 3-year jobs they secure may be "dead end" by some other criterion (for example, absolute earnings or earnings growth), but not by their longevity.

There is, however, considerable diversity among and within the school-leaving groups we examine. The foregoing characterization holds for the median male high school graduate. Male high school graduates at the 75th percentile did not reach a job with 1, 2, or 3 years of tenure until the ages of 20, 23, and 25, respectively. For high school dropouts, the time to reach this status was even longer. These results suggest that "milling about" is less typical for high school graduates and more common for the bulk of high school dropouts.

We further document that the proportion of young people who could be considered to be "milling about" is sensitive to the concept of job duration used. Compared with analyses based on whether the current job *will last* M years or whether the current job *has already lasted* M

years, our concept—*ever having held* a job lasting M years—presents a more favorable view of the transition. Nevertheless, we are inclined to believe that whether an individual has ever begun a job which will last that long is more important than whether that individual's current job has lasted or will last that long. Job turnover at these early ages is beneficial if the new job provides a better match between the youth's skills and the skill requirements of the employer.

As we noted earlier, our results for the frac-

tion of men in a given school-leaving group who had entered stable employment by a given age is a lower bound on the actual number: for many young men, the transition to stable employment is interrupted by returning to school, which most observers would view as a positive development. The next step in this line of research is to clarify the timing of an individual's return to school, the type of schooling he seeks and gets, and the interaction between that schooling and the timing of the transition to stable employment. □

Footnotes

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¹ See, for example, Paul Osterman, *Getting Started: The Youth Labor Market* (Cambridge, MA, MIT Press, 1980); Commission on the Skills of the American Workforce, *America's Choice: High Skills or Low Wages* (Rochester, NY, National Center on Education and the Economy, 1990); James E. Rosenbaum, Takehiko Karia, Rick Settersten, and Tony Maier, "Market and Network Theories of the Transition from High School to Work: Their Application to Industrial Societies," *Annual Review of Sociology*, Vol. 16, 1990, pp. 263–99; Wilfred Prewo, "The Sorcery of Apprenticeship," *The Wall Street Journal*, Feb. 12, 1993, p. A14; and Paul Osterman and Maria Iannozzi, "Youth Apprenticeships and School-to-Work Transitions: Current Knowledge and Legislative Strategy," Working Paper No. 14 (Philadelphia, National Center on the Educational Quality of the Workforce, 1993).

² Rosenbaum and others, "Market and Network Theories."

³ Osterman and Iannozzi, "Youth Apprenticeships," p. 4.

⁴ See William R. Johnson, "A Theory of Job Shopping," *Quarterly Journal of Economics*, May 1978, pp. 261–78; and Brian P. McCall, "Occupational Matching: A Test of Sorts," *Journal of Political Economy*, Vol. 98, No. 1, 1990, pp. 45–69.

⁵ See Robert H. Meyer and David A. Wise, "High School Preparation and Early Labor Force Experience," in R. B. Freeman and D. A. Wise, *The Youth Labor Market Problem: Its Nature, Causes, and Consequences* (Chicago, University of Chicago Press, 1982), pp. 277–339; Charles F. Manski and David A. Wise, *College Choice in America* (Cambridge, MA, Harvard University Press, 1983); and Robert H. Topel and Michael P. Ward, "Job Mobility and the Careers of Young Men," *Quarterly Journal of Economics*, May 1992, pp. 439–479.

⁶ See George J. Nolfi, Winship C. Fuller, Arthur J. Corazzini, William H. Epstein, Richard B. Freeman, Charles F. Manski, Valerie I. Nelson, and David A. Wise, *Experiences of Recent High School Graduates: The Transition to Work or Postsecondary Education* (Lexington, MA, Lexington Books, 1986).

⁷ See Manski and Wise, *College Choice*; and Topel and Ward, "Careers of Young Men."

⁸ Meyer and Wise, "High School Preparation."

⁹ See S. F. Hamilton, *Apprenticeship for Adulthood* (New York, Free Press, 1990); James E. Rosenbaum and Takehiko

Kariya, "From High School to Work: Market and Institutional Mechanisms in Japan," *American Journal of Sociology*, Vol. 94, No. 6, 1989, pp. 1334–65; and Prewo, "Sorcery of Apprenticeship."

¹⁰ Prewo, "Sorcery of Apprenticeship," p. A14.

¹¹ See Rosenbaum and Kariya, "From High School to Work"; and Prewo, "Sorcery of Apprenticeship."

¹² Lisa M. Lynch, "The Economics of Youth Training in the United States," *Economic Journal*, September 1993, pp. 1292–1302.

¹³ Osterman and Iannozzi, "Youth Apprenticeships," p. 6.

¹⁴ Center for Human Resource Research, *NLS Handbook, 1988* (Columbus, OH, Ohio State University, 1988).

¹⁵ Prior to 1981, the survey collected more limited information on school attendance. During that period, most (but far from all) of the individuals in the sample were in school. Those who were in school and who seemed to be at grade level (given their age and previous answers to questions on school enrollment) were assumed always to have been in school. Details of our procedure for filling in the missing monthly information on schooling are available on request.

¹⁶ Other studies using data from the National Longitudinal Survey of Youth define schooling groups on the basis of the level of schooling attained at the end of the panel, which is not consistent with our perception of the way the terms "high school dropout" and "high school graduate" are used colloquially or in the literature on policy. (See, for example, Jonathan R. Veum and Andrea B. Weiss, "Education and the work histories of young adults," *Monthly Labor Review*, April 1993, pp. 11–20.)

¹⁷ We adopt such a definition because the National Longitudinal Survey of Youth does not have any indicator that a person is attending school full time. Before age 16, school attendance is used to define leaving school.

¹⁸ No one was included in our calculations until he left school and we could assign a school-leaving group to him. This means that school-leaving groups grow as people leave school. (For example, some of those in the school-leaving group designated "some college" (see shortly) entered the calculations at age 19, but many did not enter the calculations until age 20 or later.)

¹⁹ See Mary J. Frase, *Dropout Rates in the United States: 1988*, Report 89–609 (National Center for Education Statistics, 1989); and Gus Haggstrom, Tom J. Blaschke, and Richard J. Shavelson, *After High School, Then What? A Look at the Postsecondary Sorting-Out Process in the 1980s*, Report RAND-4008-FMP (Santa Monica, CA, RAND Corporation, 1991).

²⁰ The data on the incidence of returning to school and the final degree earned are based on information obtained from the last available interview, the date of which varies

Transition to Stable Employment

across individuals due to attrition and the individuals' different ages at the initial interview.

²¹ High school completion rates for the population were computed by multiplying the share of high school dropouts by the percentage of high school dropouts that ever received a high school diploma or an equivalency certificate. Because almost all of these degrees and certificates (sought through about age 31, at least) were awarded within the first 3 years after returning to school (see chart 1), the rates are a fair approximation for a recent cohort of the general population aged 21 and older.

²² See Stephen V. Cameron and James J. Heckman, "The Nonequivalence of High School Equivalents," *Journal of Labor Economics*, January 1993 (part 1), pp. 1-47. These researchers argue that a recipient of an equivalency certificate should be treated as a dropout, and not as a high school graduate.

²³ It would not be identical because one cannot identify school-leaving groups in the Current Population Survey. Instead, one would use current schooling, and, as we saw in the previous section, the two concepts are not identical.

²⁴ As a result, the sample sizes increase in the early years and then decrease in later years due to nonresponse to surveys and because many of the sample members had not yet reached the older ages by the 1990 interview. Results are given only if the cell size for a given age-school-leaving group combination exceeds 50.

²⁵ Osterman, *Getting Started*.

²⁶ See Nolfi and others, *Transition to Work*.

²⁷ The comparison with those with some college is not appropriate, because many of them are back in school.

²⁸ See "Work and Family: Jobs Held and Weeks Worked by Young Adults," Report 827 (Bureau of Labor Statistics, August 1992); Topel and Ward, "Job Mobility"; and Veum and Weiss, "Education and work histories."

²⁹ Our estimates of the mean number of jobs held by those in the more educated school-leaving groups are lower than estimates given in other analyses. The reason appears to be

that other authors (for example, Veum and Weiss, "Education and work histories") count all jobs held since age 18, while we count only jobs held since leaving school. For this reason, differences across school-leaving groups are more pronounced in our analysis.

³⁰ This computation proceeds by noting that if more than 50 percent of all people in a school-leaving group have been in a job M years by the birthday at which they turn A years, then the median person reached that point when he was $A - 1$ years old, and he entered the job at least $A - 1 - M$ years earlier. So, for example, reading from table 6, for high school dropouts, the percentiles for 2 years' job tenure are 47.4 and 55.4 at the birthdays at which the young men turned 24 and 25, respectively. Thus, the median male high school dropout reached his 2-year tenure date while he was 24 and entered a job that would eventually last at least 2 years by the time he was 22.

³¹ See footnote 30 for the computation of these figures.

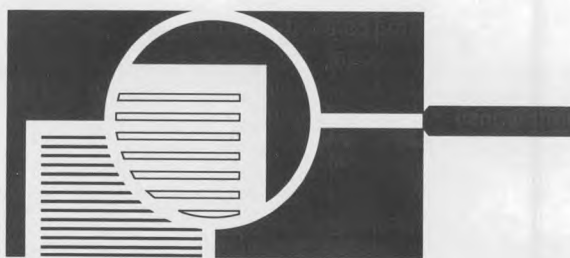
³² Commission on the Skills of the American Workforce, *America's Choice*, p. 46.

³³ See, for example, Osterman and Iannozzi, "Youth Apprenticeships."

³⁴ Osterman and Iannozzi, *ibid.*, employ this definition.

³⁵ See, for example, Jacob Mincer and Boyan Jovanovic, "Labor Mobility and Wages," in Sherwin Rosen, ed., *Studies in Labor Markets* (Chicago, University of Chicago Press, 1981), pp. 21-64; Christopher J. Flinn, "Wages and Job Mobility of Young Workers," *Journal of Political Economy*, Vol. 94, No. 3, Part 2, 1986, pp. S88-S110; and McCall, "Occupational Matching."

³⁶ The distinction between length of time in a job on the one hand and an interview together with a completed job tenure on the other is discussed in Francis W. Horvath, "Job tenure of workers in January 1981," *Monthly Labor Review*, September 1982, pp. 34-36. Horvath's discussion is based on a prior *Monthly Labor Review* article by Norman Bowers ("Probing the issues of unemployment duration," July 1980, pp. 23-32).



Productivity in industry and government, 1973–92

Mary Jablonski

The productivity of workers in the non-farm business sector of the U.S. economy jumped by 3.0 percent in 1992. Indeed, productivity growth in the non-farm business sector was so widespread that 80 percent of industries with available data increased productivity in 1992, according to recently released productivity measures from the Bureau of Labor Statistics.

These numbers reflect a substantial improvement in productivity growth compared with the previous year. In 1991, labor productivity increased by 1.1 percent in the nonfarm business sector, which is much below the 1992 change. At the detailed level, labor productivity climbed in 56 percent of the 93 industries in 1991, which is far less than the 1992 percentage.

This report reviews the findings of this update on annual measures of industry and government productivity to the latest year possible; for the majority of the measures the most current year is 1991 or 1992. Each type of productivity statistic in this report compares output, which is the production of goods and services, to one or more inputs of production.¹

The first section examines labor productivity in selected industries of the private sector. For these industries, labor productivity is calculated as the ratio of output to employee hours.² In the second section, the report examines growth rates of multifactor productivity for a subset of the selected industries. Multifactor productivity relates output to the combined inputs of labor,

capital, and intermediate purchases. Finally, productivity statistics for a variety of Federal Government functions are reviewed; they measure the relationship between the output of government organizations and the corresponding labor input computed in employee years.³

Labor productivity

The 93 industries updated to 1992 that have been cited are among the 145 distinct industries for which BLS maintains labor productivity measures. Available data allowed 50 of the other 52 nonduplicated industries to be updated to 1991.⁴ Additionally, BLS provides 33 measures that represent a higher level of aggregation or a different definition of output relative to one or more of the distinct industries, for a total of 178 industry labor productivity measures. (See table 1.) The analysis in this section refers only to the distinct industry measures.⁵

In 1991, the U.S. economy was slumping: the civilian unemployment rate averaged 6.7 percent, up from 5.5 percent in the previous year; in most parts of the economy employment fell, as did employee hours in 82 percent of the 143 industries updated at least to 1991. In addition, in 71 percent of these industries, production slipped in 1991. Yet despite the numerous dips in output, 55 percent of the industries achieved productivity gains in 1991. These gains were possible in part because of the extensive cutbacks in employee hours.

By 1992, the U.S. economy was emerging from the recession. Employment rose in the service-producing sector, although it declined in the goods-producing sector.⁶ Of industries updated to 1992, 34 percent used more hours of labor than in 1991; though a minority of the measured industries boosted employee hours, 74 percent managed to attain higher levels of output in 1992 and 80 percent reached higher levels of

labor productivity. Moreover, in 68 of the 93 industries, the *rate of change* of productivity was greater in 1992 than in 1991. Therefore, not only was productivity increasing in a large majority of measured industries in 1992, it also was accelerating in most industries.

Current trends in goods-sector. The recession hit the goods-producing sector hard in 1991, with job losses of more than 1 million. This sector, which includes mining, construction, and manufacturing, now accounts for about one-fourth of private sector employment.⁷ Employee hours increased in only 17 percent of the measured industries in the goods sector in 1991, while productivity rose in 53 percent of the industries. Productivity movements in the sector ranged from a low of -12.8 percent in the construction machinery industry (Standard Industrial Classification 3531) to a high of 17.2 percent in the aircraft manufacturing industry (SIC 3721).

In 1992, productivity advanced in 80 percent of the goods-producing industries for which data were available, which is the same percentage as for all the measured industries. Production expanded in 1992 in 77 percent of the industries in this sector, while employee hours were up in 31 percent. Also, most of the productivity gains were sizable: 76 percent of the increases in productivity exceeded 3.0 percent.

Focusing on manufacturing in particular in 1992, 69 percent of the largest industries experienced productivity hikes (where the largest manufacturing industries are those with 1992 employment of more than 100,000).⁸ The steel industry (SIC 331) recorded the top productivity growth rate of these industries—9.3 percent—while industrial organic chemicals, not elsewhere classified (SIC 2869) registered a decline of 1.5 percent. Output rose in 10 of the 13 indus-

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tries and employee hours moved up in 5. The changes in output ranged from a drop of 6.1 percent in aircraft to a rise of 11.0 percent in motor vehicles and equipment (SIC 371). Among the 13 industries, the fastest decrease in hours occurred in the aircraft industry, with a 6.6-percent decline. The corrugated and solid fiber boxes industry (SIC 2653) achieved the greatest increase, with a climb of 3.3 percent.

Long-term trends in goods-sector. About nine-tenths of the industries in the goods-producing sector realized productivity improvements between 1973 and 1991. Crude petroleum and natural gas production (SIC 1311) was the biggest loser in productivity: output per employee hour deteriorated at an average annual rate of 3.1 percent. The biggest winner was household audio and video equipment (SIC 3651), where output per employee hour soared by an average 8.8 percent annually in the period.

All of the largest manufacturing industries—those with 1992 employment of more than 100,000—showed productivity gains in the 1973–91 period. The advances ranged from a low of 0.3 percent per year in refrigeration and heating equipment (SIC 3585) to a high of 3.9 percent per year in poultry dressing and processing (SIC 2015) and in cotton and synthetic broadwoven fabrics (SIC 2211, 21).

Current trends in service-sector. The service-producing sector was not spared from job cuts in 1991, but the reduction in employment was much less severe than in the goods sector. About 100,000 positions disappeared from the service-producing sector in 1991, in contrast to more than 1 million in the goods-producing sector.⁹ The service sector comprises transportation, utilities, communications, trade (wholesale and retail), finance, insurance, real estate, and the services industry. Note the distinction between the services industry, which includes personal, business, health, legal, and educational services, and the much broader service sector, of which the services industry is one component.

Although the service sector did not suffer as much as the goods sector in

Table 1. Employment in 1992 and percent changes in output per hour for various periods, selected industries

SIC code	Industry	Employment (thousands)	1973–91 ¹	1990–91	1991–92
Mining					
1011	Iron mining, crude ore	9	3.9	-2.3	0.9
1011	Iron mining, usable ore	9	3.0	-3.6	-1.3
1021	Copper mining, crude ore	15	4.5	6.5	-8
1021	Copper mining, recoverable metal	15	5.1	-1.4	15.9
12	Coal mining	126	3.2	3.0	9.7
122	Bituminous coal and lignite mining	117	3.2	3.4	9.7
1311	Crude petroleum and natural gas	181	-3.1	1.1	4.6
14	Nonmetallic minerals, except fuels	102	1.1	-4.5	7.3
142	Crushed and broken stone	38	1.2	-10.5	5.7
Manufacturing					
2011,13	Red meat products	224	1.8	1.3	—
2011	Meat packing plants	135	1.9	3.8	2.9
2013	Sausages and other prepared meats	89	1.6	-2.4	—
2015	Poultry dressing and processing	209	3.9	6.0	—
202	Dairy products	152	3.2	2.2	5.0
2022	Cheese, natural and processed	40	2.5	5.7	—
2026	Fluid milk	70	4.1	2.6	1.5
203	Preserved fruits and vegetables	246	1.4	2.3	—
2033	Canned fruits and vegetables	85	2.0	4.1	—
2037	Frozen fruits and vegetables	49	1.1	3.6	—
204	Grain mill products	124	3.7	.5	—
2041,45	Flour (including flour mixes) and other grains	31	2.7	2.6	—
2041	Flour and other grain mill products	20	3.0	-1.1	—
2043	Cereal breakfast foods	20	2.4	3.2	—
2044	Rice milling	5	2.8	-5.4	—
2046	Wet corn milling	10	8.0	-3.3	—
2047,48	Prepared feeds for animals and fowls	59	3.6	-4	—
2051,52	Bakery products	194	.6	-3.5	-7
2061,62,63	Sugar	22	1.0	3.3	5.1
2061,62	Raw and refined cane sugar	13	.9	7.1	-8
2063	Beet sugar	9	1.3	2.5	9.5
2082	Malt beverages	40	5.2	-2.1	1.3
2086	Bottled and canned soft drinks	93	5.8	6.7	6.2
2092	Prepared fresh or frozen fish and seafoods	47	-6	-3.2	—
2111,21,31	Tobacco products	41	2.5	6.4	4.7
2111,31	Cigarettes, chewing and smoking tobacco	39	2.5	5.8	3.9
2121	Cigars	2	3.9	14.8	—
2211,21	Cotton and synthetic broadwoven fabrics	155	3.9	7.4	6.0
2251,52	Hosiery	69	3.1	5.4	5.6
2281	Yarn spinning mills	78	3.8	-2	7.4
2311	Men's and boys' suits and coats	45	1.1	-9.5	12.7
2421	Sawmills and planing mills, general	144	2.3	2.6	7.4
2431	Millwork	100	-5	-2.1	.0
2434	Wood kitchen cabinets	66	.8	-1.9	—
2435,36	Veneer and plywood	49	3.1	4.2	-9
2435	Hardwood veneer and plywood	22	2.7	2.8	—
2436	Softwood veneer and plywood	27	3.4	5.7	2.5
244	Wood containers	43	2.2	1.6	—
251	Household furniture	270	1.3	3.5	1.8
2511,17	Wood household furniture	126	.4	1.5	-6
2512	Upholstered household furniture	87	2.0	5.0	4.6
2514	Metal household furniture	21	1.9	3.6	8.0
2515	Mattresses and bedsprings	28	2.7	6.5	3.7
252	Office furniture	62	1.2	-6	2.7
2521	Wood office furniture	28	1.2	3.3	—
2522	Office furniture, except wood	34	1.2	-2.9	—
2611,21,31	Pulp, paper, and paperboard mills	239	2.6	1.9	7.3
2653	Corrugated and solid fiber boxes	121	2.0	-3	1.1
2657	Folding paperboard boxes	50	1.2	-8	.2
2673,74	Paper and plastic bags	56	.4	-3.0	—
281	Industrial inorganic chemicals	136	.2	-5.4	—

See footnotes at end of table.

Table 1. Continued—Employment in 1992 and percent changes in output per hour for various periods, selected industries

SIC code	Industry	Employment (thousands)	1973-91 ¹	1990-91	1991-92
Manufacturing—continued					
2812	Alkalies and chlorine	13	2.9	-8.9	—
2816	Inorganic pigments	11	1.2	-5.7	—
2819 (part)	Industrial inorganic chemicals, n.e.c	88	-4	-6.0	—
2823,24	Synthetic fibers	73	4.0	2.8	6.3
2841	Soaps and detergents	42	2.2	.1	—
2844	Cosmetics and other toiletries	69	.9	2.2	—
2851	Paints and allied products	58	3.0	-3	2.7
2869	Industrial organic chemicals, n.e.c	125	1.6	-6.3	-1.5
287	Agricultural chemicals	58	2.6	5.4	—
2873	Nitrogeous fertilizers	11	3.4	-3	—
2874	Phosphatic fertilizers	12	2.7	7.3	—
2875	Fertilizers, mixing only	9	1.6	.6	—
2879	Agricultural chemicals, n.e.c	27	2.5	8.1	—
2911	Petroleum refining	120	1.6	-2.3	3.9
3011	Tires and inner tubes	82	3.9	1.4	6.3
3052	Rubber and plastics hose and belting	23	.6	-8.2	—
308	Miscellaneous plastics products, n.e.c	619	1.8	.7	-3
314	Footwear	64	.1	.2	.9
3221	Glass containers	36	2.4	2.0	5.0
3241	Cement, hydraulic	17	2.2	-5.3	11.1
325	Structural clay products	31	1.3	-5.5	4.6
3251,53,59	Clay construction products	25	1.3	-5.6	6.6
3251	Brick and structural clay tile	14	.5	-1.0	6.8
3253	Ceramic wall and floor tile	9	2.4	-11.9	—
3255	Clay refractories	6	1.4	-5.8	-3.7
3271,72	Concrete products	80	1.0	1.6	2.2
3273	Ready-mixed concrete	90	-2	-3.6	1.9
331	Steel	250	2.3	-3.7	9.3
3321	Gray and ductile iron foundries	75	.7	-4.5	5.6
3324,25	Steel foundries	39	-7	-2.6	7.5
3325	Steel foundries, n.e.c	24	.2	-1	9.9
3331	Primary copper	5	5.4	-1.9	.0
3334	Primary aluminum	25	2.2	3.8	-2.6
3351	Copper rolling and drawing	23	1.9	2.5	6.9
3353,54,55	Aluminum rolling and drawing	54	1.2	-1.9	—
3411	Metal cans	36	3.8	5.1	9.3
3423	Hand and edge tools, n.e.c	34	-6	-1.3	—
3433	Heating equipment, except electric	19	2.2	4.2	—
3441	Fabricated structural metal	69	.2	2.4	—
3442	Metal doors, sash, and trim	69	.4	-2.3	—
3452	Bolts, nuts, rivets, and washers	45	1.5	2.1	—
3465,66,69	Metal stampings	180	1.0	2.2	—
3465	Automotive stampings	98	1.9	3.4	—
3469	Metal stampings, n.e.c	78	.1	1.4	—
3491,92,94	Valves and pipe fittings	78	.5	.0	—
3498	Fabricated pipe and fittings	25	-1.5	6.4	—
3519	Internal combustion engines, n.e.c	59	1.0	-6.9	7.2
352	Farm and garden machinery	93	1.4	-4.3	5.5
3523	Farm machinery and equipment	69	1.2	-5.7	6.4
3524	Lawn and garden equipment	24	2.1	.1	—
3531	Construction machinery	73	.8	-12.8	—
3532	Mining machinery	16	-4	-8.1	9.3
3533	Oil and gas field machinery	39	-1.7	-2.7	—
3541,42	Machine tools	53	.1	-4.5	1.4
3541	Metal cutting machine tools	38	.3	-2.9	-4.2
3542	Metal forming machine tools	15	-7	-7.4	13.4
3545	Machine tool accessories	48	.2	1.5	—
3561,63,94	Pumps and compressors	84	1.5	.2	—
3561,94	Pumps and pumping equipment	58	1.6	-1.2	—
3562	Ball and roller bearings	39	-8	-3.0	11.5
3563	Air and gas compressors	25	1.4	2.5	—

See footnotes at end of table.

1991, employment losses were distributed widely. Of the measured service-sector industries, a mere 17 percent increased employee hours in 1991, the same percentage as in the goods sector. Labor productivity was higher in 63 percent of the service-sector industries, compared with 53 percent of the goods-sector industries. The range of productivity changes was narrower than in the goods-producing sector, with a low of -7.3 percent in hardware stores (SIC 5251) and a high of 9.6 percent in radio, television, and computer stores (SIC 573).

In 1992, employment in the service sector advanced by approximately half a million, with the gains concentrated primarily in the services industry. Of the four measured industries in the services industry, three added employee hours in 1992. Of all the measured industries in the service-producing sector, 41 percent used more hours of labor in 1992 than in the previous year, while output increased over 1991 in 69 percent.¹⁰ Productivity rose in 79 percent of the industries. Also, as in the goods sector, most of the increases in productivity were considerable: 74 percent of these increases were greater than 3.0 percent.

Among the largest service-sector industries—those with 1992 employment of more than 200,000—labor productivity moved forward in 86 percent in 1992.¹¹ Productivity growth ranged from a decrease of 1.5 percent in drug stores and proprietary stores (SIC 5912) to an increase of 10 percent in family clothing stores (SIC 5651). Employee hours grew in almost half of these industries (10 of 22), with changes that extended from -6.3 percent in shoe stores (SIC 5661) to 3.1 percent in automotive repair shops (SIC 753). Output increased in 77 percent of the largest industries in the service-producing sector in 1992, with movements ranging from a drop of 3.0 percent in shoe stores to a rise of 11.2 percent in family clothing stores (the industry with the highest productivity growth rate).

Long-term trends in service-sector. Nearly three-quarters of the service-sector industries recorded productivity increases between 1973 and 1991. The top gain was in radio, television, and computer stores (SIC 573), where productivity shot up at an average annual rate

Table 1. Continued—Employment in 1992 and percent changes in output per hour for various periods, selected industries

SIC code	Industry	Employment (thousands)	1973-91 ¹	1990-91	1991-92
Manufacturing—continued					
3585	Refrigeration and heating equipment.....	118	.3	-2.7	—
3592	Carburetors, pistons, rings, and valves.....	21	.7	1.2	—
3612	Transformers, except electronic.....	41	1.2	3.7	7.5
3613	Switchgear and switchboard apparatus.....	42	1.1	-2.6	—
3621	Motors and generators.....	78	.9	2.6	-7
3631,32,33,39	Major household appliances.....	76	2.5	1.9	8.0
3631	Household cooking equipment.....	17	3.3	3.1	13.6
3632	Household refrigerators and freezers.....	27	2.4	4.6	4.4
3633	Household laundry equipment.....	18	2.7	7.3	18.8
3639	Household appliances, n.e.c.....	14	1.3	-10.5	-3.6
3641	Electric lamps.....	21	4.0	8.1	13.4
3645,46,47,48	Lighting fixtures and equipment.....	69	.5	-2.1	.6
3651	Household audio and video equipment.....	59	8.8	5.5	14.7
371	Motor vehicles and equipment.....	809	2.0	-5.6	8.1
3721	Aircraft.....	332	2.3	17.2	.6
3825	Instruments to measure electricity.....	76	2.8	3.3	—
3861	Photographic equipment and supplies.....	95	2.7	1.0	—
Transportation					
4011	Railroad transportation, revenue traffic.....	225	6.0	8.4	5.7
4011	Railroad transportation, car miles.....	225	3.9	3.2	3.2
411,13,14 (parts)	Bus carriers, class I.....	15	⁴ -7	—	—
4213	Trucking, except local ³	461	² 2.9	—	—
4213 (part)	Trucking, except local, general freight ³	283	³ 3.4	—	—
4512,13,22 (parts)	Air transportation ³	631	2.5	1.5	3.5
4612,13	Petroleum pipelines.....	19	.4	-3.4	-8
Utilities					
481	Telephone communications.....	886	5.6	5.0	5.0
491,2,3	Gas and electric utilities.....	797	.5	2.0	1.4
491,3 (part)	Electric utilities.....	596	1.4	3.0	.8
492,3 (part)	Gas utilities.....	201	-2.4	-1.0	1.1
Trade⁵					
5093	Scrap and waste materials.....	107	³ 3.3	8.6	—
5251	Hardware stores.....	173	1.1	-7.3	7.3
5311	Department stores.....	2,046	2.6	4.1	4.3
5331	Variety stores.....	171	-5	-1.4	-9.4
54	Food stores.....	3,392	-9	-8	.7
5411	Grocery stores.....	2,980	-8	-7	.2
546	Retail bakeries.....	183	-1.8	6.0	-8.3
5511	New and used car dealers.....	876	1.2	-1.5	.7
5531	Auto and home supply stores.....	364	2.7	.4	-5
5541	Gasoline service stations.....	663	3.1	1.0	4.4
56	Apparel and accessory stores.....	1,217	2.2	.7	6.9
5611	Men's and boys' clothing stores.....	96	1.5	.5	2.0
5621	Women's clothing stores.....	394	3.5	3.6	8.7
5651	Family clothing stores.....	313	1.6	.9	10.0
5661	Shoe stores.....	212	1.5	-8	3.5
57	Home furniture, furnishings, and equipment stores.....	935	3.2	4.1	9.0
571	Furniture and home furnishings stores.....	545	1.3	-3	8.4
572,3	Appliance, radio, TV, and computer stores.....	389	5.9	9.6	9.2
5722	Household appliance stores.....	87	3.9	6.1	18.6
573	Radio, television, and computer stores.....	302	6.2	9.6	6.4
581	Eating and drinking places.....	6,917	-2	1.4	-1.4
5912	Drug stores and proprietary stores.....	624	1.0	2.8	-1.5
5921	Liquor stores.....	138	1.0	1.5	12.7

See footnotes at end of table.

of 6.2 percent. The biggest loss in productivity was in gas utilities (SIC 492, 3 (part)), where it fell by 2.4 percent annually in the period.

Six of the 22 largest service-producing industries registered productivity losses from 1973 to 1991. Among them were the two industries with the highest levels of employment in 1992 of all the measured industries: the eating and drinking places industry (SIC 581), with approximately 7 million employees, and the grocery stores industry (SIC 5411), which employs about 3 million. The department stores industry (SIC 5311), which is the third largest employer (approximately 2 million employees), increased productivity at a solid rate of 2.6 percent per year between 1973 and 1991.

New measure. BLS has added a new industry to the list of those for which it publishes labor productivity measures. The measure for aircraft manufacturing (SIC 3721) begins in 1972 and currently extends to 1992. In that span, output per employee hour grew at an average annual rate of 3.1 percent. Output advanced by 3.9 percent annually in the aircraft industry, while employee hours moved up by 0.8 percent per year.¹²

After achieving productivity increases averaging 6.0 percent annually from 1972 to 1979, the aircraft industry tallied much smaller gains in 1979-92, with an average of 1.5 percent per year. The roughest stretch was between 1979 and 1984, during which productivity declined cumulatively by 19 percent. Output took an unexpected downturn during those 5 years and firms were reluctant to lay off workers, many of whom were highly trained. Since 1984, only in one year—1990—has productivity declined in the aircraft industry.

Multifactor productivity

In a multifactor productivity measure, output is related to the combined inputs of labor, capital, and intermediate purchases.¹³ The labor productivity measures discussed in the previous section relate output solely to labor.

Multifactor productivity is preferred to labor productivity as a measure of efficiency because multifactor productivity excludes the effects of changes in the ratios of the two other inputs to la-

bor. For example, suppose that a decline in the price of capital induces an industry to purchase more of that input. The capital-labor ratio rises and the industry can produce more output with the same amount of labor. Output per employee hour will increase but the multifactor productivity measure may be unchanged (assuming that nothing else affecting multifactor productivity, such as the type of technology used, has changed). Therefore, while the movement of the labor productivity measure suggests that there has been an efficiency gain, the multifactor productivity statistic may indicate that there has not been a change in the overall efficiency of input use in the industry.¹⁴

Because of the enormous data requirements for the measurement of capital and intermediate purchases, a limited number of industry multifactor productivity measures has been published. (For purposes of multifactor productivity measurement, capital includes equipment, structures, land, and inventories; financial capital is not included. Intermediate purchases are composed of materials, fuel, electricity, and purchased services.) For most of the 178 industries in table 1, labor productivity is the only type of productivity measure currently available.

BLS continues to develop multifactor productivity measures for additional industries and will report on these measures in future publications. Multifactor productivity measures are now published for the following seven industries: household furniture (SIC 251), tires and tubes (SIC 3011), footwear (SIC 314), steel (SIC 331), farm and garden machinery (SIC 352), motor vehicles and equipment (SIC 371), and railroad transportation (SIC 4011).

Current trends. Multifactor productivity declined in five of the seven industries in 1991, the most recent year for which data are available. (See table 2.) The steepest decline was in the steel industry, where multifactor productivity dropped by 6.1 percent. Other industries where declines were recorded were farm and garden machinery (4.7 percent), motor vehicles and equipment (1.2 percent), tires and tubes (1.1 percent), and household furniture (0.8 percent). Increases in multifactor productivity were recorded in 1991 in footwear

Table 1. Continued—Employment in 1992 and percent changes in output per hour for various periods, selected industries

SIC code	Industry	Employment (thousands)	1973-91 ¹	1990-91	1991-92
Finance and services⁵					
602	Commercial banks	1,488	1.8	3.5	4.5
7011	Hotels and motels	1,552	-.7	.8	7.1
721	Laundry, cleaning, and garment services ...	499	-1.0	-2.4	.5
7231,41	Beauty and barber shops	392	.2	-4.1	5.0
7231	Beauty shops	379	.0	-4.2	3.3
753	Automotive repair shops	834	-.5	-6.1	3.3

¹ The 1973-91 rates are average annual percent changes based on the compound rate formula.

² 1977-91.

³ Output per employee is used for sic 4213, sic 4213 (part), and sic 4512, 13, 22 (parts).

⁴ 1973-89.

⁵ Output per hour of all persons is used for all trade and service industries except sic 5311, sic 5511, and sic 602.

Note: The sic codes are defined in the *Standard Industrial Classification Manual, 1987*, published by the U.S. Office of Management and Budget.

Dash indicates data are not available.

n.e.c. = not elsewhere classified.

(2.1 percent) and railroad transportation (3.3 percent).

In the steel industry, output was down in 1991, as it was in all seven industries. The reduction of 9.4 percent in steel output was coupled with a fall of 3.4 percent in combined inputs, to yield the sharpest drop in multifactor productivity for 1991. Of the combined inputs, employee hours were reduced the most (6.3 percent), while capital and intermediate purchases were cut somewhat less (2.1 percent and 2.4 percent).

Of all the industries, output dropped the fastest in farm and garden machinery (12.2 percent) in 1991. With combined inputs receding by 7.9 percent, a decrease in multifactor productivity of 4.7 percent resulted—the biggest downturn in multifactor productivity in the industry since 1975. Capital was down by 4.5 percent, hours of labor by 8.9 percent, and intermediate purchases by 9.2 percent.

U.S. production of motor vehicles and equipment declined by 8.8 percent in 1991, after falling by 8.0 percent in 1990. Intermediate purchases were slashed by 11.6 percent, while hours of labor were curtailed by 3.5 percent. In contrast, capital input was boosted in 1991, by 2.1 percent. This rise in capital was the only increase in an input observed among the seven industries in 1991. Together, combined inputs turned down by 7.7 percent in motor vehicles

and equipment, leading to a fall in multifactor productivity of 1.2 percent.

Multifactor productivity ebbed by about the same percentage in tires and tubes (1.1 percent) as it did in motor vehicles and equipment, reflecting a decrease in output of 4.7 percent and a drop in combined inputs of 3.7 percent. The falloff in output was the largest in the tires and tubes industry since the recession year of 1982. Labor hours contracted by more than output (5.9 percent), while intermediate purchases were down by 4.1 percent and capital was off by a mere 0.6 percent.

Of the five industries with multifactor productivity declines in 1991, output fell the least in household furniture (4.4 percent), as did multifactor productivity (0.8 percent). The reduction in combined inputs (3.7 percent) was slightly smaller than the reduction in output, with employee hours decreasing by 6.6 percent, intermediate purchases by 2.9 percent, and capital by 0.8 percent.

Of the industries in which multifactor productivity fell in 1991, household furniture and tires and tubes registered increases in output per employee hour. It turns out that the ratio of capital to labor and the ratio of intermediate purchases to labor rose in both industries, allowing labor productivity to rise despite the drop in multifactor productivity.

Production in footwear was scaled back by 9.2 percent in 1991, and combined inputs were cut even more (by 11.1 percent). As a result, multifactor productivity climbed by 2.1 percent in the industry, after 2 years of deteriorating productivity. Intermediate purchases plunged by 13.4 percent, while the drops in labor (9.5 percent) and capital (4.7 percent) were less severe.

In railroad transportation, the decline in output in 1991 was the smallest by far of the seven industries (0.7 percent) and the performance of multifactor productivity was the best (an increase of 3.3 percent). This was the 10th consecutive year in which multifactor productivity was up in railroad transportation. The productivity gain was possible in 1991 because combined inputs were trimmed by 3.9 percent, with hours of labor down by 7.7 percent, capital by 1.9 percent, and intermediate purchases by 0.1 percent.

Long-term trends. Between 1973 and 1991, multifactor productivity grew in five of the seven industries studied. The changes ranged from an average decrease of 1.3 percent annually in footwear to an average annual increase of 3.4 percent in railroad transportation. Multifactor productivity in farm and garden machinery did not change from 1973 to 1991, while average annual rates of growth were greater than zero in the remaining industries: household furniture (0.1 percent), motor vehicles and equipment (0.3 percent), steel (1.4 percent), and tires and tubes (3.0 percent).

In footwear, output declined more rapidly—by an average 5.8 percent annually—than in any other industry between 1973 and 1991. (The two other industries with output declines in the 1973–91 period were farm and garden machinery [2.5 percent per year] and steel [1.6 percent per year]). The rate of decline in the footwear industry was so rapid that by 1991, production was about one-third of its 1973 level. Combined inputs also dropped at the fastest rate in the footwear industry. The net result was that multifactor productivity fell by 1.3 percent per year, making footwear the one industry of the seven to experience a long-term decline in multifactor productivity.

Railroad transportation, which had the highest rate of multifactor produc-

tivity growth from 1973 to 1991, is the sole industry of those studied that is outside manufacturing. Output increased in railroad transportation in the period (at an average annual rate of 0.4 percent), despite the rising use of high-

ways and of air transportation. However, this was not the top rate of output growth in that timespan; production of motor vehicles and equipment expanded at a slightly faster rate (0.5 percent per year). In railroad transportation, com-

Table 2. Percent changes in multifactor productivity and related data for selected industries, various periods, 1973–91

sic code	Industry and measure	Percent change ¹		
		1973–91	1989–90	1990–91
251	Household furniture			
	Multifactor productivity	0.1	-0.5	-0.8
	Output .....	.0	-2.3	-4.4
	Combined inputs	-.1	-1.8	-3.7
	Employee hours	-1.5	-2.7	-6.6
	Capital .....	.6	-.4	-.8
314	Footwear			
	Multifactor productivity	-1.3	-10.3	2.1
	Output	-5.8	-14.1	-9.2
	Combined inputs	-4.5	-4.2	-11.1
	Employee hours	-6.0	-6.3	-9.5
	Capital	-2.4	-3.5	-4.7
3011	Tires and tubes			
	Multifactor productivity	3.0	1.4	-1.1
	Output .....	.1	-1.5	-4.7
	Combined inputs	-2.8	-2.8	-3.7
	Employee hours	-3.5	-2.4	-5.9
	Capital	-2.1	4.2	-.6
331	Steel			
	Multifactor productivity	1.4	1.8	-6.1
	Output	-1.6	.7	-9.4
	Combined inputs	-3.1	-1.1	-3.4
	Employee hours	-4.4	-1.1	-6.3
	Capital	-2.6	-2.3	-2.1
352	Farm and garden machinery			
	Multifactor productivity .....	.0	5.6	-4.7
	Output	-2.5	7.9	-12.2
	Combined inputs	-2.5	2.2	-7.9
	Employee hours	-3.1	2.5	-8.9
	Capital	-1.3	-3.6	-4.5
371	Motor vehicles and equipment			
	Multifactor productivity .....	.3	-5.3	-1.2
	Output .....	.5	-8.0	-8.8
	Combined inputs .....	.2	-2.9	-7.7
	Employee hours	-1.4	-7.4	-3.5
	Capital .....	.4	1.2	2.1
4011	Railroad transportation			
	Multifactor productivity	3.4	3.6	3.3
	Output .....	.4	1.1	-.7
	Combined inputs	-2.9	-2.4	-3.9
	Employee hours	-5.1	-2.2	-7.7
	Capital	-1.6	-2.1	-1.9
	Intermediate purchases	-.4	-2.8	-.1

¹ The 1973–91 rates are average annual percent changes based on the compound rate formula.

NOTE: The sic codes are defined in the *Standard Industrial Classification Manual, 1987*, published by the U.S. Office of Management and Budget.

bined inputs were reduced by an average 2.9 percent per year between 1973 and 1991, for a cumulative decline of more than 40 percent in total input use.

New measure. This year, household furniture (SIC 251) became the seventh industry for which BLS maintains a multifactor productivity measure. Like the other multifactor productivity measures, the series for household furniture extends back to 1958. From 1958 to 1991, multifactor productivity increased at an average annual rate of 0.5 percent in household furniture. This was the result of production rising by an annual average of 2.1 percent and combined inputs climbing at the somewhat slower rate of 1.5 percent per year. Of the combined inputs, capital recorded the highest average annual growth rate (2.3 percent), with intermediate purchases at 2.0 percent annually and labor at just 0.2 percent per year.¹⁵

Most of the improvement in multifactor productivity in the study period occurred between 1958 and 1973, during which productivity rose at an average annual rate of 1.0 percent. In the following period, 1973–91, multifactor productivity in household furniture moved up by just 0.1 percent annually. The increase was small despite advances in technology, such as computer-aided design and computer-aided manufacturing (CAD/CAM). (Such technological advances have not spread widely or quickly through the industry.) Output increased at a rapid clip in the industry in the earlier timespan, with an average gain of 4.7 percent per year, while combined inputs went up by an annual average of 3.6 percent. In the subsequent period, output was stagnant, with a growth rate of 0.0 percent per year, while combined inputs fell marginally, by 0.1 percent per year.

Government productivity

Labor productivity in the Federal Government is measured as output per employee year, rather than output per employee hour. The overall productivity measure for the Federal Government, which includes data from 276 organizations in 60 Federal agencies, has been updated to fiscal year 1992, which began on October 1, 1991, and ended on September 30, 1992. These organizations, which employ 64 percent of the

total Federal executive branch civilian labor force, are grouped into 28 functions, such as communications and procurement.¹⁶ Overall Federal Government productivity is computed by dividing a weighted output index of the 276 organizations by an aggregate labor index of employee years (an employee year equals 2,087 hours).

Current trends. Productivity in the total measured portion of the Federal Government increased by 0.7 percent in 1992, following a decline of 2.8 percent in 1991. (See table 3.) Output was up by 1.2 percent in 1992, after slipping by 1.9 percent in the previous year. Employee years rose by 0.5 percent, which was below the 1991 growth rate of 0.8 percent.

Of the 26 functions updated to 1992, output per employee year advanced in 15 and receded in 11.¹⁷ In comparison, productivity was up in only 8 of those functions in 1991 and was down in 18.

The productivity changes in 1992 ranged from a decrease of 9.7 percent in audit of operations to an increase of 45.3 percent in communications.

The huge jump in productivity in communications was due to a hefty rise in output of 36.8 percent and a drop in labor of 5.9 percent. The communications function includes organizations responsible for processing messages and performing telecommunications services for Federal organizations. This was the second straight year of outstanding productivity performance in the communications function. In 1991, output per employee year in communications surged by 27.9 percent.

Library services was another function with a double-digit percent increase in productivity—14.3 percent—in 1992. This rise resulted from an increase in output of 4.2 percent and a decline in employee years of 8.8 percent. Organizations classified in library services provide re-

Table 3. Percent changes in productivity for the Federal Government, various periods, 1973–92

Function	Percent change in output per employee year ¹		
	1973–92	1990–91	1991–92
Total measured portion	1.0	-2.8	0.7
Audit of operations .....	.5	10.4	-9.7
Buildings and grounds	2.5	-1.2	2.6
Communications	9.0	27.9	45.3
Education and training .....	.7	-13.6	-3.2
Electric power production and distribution	-3.0	4.2	3.1
Equipment maintenance	² 1.2	-5.7	...
Finance and accounting	4.8	5.7	5.3
General support services	1.7	-1.5	-2.7
Information services	2.2	5.0	-5
Legal and judicial activities	-5	-3.5	-7
Library services	4.5	-5.6	14.3
Loans and grants	1.0	-11.8	3.6
Medical services .....	.1	-6.3	-5
Military base services	1.2	6.0	.6
Natural resources and environmental management	1.0	-2.5	-2.1
Personnel investigations	2.8	-1.5	8.6
Personnel management	-3	-5.2	1.0
Postal service .....	.9	-4	.9
Printing and duplication	1.1	-10.2	9.1
Procurement .....	.8	-7	-1.7
Records management	2.5	-8	-2.5
Regulation — compliance and enforcement	1.5	-4.7	1.5
Regulation — rulemaking and licensing	2.8	1.6	3.5
Social services and benefits	2.0	-2.3	7.1
Specialized manufacturing	2.1	-2.6	-2.5
Supply and inventory control	2.0	5.9	6.4
Traffic management	² 5.7	88.5	—
Transportation	1.3	-6	-2

¹ The 1973–92 rates are average annual percent changes based on the compound rate formula.

² 1973–91

NOTE: Dash indicates data are not available.

search and reference services to Federal agencies, Congress, or the public.

The largest decrease in productivity in 1992 occurred in audit of operations, which also experienced the biggest drop in output—15.6 percent. The corresponding reduction in employee years was much smaller (6.5 percent), leading to a sharp downturn of 9.7 percent in productivity. This function includes organizations responsible for reviewing, evaluating, and analyzing Federal programs and operations. The substantial decline in output in audit of operations followed increases during the previous 4 years in which output rose by one-third.

Of the 28 functions, the U.S. Postal Service accounts for the most employees. Productivity improved by 0.9 percent in 1992, as output increased by 0.4 percent and labor decreased by 0.5 percent due to tighter controls on the use of overtime.

Long-term trends. From 1973 to 1992, productivity in the measured portion of the Federal Government moved up at an average annual rate of 1.0 percent. During this period, output registered an average annual gain of 1.4 percent while employee years recorded an average annual increase of 0.4 percent.

Output per employee year was higher in 1992 than in 1973 in 23 of the 26 functions updated to 1992. Communications was the leader in productivity growth by far, with an average annual increase of 9.0 percent between 1973 and 1992. As a result of this growth, the level of productivity in communications in 1992 was 5 times as high as in 1973. This exceptional progress was due primarily to the adoption of up-to-date equipment (such as fax machines) that permits high-speed transmission of messages.

Of the three functions with productivity decreases between 1973 and 1992, electric power production and distribution had the biggest drop (3.0 percent

per year). Reasons for the decline include extended periods of dry weather that have affected power production in hydroelectric plants, and delays in nuclear power production associated with regulatory problems.

In the function with the most workers, the Postal Service, productivity rose at an average annual rate of 0.9 percent from 1973 to 1992, which is about the same as the growth rate for the total measured portion of the Federal Government. Output climbed by 1.9 percent per year on average, while employee years increased at an average annual rate of 1.0 percent. □

Footnotes

NOTE: Additional information on industry and government productivity is available from the Office of Productivity and Technology, Bureau of Labor Statistics, Washington, DC, 20212, telephone: (202) 606-5600.

¹ The Division of Industry Productivity Studies of the Office of Productivity and Technology is the primary source of data on trends in industry productivity in the United States. BLS currently maintains measures of labor or multifactor productivity for 178 industries and for a substantial portion of the Federal Government.

² Although these labor productivity measures relate output to hours of labor, they do not measure the specific contribution of labor to production. Instead, they reflect the joint effects of many influences, including changes in technology; capital investment; the scale of operations; utilization of capacity, energy, and materials; managerial skill; and the characteristics and effort of the work force.

³ For more details, see *Productivity Measures for Selected Industries and Government Services*, Bulletin 2440 (Bureau of Labor Statistics, 1994), available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC, 20402, or from BLS.

⁴ Most of the industries that have not yet been updated to 1992 are in the manufacturing sector. Because a Census of Manufactures collected data for 1992, the manufacturing data from the Census Bureau were not available as early as they usually are; certain manufacturing industries could not be updated to 1992. (The productivity measures in manufacturing that were updated used data from other sources.)

⁵ Industries examined in this section do not necessarily represent all U.S. industries. The total employment of the 145 distinct industries covers nearly 40 percent of the total U.S. non-farm business sector.

⁶ Although the unemployment rate crept up to 7.4 percent in 1992, total employment actually increased as measured by the BLS household and payroll surveys. The unemployment rate rose because the increase in jobs was outstripped by the increase in the number of people looking for work.

⁷ BLS does not currently publish any productivity statistics for the construction sector, because the data currently available for this sector are inadequate for productivity measurement.

⁸ Fifteen manufacturing industries registered 1992 employment of more than 100,000 among the 145 distinct industries; productivity measures for 13 have been updated to 1992.

⁹ Recall that the labor productivity section of this research summary concerns industries in the private sector. Therefore, discussion of the service-producing sector applies only to the private portion (excluding government organizations).

¹⁰ Of the 30 service-sector industries updated to 1991, 29 also have been updated to 1992.

¹¹ A higher cutoff point is used to define the largest industries in the service sector compared with manufacturing, because the Standard Industrial Classification system is more detailed for manufacturing than for the service sector and because total employment in that sector is much greater than in manufacturing.

¹² For more information, see Alexander Kronemer and J. Edwin Henneberger, "Productivity in aircraft manufacturing," *Monthly Labor Review*, June 1993, pp. 24-33.

¹³ The inputs are combined using the inputs' shares of total input cost as weights.

¹⁴ Although multifactor productivity is sometimes interpreted as measuring technological change, it also is influenced by changes in the scale of operations, capacity utilization, managerial skill, and the characteristics and effort of the work force.

¹⁵ For more information, see Thomas M. Muth II and Edna Thea Falk, "Multifactor productivity in household furniture," *Monthly Labor Review*, June 1994, pp. 35-46.

¹⁶ The overall productivity series does not represent Federal productivity as a whole, but rather the productivity of the combined organizations.

¹⁷ Due to insufficient data, two of the functions, equipment maintenance and traffic management, were not updated to 1992.

Major agreements expiring next month



This list of collective bargaining agreements that expire in September is based on information collected by the Bureau's Office of Compensation and Working Conditions. It includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification. Labor organizations listed are affiliated with the AFL-CIO, except where noted as independent (Ind.).

Private sector

Construction

Independent building contractors, Glen Cove, NY; Carpenters, 1,200 workers

Northeastern States Area Agreement, interstate; Boilermakers, 1,000 workers

Western Field Construction Negotiating Committee, Inc., interstate; Boilermakers, 4,250 workers

Paper and allied products

Kimberly-Clark Corp., Coosa Pines, AL; various unions, 1,100 workers

Chemicals and allied products

Hercules, Inc. (army ammunition plant), Radford, VA; Oil, Chemical and Atomic Workers, 1,500 workers

North American Rayon Corp., Elizabethton Viscose Plant, Elizabethton, TN; Clothing and Textile Workers, 1,200 workers

Rubber and miscellaneous plastics

Kelly-Springfield Tire Co., Tyler, TX; Rubber Workers, 1,190 workers

Leather and leather products

Intercor-Florsheim Shoe Co., interstate; Clothing and Textile Workers and Food and Commercial Workers, 1,500 workers

Fabricated metal products

Kohler Co., Kohler, WI; Automobile Workers, 3,300 workers

Machinery, except electrical

Deere and Co., Illinois and Iowa; Automobile Workers, 13,800 workers

Heil-Quaker Corp., Lewisburg and LaVergne, TN; Stove Workers, 1,700 workers

Electrical and electronic equipment

GTE Sylvania Electronic Products, Inc., interstate; various unions, 1,600 workers

Thomson Consumer Electronics, Inc., Scranton, PA, and Deptford, NJ; Electronic Workers (IUE), 1,200 workers

Transportation equipment

American Racing Equipment, Inc. (production and maintenance), Compton, CA; Machinists, 1,000 workers

Transportation

American Airlines, Inc., interstate; Allied Pilots Association (Ind.), 8,800 workers

Hampton Roads Maritime Association, Hampton Roads, VA; Longshoremen's Association, 2,200 workers

New Orleans Steamship Association, New Orleans, LA; Longshoremen's Association, 1,000 workers

New York Shipping Association, New York, NY; Longshoremen's Association, 4,100 workers

South Atlantic Employers Negotiating Committee, south Atlantic ports; Longshoremen's Association, 3,000 workers

Southeast Florida Employers Association, Miami to Ft. Lauderdale ports; Longshoremen's Association, 1,000 workers

Steamship Trade Association of Baltimore, Baltimore, MD; Longshoremen's Association, 1,800 workers

West Gulf Maritime Association, Louisiana and Texas; Longshoremen's Association, 4,000 workers

Utilities

Duquesne Light Co., Pittsburgh, PA; Electrical Workers (IBEW), 2,700 workers

Wholesale and retail trade

A&P Tea Co., Inc., Connecticut and Maine; Food and Commercial Workers, 1,500 workers

Food Employers Council, Inc. (delivery drivers agreement), southern California; Teamsters, 1,100 workers

Food Employers Council, Inc. southern California; Teamsters, warehouse agreement—4,000 workers; office agreement—1,500 workers

Safeway Stores, Fry's, and ABCO Markets, Phoenix, AZ; Food and Commercial Workers, 4,600 workers

Smitty's Super Valu, Inc., Maricopa and Pima Counties, AZ; Food and Commercial Workers, 4,500 workers

Finance, insurance, and real estate

Builders Institute of Westchester and the Mid-Hudson Region, Westchester, NY; Service Employees, 3,400 workers

Services

Casino hotels in Atlantic City, Atlantic City, NJ; Hotel Employees and Restaurant Employees, 14,000 workers

Greater New York Health Care Facilities Association, New York, NY; Service Employees, 3,500 workers

Washington Hospital Center (registered nurses), Washington, DC; District of Columbia Nurses Association (Ind.), 1,250 workers

Public sector

Transportation and public utilities

New York City Transit Authority (subway and surface supervisors), New York, NY; Subway and Surface Supervisors Association (Ind.), 2,400 workers

Health services

Dade County (nurses), Dade County, FL; Service Employees, 4,500 workers

Jackson Memorial Hospital (nurses), Miami, FL; Service Employees, 2,150 workers

Los Angeles County (paramedical technicians), Los Angeles County, CA; Service Employees, 4,753 workers

Michigan (institutional employees), Michigan; State, County and Municipal Employees, 4,284 workers

Education

Washington, DC, public schools (teachers), Washington, DC; Teachers (AFT), 6,100 workers

Public administration

Jacksonville (general unit), Jacksonville, FL; State, County and Municipal Employees, 2,000 workers

Los Angeles County (child welfare workers), Los Angeles County, CA; Service Employees, 1,831 workers

Michigan State (human services and administrative support), Michigan; Automobile Workers, 21,045 workers

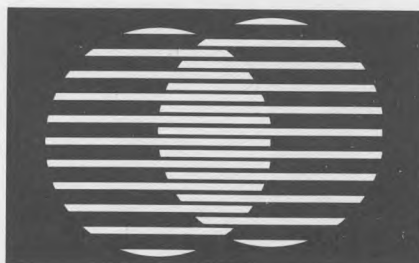
Pennsylvania (turnpike employees), Pennsylvania; Teamsters, 1,600 workers

Protective services

Dade County (firefighters), Dade County, FL; Fire Fighters, 1,300 workers

Dade County (police and corrections officers), Dade County, FL; Police Benevolent Association (Ind.), 3,900 workers □

Developments in industrial relations



Trucking strike ends

Negotiators ended a 24-day trucking strike—the first nationwide trucking strike in 15 years—when they reached agreement on a 4-year contract that included victories for both employers and the union. The Teamsters had struck 22 member companies of Trucking Management, Inc., idling about 70,000 workers.

The pact calls for wage increases of 40 cents an hour in the first year, 30 cents in the second year, 35 cents in the third year, and 40 cents in the fourth year. At the expiration of the prior contract, employees averaged about \$17.10 an hour.

“Dock casuals” already covered under the agreement will retain their hourly rate of \$14.45. “Combination casuals,” who work on the docks and do city driving, also will continue to be paid \$14.45 an hour, but will receive only 85 percent of wage increases implemented over the term of the agreement. In addition, new hires will have to work 2 years to attain full rates, up from 18 months.

In the job security area, carriers are allowed to ship 28 percent of freight by rail, up from 10 percent, but must offer adversely affected road drivers a road driver job at another location. The transferred employee cannot be laid off from that new job. In addition, carriers are permitted to use lower-paid “casual workers”—who work less than 8 hours a day on an irregular basis—to perform overtime work on the docks, but must schedule all full-time dockworkers for at least 40 hours a week.

“Developments in Industrial Relations” is prepared by Michael H. Cimini and Charles J. Muhl of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

Other settlement terms provide a \$1.90 an hour increase per employee in combined employer contributions to the pension and health and welfare funds; eliminate the union’s right to strike over grievances, but continue the “innocent until proven guilty” policy under the grievance procedures; and establish a joint labor-management committee to examine ways to improve the industry’s profitability and workers’ job security.

Apparel industry settlements

The leadoff settlement in the 1994 apparel industry bargaining round resulted when negotiators for the International Ladies’ Garment Workers and six employer associations, which bargained for coat, suit, dress, rainwear, and children’s wear manufacturers, reached agreement on a 3-year contract covering some 20,000 apparel workers in the region. The settlement served as a pattern for agreements covering the vast majority of the remaining 70,000 women’s apparel workers in the region, including those employed by major associations bargaining for women’s sportswear manufacturers and contractors in the New York metropolitan area.

The pact provides wage increases of 4 percent in the first year and 3 percent each in the second and third years. Currently, workers average between \$7.50 and \$8.50 an hour. The settlement also resolved the parties’ long-simmering dispute over whether companies or workers would bear the escalating costs of health care by increasing employer contributions to the health and welfare fund from 7.5 percent to 9 percent of payroll in July 1994; to 10.5 percent in July 1995; and to 11 percent in July 1996. Union president Jay Mazur touted the agreement as “a fair and reasonable settlement that will ensure that every garment worker has access to health

care coverage in this era of skyrocketing health care costs.”

Rubber Workers, Uniroyal pact

Negotiators for the Rubber Workers and Uniroyal Goodrich Tire Co. signed a 3-year master agreement for about 5,400 workers at plants in Fort Wayne, IN, and in Opelika and Tuscaloosa, AL. The settlement reportedly was similar to the one reached earlier at Goodyear Tire and Rubber Co. (The Goodyear pact, which the union intended to use as a pattern for other settlements in the rubber industry, was rejected by the rank-and-file in May 1994. A second, tentative agreement was reached at Goodyear shortly thereafter, but it too was voted down.)

The Uniroyal contract provides a \$500 lump-sum payment in December 1996. It also continues the cost-of-living adjustment (COLA) provision, which calls for quarterly adjustments equal to 1 cent an hour for each 0.26-point change in the Consumer Price Index for Urban Wage Earners and Clerical Workers. The parties expect that the COLA clause will generate \$1.75 an hour over the term of the contract, of which approximately the first 39 cents would be diverted to pay for improved 401(k) plan benefits.

Job security, which was an important issue in negotiations, was addressed by language banning plant closures during the term of the agreement. Nevertheless, the contract also requires an additional 60-day advance notice of a plant closing on top of the 6-month notice required under the prior contract. This will give the union a total of 8 months to hold discussions with the company to avert a potential plant closure. The settlement also calls for a certain level of capital investment in each year of the contract and for improvement in the

contingency fund for supplementary unemployment benefits.

In the health and welfare areas, the monthly pension rate is raised from \$30 to \$37 for each year of credited service, and the Social Security benefit offset is cut to \$11,160. Weekly sickness and accident benefits are increased over the term from \$275 to \$305, survivors' income benefits are boosted from \$450 a month to \$475 a month, and the basic life insurance benefit is raised from \$23,000 to \$30,000.

The agreement establishes a managed health care network, with first-dollar coverage except for a \$15 copayment for each doctor's office visit. The network includes a prescription drug plan with a \$7 copayment for each local purchase and a \$1 copayment for each mail-order purchase. It also provides coverage for services of chiropractors and of licensed psychiatric social workers and professional counselors.

Employees going out-of-network for health care services incur a 15-percent copayment, annual deductibles of \$100 for individual coverage and \$200 for family coverage, and annual maximum out-of-pocket expenses of \$1,000 for individual coverage and \$2,000 for family coverage.

Utility settlements

By an overwhelming majority, members of Local 1600 of the International Brotherhood of Electrical Workers ratified a 3-year collective bargaining agreement covering 4,700 production, distribution, maintenance, and clerical workers at the Allentown-based Pennsylvania Power and Light Co.

The contract provides guaranteed wage increases of 4 percent in the first year and 3 percent each in the second and third years. In addition, employees will receive a 0.25-percent wage increase in the final year if the Consumer Price Index rises 5 percent or more in 1995 and the price of the utility's common stock exceeds \$2 per share. Currently, the top rate for lineworkers is \$21.89 an hour.

Settlement terms include several changes in contract language aimed at curbing health care costs. The agreement enforces a \$100 monthly spousal penalty when spouses who are employed full time elect to be covered un-

der Pennsylvania Power's health care plan instead of their own employer's plan. The pact establishes a new managed care mental health and substance abuse plan that fully reimburses participants for up to 60 days of inpatient care a year, and for all but \$10 per visit for up to 45 outpatient visits a year. The plan provides two courses of treatment for each enrollee, with maximum lifetime benefits of \$100,000.

Employees going out-of-network for health care services will pay annual deductibles of \$150, and will be reimbursed 50 percent of cost, up to a maximum of \$40 a visit. They are limited to 30 days of both inpatient treatment and outpatient visits each year, up to a lifetime maximum benefit of \$25,000.

Other terms prohibit smoking in company buildings and set up a joint committee to review indoor air quality. They also establish a joint committee to develop methods of reviewing jobs, including issues relating to new jobs, changes in duties of existing jobs, and job upgrades.

In another development, Boston Edison Co. and Locals 369 and 387 of the Utility Workers signed two 6-year contracts that included job protection language for some 2,700 utility workers in the Boston, MA, area. Local 369 bargained for 1,600 production and maintenance workers, and Local 387 bargained for 1,050 office, technical, and professional workers.

Production and maintenance workers will receive wage increases of 3.5 percent in both the first and third years of their contract, 2 percent in the fourth year, 3 percent in the fifth year, and 3.5 percent in the final year. They also will receive a lump-sum payment in the second year equal to 5 percent of their earnings during the preceding 12 months and a similar 3-percent payment in the fourth year. The clerical, technical, and professional employees will receive wage increases of 2 percent each in the first, third, and fourth contract years, 2.5 percent in the fifth year, and 3.5 percent in the final year. They also will receive a lump-sum payment in the first year equal to 3 percent of their earnings during the preceding 12 months, and similar payments of 5 percent in the second year and 3 percent each in the third and fourth years.

In exchange for a longer-than-normal contract duration, the company agreed to give all employees with at least 5 years of service a guarantee against layoffs or cuts in pay because of a lack of work. Adversely affected employees could, however, be assigned to lower-rated jobs. The enhanced job security language is an outgrowth of the utility's plans to implement several productivity improvement projects.

In the health care area, the pact calls for a new preferred provider organization plan to be self-insured by the company, with employees paying 5 percent of premium equivalents for single coverage and 15 percent for family coverage. Current employees may enroll under the existing indemnity plan until July 1, 1994, after which no new indemnity plan elections may occur. Indemnity plan participants will be required to pay the difference between the premium costs for their plan and those of the preferred provider plan.

Other settlement terms modify the pension reduction factor for early retirement; enhance the normal retirement formula; establish a tax-deferred 401(k) savings plan for production and maintenance workers and increase the company's match of worker contributions for the existing office, clerical, and technical employees' plan; and include a new "mutual goals" provision, in which the parties agree to "create a partnership which ensures a long-term commitment to the competitive well-being of the company and the development of its employees."

Elsewhere, members of Local 18007 of the Gas Workers (affiliated with the Service Employees union) narrowly endorsed a 4-year contract covering some 1,430 meter readers, bill collectors, and customer service, distribution, and transportation department employees working for Peoples Gas Light & Coke Co. in Chicago, IL. The ratification vote reportedly reflected the members' dissatisfaction with proposed wage increases and concessionary terms, particularly health care cost containment arrangements and severance pay cuts.

The contract provides wage increases of 3.25 percent in the first year, 2.75 percent in the second year, and 3 percent each in the third and fourth years. At the expiration of the previous agree-

ment, the average hourly rate of pay was \$17.15.

The pact includes several changes in health care coverage. Under the traditional indemnity plan, annual deductibles will increase over the term of the agreement from \$150 to \$300 for single coverage, and from \$250 to \$500 for family coverage. Annual maximum out-of-pocket expenses will be boosted over the term from \$1,250 to \$1,770 for single coverage, and from \$1,750 to \$2,250 for family coverage. The employee's share of premium costs for medical and dental coverage remains at 7 percent for the first 2 years of the agreement and advances to 8 percent in the third year and 9 percent in the fourth year. The employee's premium share under the health maintenance organization plan remains at 17 percent for the first 2 years, increasing to 18 percent in the third year and to 19 percent in the fourth year.

Other terms cut maximum severance allowances for employees on layoff or disability from 1 year's pay to 10 weeks' pay, and allow management to require new employees or those transferring into the service and distribution departments to work 10-hour, 4-day workweeks.

Job security in Thomson pact

Almost 1 year before their collective bargaining agreement was to expire, negotiators for Thomson Consumer Electronics and the International Brotherhood of Electrical Workers (IBEW) signed a 3-year contract covering 5,000 workers at five television manufacturing plants in Indianapolis, Bloomington, and Marion, IN; Lancaster, PA; and Circleville, OH. According to the parties, settlement terms provide "unprecedented" job security over the term of the agreement in exchange for cuts in labor costs. Thomson, the largest manufacturer of televisions in the United States, had threatened to move the production of high-end 31-inch and 35-inch television sets to another location in this country if it could not reduce labor costs.

The parties reached a tentative agreement in April. At that time, John J. Berry, union president, cited the settlement as "an example that confrontation, lost jobs, and community devastation

need not be inevitable consequences in today's economy. This validates our position that equitable and sensible labor-management relations are the key to maintaining a solid economic base in the United States."

The agreement, which had to be accepted by workers at all five locations to be implemented, was narrowly rejected by workers in the Circleville plant. After the contract vote, Berry said, "The IBEW believes this situation can be resolved in a fair and rational manner, and we are working hard to do just that." Workers in the Circleville plant quickly took a second vote and approved the pact.

Under terms of the ratified settlement, workers with at least 5 years of service are protected against layoffs during the term of the agreement. In addition, they will receive 1 week's pay for each year of service if they voluntarily leave the company during a 3-month window of opportunity in the summer of 1994. Employees with less than 5 years of service will receive a special one-time \$10,000 severance payment if they are laid off because of market-related conditions.

In return, the company will be able to introduce a new managed health care plan that features first-dollar coverage, new dental and vision plans, and a prescription drug plan with no copayment for generic drugs and \$4 copayments for brand-name drugs. Employees remaining in one of the current plans will be required to pay a larger portion of their health care costs.

Other terms provide annual wage increases of 2 percent for workers in Marion and Circleville and annual lump-sum payments of \$400 for employees at the other three locations. The contract also includes several work rules changes that vary by plant.

Chicago building settlement

Local 25 of the Service Employees International Union and the Chicago Building Owners and Managers Association (CBOMA), representing owners of 131 downtown commercial office buildings, signed two separate but parallel 3-year master contracts covering about 8,000 janitors, elevator operators, and elevator assistant starters in Chi-

cago, IL. The agreement traditionally sets the pattern for workers at another 87 buildings owned by several other CBOMA members who are not covered under the master contract.

The pacts provide wage increases of 25 cents an hour in the first year and 20 cents in both the second and third years. Rates for new hires are set at \$3.40 an hour below the base rate and reach the full base rate in 4 years, with 50-cent-an-hour incremental increases in each of the first 3 years and a \$1.90 adjustment in the fourth year. Currently, the hourly rate is \$10.40 for janitors, \$10.70 for elevator operators, and \$10.90 for elevator assistant starters.

Other settlement terms increase employer monthly contributions to the union's health and welfare trust fund from \$242.66 to \$259.99 per employee in 1995, and to \$267.32 in 1997 if additional funds are needed to maintain benefit levels; stipulate that companies cannot lower their labor costs by discharging full-rate employees in order to replace them with new hires; and grant employees who take a leave of absence the right to return to the same or an equivalent job.

New master contract at Merck

Negotiators for Merck and Co., Inc., and three unions—the International Chemical Workers; the Oil, Chemical and Atomic Workers; and the Amalgamated Clothing and Textile Workers—reached agreement on a 3-year master contract covering about 1,700 production and maintenance workers at plants in Albany, GA; Elkton, VA; Rahway, NJ; and Danville, PA. Master contract negotiations covered wage and benefit issues.

Skilled workers will receive wage increases of 3 percent retroactive to April 1, 1994, and 3 percent each on April 1 of 1995 and 1996. Nonskilled workers will receive annual lump-sum payments of \$750. At the expiration of the prior agreement, the hourly rate for skilled workers ranged from \$16.50 to \$19.50.

Settlement terms include several changes in benefits. The minimum monthly pension rate is boosted from \$35 to \$39 for each year of credited service. Cost-of-living adjustments will be included in the calculation of long-term

disability and life insurance benefits and employee stock purchases. In addition, the parties are obligated to continue to review managed health care options and to develop an appropriate health care plan by October 1, 1994, or place bargaining unit employees under the salaried workers' plan.

The company said it agreed to the wage and benefit enhancements because the parties had previously signed local contracts that included, among other items, language changes that relaxed restrictive work rules and provided a new approach to combat absenteeism. Other major changes in the local contracts, according to a union spokesperson, dealt with craft jurisdiction, subcontracting, vacation scheduling, personal time off, and job upgrades.

Campbell Soup pact approved

Members of Local 228 of the International Brotherhood of Teamsters ratified a 3-year agreement for 1,700 production and maintenance employees at Campbell Soup Co.'s food processing plant in Sacramento, CA. The settlement featured a switch to a new managed health care plan and the establishment of a tax-deferred 401(k) savings plan.

The contract provides wage increases of 3.5 percent in the first year and 3 percent each in the second and third years. At the expiration of the prior agreement, the average hourly wage rate was \$12.09.

Besides retaining the traditional indemnity health care plan, the agreement introduces several changes in health care provisions. The contract calls for a new managed health care plan without employee payments for premiums or services, except for a \$5 fee for each doctor's office visit. The settlement also increases the dental reimbursement schedule and provides for the purchase of a second pair of eyeglasses each year.

The new contract establishes a 401(k) savings plan, with a maximum employee investment of 5 percent of annual earnings and a company match of 50 percent; increases long-term disability payments from \$1,550 to \$2,000 a month; boosts life insurance benefits over the term of the agreement from \$24,000 to \$27,000; and introduces several other language changes, including

eliminating the ban on hiring relatives of current employees and extending bereavement leave to include the death of a grandparent or grandchild.

Dunlop Commission report

The Commission on the Future of Worker-Management Relations, also called the Dunlop Commission, recently issued its factfinding report to Secretary of Labor Robert B. Reich and Secretary of Commerce Ronald H. Brown. (See *Monthly Labor Review*, June 1993, p. 64, for a description of the responsibilities of the Commission.)

The major findings of the Commission are as follows:

1. American labor market. The American economy, the work force and jobs, the technology at workplaces, the competitive context of enterprises, and the regulations of employment have changed greatly in recent decades. The environment for firms and workers differs markedly from what it was when the basic structure of legislation governing labor-management relations in the United States was established. The changing economic and social environment poses challenges to some aspects of established worker-management relations and has created problems in employment, earnings, and other job market outcomes for many Americans. Among the critical factors in the labor market, which provide the context for the Commission's findings, are:

- A long term decline in the rate of productivity;
- An increased globalization of economic life;
- A shift in employment to service-producing industries from goods-producing industries;
- A shift in the occupational structure toward white-collar jobs that require considerable education; and
- A decline in the prevalence of collective bargaining.

2. Employee participation and labor-management cooperation. Considerable change is under way in many of America's workplaces, driven in part by international and domestic competition,

technology, and work force developments. These external forces are interacting with a growing recognition that achieving a high productivity-high wage economy requires changing traditional methods of labor-management relations and the organization of work in ways that more fully develop and utilize the skills, knowledge, and motivation of the work force and that share the gains produced.

Since the 1980's, there has been a substantial expansion in the number and variety of employee participation efforts and workplace committees in both establishments governed by collective bargaining agreements and those without union representation:

- Where employee participation is sustained over time and integrated with other policies and practices, it generally improves economic performance;
- The trends in the work force and the economy suggest that interest in employee participation programs will increase in future years; and
- Survey data suggest that between 40 and 50 million workers would like to take part in employee participation programs, but lack the opportunity to do so.

3. Worker representation and collective bargaining. Since enactment of the National Labor Relations Act in 1935, the declared policy of the United States has been "to encourage the practice and procedures of collective bargaining." Congress asserted that collective bargaining is an essential instrument for securing "equity of bargaining power between employers and employees," and promoting economic and political democracy for American workers:

- American society supports the principle that workers have the right to join a union and to engage in collective bargaining if a majority of workers so desire;
- Representation elections are a highly conflictual activity for workers, unions, and companies; and
- Roughly one-third of workplaces that vote to be represented by unions do not obtain a collective bargaining contract with their employer.

4. Employment regulation, litigation, and dispute resolution. American employees have now been promised a

wide variety of legal rights and protections by both Federal and State lawmakers. Implementation and enforcement of these legal rights against noncomplying employers requires litigation in the ordinary courts or administrative procedures before specialized agencies, or both:

- Federal laws governing the workplace increased dramatically since the 1960's, with a corresponding expansion in the regulations and rules that guide their administration and enforcement;
- Workplace litigation caseloads and costs rose faster than those in other areas of law;
- Employment cases in Federal courts increased by more than 400 percent between 1971 and 1991; and
- Neither mediation and arbitration nor the newer, more informal employee participation and alternative dispute resolution systems are being utilized to their full potential for dealing with issues and resolving disputes that are now regulated by law.

Supreme Court rules on nurses

In a potentially precedent-setting decision, the Supreme Court ruled that

nurses who direct less-skilled health care workers are supervisors and are not covered under the National Labor Relations Act, thereby removing them from the job protection they would have as covered employees under the law (*NLRB v. Health Care & Retirement Corp. of America*).

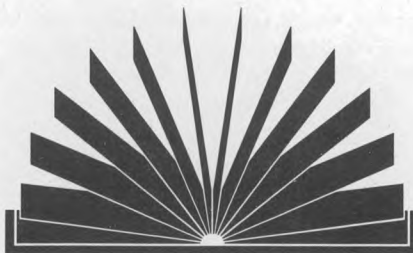
The four licensed practical nurses involved in the case worked in Health Care & Retirement Corp.'s nursing home in Urbana, OH, where they routinely directed other licensed practical nurses and aids. After being discharged for complaining about conditions at the facility, they filed unfair labor practice charges against the company. The National Labor Relations Board—the Federal agency that administers the National Labor Relations Act—found that the nurses were not supervisors and, thus, were protected under the law. The Board ordered the company to reinstate the nurses. After a circuit court refused to enforce the Board's order, the case eventually was brought before the Supreme Court.

The case hinged on the definition of "supervisor." The Act defines a supervisor as "any individual having author-

ity, in the interest of the employer, to hire, transfer, suspend, lay off, recall, promote, discharge, assign, reward, or discipline other employees, or responsibly to direct them, or adjust their grievances, or effectively to recommend such action, if in connection with the foregoing the exercise of such authority is not of a merely routine or clerical nature, but requires the use of independent judgment."

By a vote of 5 to 4, the Court held that the National Labor Relations Board's test for determining whether nurses are supervisors was inconsistent with the law. Justice Anthony M. Kennedy, who wrote the majority opinion, said the decision was narrow in scope and downplayed its potential impact on other professional groups. Justice Ruth Bader Ginsburg, who wrote the dissenting opinion, disagreed, saying, "The Court's opinion has implications far beyond the nurses involved in this case. If any person who may use independent judgment to assign tasks to others or direct their work is a supervisor, then few professionals employed by organizations subject to the (Act) will receive its protections." □

Book reviews



200 years of measuring prices

Essays in Index Number Theory: Vol. 1. W. Erwin Diewert and Alice O. Nakamura, eds. New York, North Holland, 1993, 551 pp., \$99.

The documented history of price measurement began in 1707, when Bishop William Fleetwood calculated a price index for students at Oxford University using a market basket containing 5 quarters of wheat, 6 yards of cloth, and 4 hogsheads of beer. The Massachusetts Legislature, 73 years later, adopted the first escalator clause for the pay of Revolutionary War soldiers. Apparently, life was more arduous in the Continental Army than at Oxford: the market basket for the soldiers' index excluded beer, while 10 pounds of wool and 16 pounds of sole leather were included for apparel.

These and many other fascinating historical facts appear in this collection of new and reprinted essays by Erwin Diewert, an economics professor at the University of British Columbia and a foremost authority on index numbers. Indeed, the history of price indexes is one of this book's themes. Four chapters are devoted entirely or in part to the historical development of index number theory, and the origins of key ideas and results are meticulously documented. This adds interest to the theoretical results, and helps the reader understand them better. Books on other branches of economics and statistics also could benefit from integrating the history of thought with the teaching of theory.

In addition to the historical material, the book reprints two general surveys of the theory of index numbers and three research papers on types of index numbers that measure changes in the cost of living or in productivity with great

accuracy. In an influential paper reprinted as chapter 8, Diewert terms these index numbers "superlative."

Clearly, the cost of living is related to the prices of the items that consumers buy, but consumers' tendency to substitute items that have become relatively cheaper for items that have become relatively more expensive complicates this relationship. Therefore, Diewert assumes that a very general function containing numerous coefficients describes this relationship. Even if this function does not perfectly describe consumers' cost of living, it is flexible enough to closely approximate any possible cost-of-living function as long as prices do not change in drastically different ways. Consequently, a researcher who knew all the function's coefficients could calculate a very accurate index of the cost of living.

Yet remarkably, knowing all these coefficients is unnecessary. A researcher who uses the appropriate superlative index number formula will obtain exactly the same index value from observable data on prices and on the composition of the market basket in the time periods being compared as a researcher who knows the true values of the coefficients in the cost-of-living function. An example of such a superlative formula is the "Fisher ideal" index, which averages the values of a price index based on consumers' initial market basket and a price index based on consumers' final market basket.

The next three chapters of the book take a different approach to the selection of index number formulas. They attempt to rule out formulas that give wrong answers under circumstances in which the right answer is obvious. For example, if every price rises by exactly 10 percent, some index number formulas may indicate that prices are up by an average of 10.5 percent. Seemingly

reasonable formulas fail tests for reasonable behavior with surprising frequency. Even a price index formula that chapter 8 shows to be superlative exhibits such perverse behavior as occasionally falling as one price rises while all other prices remain constant. However, Diewert finds that one superlative formula, the Fisher ideal index, passes a battery of some 21 tests.

The remaining four chapters relate less directly to price index theory. Three of these chapters concern technical questions that are important in productivity measurement, while one concerns the mathematical modeling of consumer choice when outcomes are uncertain.

Of special interest is the book's account of the history of Diewert's own research. Authors whose papers have been rejected for publication may be encouraged to learn that two journals declined to publish Diewert's seminal paper on superlative index numbers before a third accepted it. That paper provides theoretical justification for the index formulas the Bureau of Labor Statistics uses to measure multifactor productivity, and for research estimates by BLS of how much a cost-of-living index that accounted for commodity substitution effects would differ from the Consumer Price Index.

The book mentions Diewert's reaction to these estimates, which show that commodity substitution causes less bias in the CPI than most economists had suspected. Perhaps the second volume will reveal Diewert's reaction to the additional CPI research findings that appeared in the December 1993 *Monthly Labor Review*.

Researchers interested in measurement problems will find this book to be an invaluable reference. Furthermore, its introductory and survey chapters will help users of price and productivity indexes to understand the technical issues

that arise in interpreting these indicators. However, many chapters require a mathematical background comparable to that demanded by a graduate textbook on microeconomics.

—Marshall Reinsdorf
Office of Economic Research
Bureau of Labor Statistics

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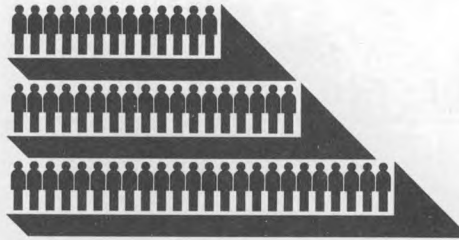
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Current labor statistics



Notes on Current Labor Statistics	65	Labor compensation and collective bargaining data—Continued	
Comparative indicators		28. Specified changes in cost of compensation in private industry settlements covering 5,000 workers or more . .	98
1. Labor market indicators	76	29. Specified compensation and wage adjustments, State and local government bargaining situations covering 1,000 workers or more	99
2. Annual and quarterly percent changes in compensation, prices, and productivity	77	30. Work stoppages involving 1,000 workers or more	99
3. Alternative measures of wage and compensation changes	77		
Household and establishment survey data		Price data	
4. Employment status of the population, data seasonally adjusted	78	31. Consumer Price Index: U.S. city average, by expenditure category and commodity and service groups	100
5. Selected employment indicators, data seasonally adjusted	79	32. Consumer Price Index: U.S. city average and local data, all items	103
6. Selected unemployment indicators, data seasonally adjusted	80	33. Annual data: Consumer Price Index, all items and major groups	104
7. Unemployment rates by sex and age, data seasonally adjusted	81	34. Producer Price Indexes by stage of processing	105
8. Unemployed persons by reason for unemployment, data seasonally adjusted	81	35. Producer Price Indexes for the net output of major industry groups	106
9. Duration of unemployment, data seasonally adjusted	81	36. Annual data: Producer Price Indexes by stage of processing	106
10. Unemployment rates by State, seasonally adjusted	82	37. U.S. export price indexes by Standard International Trade Classification	107
11. Employment of workers by State, seasonally adjusted	82	38. U.S. import price indexes by Standard International Trade Classification	108
12. Employment of workers by industry, data seasonally adjusted	83	39. U.S. export price indexes by end-use category	109
13. Average weekly hours by industry, data seasonally adjusted	85	40. U.S. import price indexes by end-use category	109
14. Average hourly earnings by industry, data seasonally adjusted	85	41. U.S. International price indexes for selected categories of services	110
15. Average hourly earnings by industry	86		
16. Average weekly earnings by industry	87	Productivity data	
17. Diffusion indexes of employment change, data seasonally adjusted	88	42. Indexes of productivity, hourly compensation, and unit costs, data seasonally adjusted	110
18. Annual data: Employment status of the population	88	43. Annual indexes of multifactor productivity	111
19. Annual data: Employment levels by industry	89	44. Annual indexes of productivity, hourly compensation, unit costs, and prices	111
20. Annual data: Average hours and earnings levels by industry	89	45. Annual indexes of output per hour for selected industries	112
Labor compensation and collective bargaining data		International comparisons data	
21. Employment Cost Index, compensation, by occupation and industry group	90	46. Unemployment rates in nine countries, data seasonally adjusted	114
22. Employment Cost Index, wages and salaries, by occupation and industry group	92	47. Annual data: Employment status of the civilian working-age population, 10 countries	115
23. Employment Cost Index, benefits, private industry workers, by occupation and industry group	93	48. Annual indexes of productivity and related measures, 12 countries	116
24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size	94		
25. Participants in employer-provided benefit plans	95	Injury and illness data	
26. Specified compensation and wage rate changes from contract settlements, and effective wage rate changes, agreements covering 1,000 workers or more	96	49. Annual data: Occupational injury and illness incidence rates	117
27. Average specified compensation and wage rate changes, bargaining agreements covering 1,000 workers or more	97		

Notes on Current Labor Statistics

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

General notes

The following notes apply to several tables in this section:

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

Seasonally adjusted data appear in tables 1-14, 16-17, 42, and 46. Seasonally adjusted labor force data in tables 1 and 4-9 were revised in the February 1994 issue of the *Review* and reflect the experience through 1993. Seasonally adjusted establishment survey data shown in tables 12-14 and 16-17 were revised in the July 1994 *Review* and reflect the experience through March 1994. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the "real" earnings shown in

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

Sources of information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, BLS Bulletin 2414. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, BLS Report 793. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on cover 4 of this issue.

More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in the Bureau's monthly publication, *Employment and Earnings*. Historical unadjusted data from the household survey are published in *Labor Force Statistics Derived From the Current Population Survey*, BLS Bulletin 2307. Historical seasonally adjusted data are available from the Bureau upon request. Historically comparable unadjusted and seasonally adjusted data from the establishment survey are published in *Employment, Hours, and Earnings, United States*, a BLS annual bulletin. Additional information on labor force data for sub-States are provided in the BLS annual report, *Geographic Profile of Employment and Unemployment*.

More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Compensation and Working Conditions*. For a comprehensive discussion of the Employment Cost Index, see *Employment Cost Indexes and Levels, 1975-93*, BLS Bulletin 2434. The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and*

Large Firms; Employee Benefits in Small Private Establishments; and Employee Benefits in State and Local Governments. Historical data on the collective bargaining settlements series appear in the April issue of *Compensation and Working Conditions*.

More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report* and *Producer Price Indexes*. For an overview of the CPI reflecting 1982-84 expenditure patterns, see *The Consumer Price Index: 1987 Revision*, BLS Report 736. Additional data on international prices appear in monthly news releases.

For a listing of available industry productivity indexes and their components, see *Productivity Measures for Selected Industries and Government Services*, BLS Bulletin 2421.

For additional information on international comparisons data, see *International Comparisons of Unemployment*, BLS Bulletin 1979.

Detailed data on the occupational injury and illness series are published in *Occupational Injuries and Illnesses in the United States, by Industry*, a BLS annual bulletin.

Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

n.e.c. = not elsewhere classified.

n.e.s. = not elsewhere specified.

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.

r = revised. Generally, this revision reflects the availability of later data, but may also reflect other adjustments.

Comparative Indicators

(Tables 1-3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonfarm payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

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

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

Notes on the data

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

Employment and Unemployment Data

(Tables 1; 4-20)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted

monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 60,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

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

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

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job-market factors, and

those who are voluntarily idle. The **civilian noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy. The **civilian labor force participation rate** is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appears in the Explanatory Notes of *Employment and Earnings*.

Labor force data in tables 1 and 4-9 are seasonally adjusted based on the experience through December 1993. Since January 1980, national labor force data have been seasonally adjusted with a procedure called X-11 ARIMA which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in the *X-11 ARIMA Seasonal Adjustment Method*, by Estela Bee Dagum (Statistics Canada, Catalogue No. 12-564E, January 1983).

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

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 606-6378.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 390,000 establishments representing all industries except agriculture. Industries are classified in accordance with the *1987 Standard Industrial Classification (SIC) Manual*. In most industries, the sampling probabili-

Revisions to household survey data

Beginning with data for January 1994, a number of changes have been introduced into the Current Population (household) Survey that affect all data comparisons. These changes include (1) the results of a major redesign of the survey questionnaire and collection methodology, and (2) the introduction of population controls based on the 1990 census, adjusted for the estimated population undercount. Thus, data for 1994 are not directly comparable with those for 1993 and prior years. An explanation of the changes and their effect on labor force data appears in the February 1994 issue of *Employment and Earnings*, a monthly publication of the Bureau of Labor Statistics.

ties are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

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

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

Production workers in manufacturing include working supervisors and non-supervisory workers closely associated with production operations. Those workers mentioned in tables 11–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

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

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

The Diffusion Index represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-

month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Data are centered within the span. Table 17 provides an index on private nonfarm employment based on 356 industries, and a manufacturing index based on 139 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The latest adjustment, which incorporated March 1993 benchmarks, was made with the release of May 1994 data, published in the July 1994 issue of the *Review*. Coincident with the benchmark adjustments, seasonally adjusted data were revised to reflect the experience through March 1994. Comparable revisions in State data (table 11) occurred with the publication of January 1994 data. Unadjusted data from April 1993 forward and seasonally adjusted data from January 1990 forward are subject to revision in future benchmarks.

The BLS also uses the X-11 ARIMA methodology to seasonally adjust establishment survey data. Beginning in June 1989, projected seasonal adjustment factors are calculated and published twice a year. The change makes the procedure used for the establishment survey data more parallel to that used in adjusting the household survey data. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

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

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

FOR ADDITIONAL INFORMATION on establishment survey data, contact the Division of Monthly Industry Employment Statistics: (202) 606-6555.

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions, and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Seasonally adjusted unemployment rates are presented in table 11. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls, usually with publication of January estimates. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels. Data for 1994 are not directly comparable with those for 1993 as a result of the redesign of the CPS and other methodological changes. See "Revisions in State and Area Estimates Effective January 1994," *Employment and Earnings*, March 1994.

FOR ADDITIONAL INFORMATION on data in this series, call (202) 606-6392 (table 10) or (202) 606-6589 (table 11).

Compensation and Wage Data

(Tables 1–3; 21–30)

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

Employment Cost Index

Description of the series

The **Employment Cost Index (ECI)** is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor.

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

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

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/non-metropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer's costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (June 1981=100) of the quarterly rates of change are presented in the March issue of the BLS periodical, *Compensation and Working Conditions*.

FOR ADDITIONAL INFORMATION on the Employment Cost Index, contact the Division of Employment Cost Trends: (202) 606-6199.

Employee Benefits Survey

Description of the series

Employee benefits data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 6,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 25.

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

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

Definitions

Employer-provided benefits are benefits that are financed either wholly or partly by the employer. They may be sponsored by a union or other third party, as long as there is some employer financing. However, some benefits that are fully paid for by the employee also are included. For example, long-term care insurance and postretirement life insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

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

Defined benefit pension plans use predetermined formulas to calculate a retirement benefit, and obligate the employer to provide those benefits. Benefits are generally based on salary or years of service, or both.

Defined contribution plans generally specify the level of employer and employee contributions to a plan, but not the formula for determining eventual benefits. Instead, individual accounts are set up for participants, and benefits are based on amounts credited to these accounts.

Tax-deferred savings plans are a type of defined contribution plan that allow participants to contribute a portion of their salary to an employer-sponsored plan and defer income taxes until withdrawal.

Flexible benefit plans allow employees to choose among several benefits, such as life insurance, medical care, and vacation days, and among several levels of care within a given benefit.

Notes on the data

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

workers or more in private industries. All surveys conducted over the 1979–89 period excluded establishments in Alaska and Hawaii, as well as part-time employees.

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

FOR ADDITIONAL INFORMATION on the Employee Benefits Survey, contact the Division of Occupational Pay and Employee Benefit Levels: (202) 606–6222.

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated changes (increases, decreases, and zero change) in wage rates alone and in compensation (wages and benefits), quarterly for private nonagricultural industries and semi-annually for State and local governments. Wage rate changes cover collective bargaining settlements negotiated in the reference period involving 1,000 or more workers and compensation changes cover settlements reached in the reference period involving 5,000 or more workers. These data are not seasonally adjusted and are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts.

The wage and compensation rate changes are the percent difference between the average rate per work hour just prior to the start of a new agreement and the average rate per work hour that would exist at the end of the first 365 days of the new agreement (first-year measure) or at its expiration date (over-the-life measure). These data exclude lump-sum payments.

The compensation cost change is the percent difference between the average cost of compensation per work hour, including the hourly cost of lump-sum payments made during the term of the expiring agreement, just prior to the start of a new agreement and the average cost of compensation per work hour under the settlement. The timing of the changes in compensation rates is reflected in the compensation cost series, but not in compensation rate series.

Data on changes in settlements exclude potential changes under cost-of-living ad-

justment clauses. Averages reflect the change under each settlement weighted by the number of workers covered. Estimates of changes are based on the assumption that conditions existing at the time of the settlement (for example, composition of the labor force or methods of funding pensions) will remain constant over the term of the agreement.

Wage rate changes under all major agreements (those covering 1,000 or more workers) measure all wage increases, decreases, and zero changes occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached in the calendar year, changes deferred from settlements negotiated in earlier years, and changes under cost-of-living adjustment (COLA) clauses. The change in the wage rate for each agreement is the percent difference between the average wage rate just prior to the start of the reference period and the average wage rate at the end of the reference period. The change for each agreement is weighted by the number of workers covered to determine the average change under all agreements.

Definitions

Wage rate is the average straight-time hourly wage rate plus shift premiums.

Compensation rates include the wage rate, premium pay (for example, for overtime and holidays); paid leave; life, health, and sickness and accident insurance; pension and other retirement plans; severance pay; and legally required benefits.

Compensation costs include the items covered by compensation rates plus specified lump-sum payments, the cost of contractually required training programs that are not a cost of doing business, and the additional costs of changes in legally required insurance known at the time of settlement to be mandated during the contract term.

Cash payments include wages and lump-sum payments.

Contingent pay provisions are clauses which could provide compensation changes beyond those specified in the settlement. COLA clauses and lump-sum provisions that call for a payment only if a company's profits exceed a specific amount are examples.

Notes on the data

Comparisons of major collective bargaining settlements for State and local government with those for private industry should note differences in occupational mix, bargaining practices, and settlement characteristics. Professional and white-collar employees, for example, make up a much larger proportion of the workers covered by government than by private industry settle-

ments. Lump-sum payments and COLA clauses, on the other hand, are rare in government but common in private industry settlements. Also, State and local government bargaining frequently excludes items, such as pension benefits and holidays, that are prescribed by law, while these items are typical bargaining issues in private industry.

FOR ADDITIONAL INFORMATION on collective bargaining settlements, contact the Division of Developments in Labor–Management Relations: (202) 606–6276 (private industry data) or (202) 606–6280 (State and local government data).

Work stoppages

Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

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

Definitions

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

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

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

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

Notes on the data

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

FOR ADDITIONAL INFORMATION on work stoppages data, contact the Division of Developments in Labor–Management Relations: (202) 606–6288.

Price Data

(Tables 2; 31–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary

markets in the United States. Price indexes are given in relation to a base period—1982=100 for many Producer Price Indexes, 1982–84=100 for many Consumer Price Indexes (unless otherwise noted), and 1990=100 for International Price Indexes.

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all-urban consumer index (CPI-U), introduced in 1978, is representative of the 1982–84 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 32 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

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

Data collected from more than 19,000 retail establishments and 57,000 housing units in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 15 major urban centers are presented in table 32. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI-U. A rental equivalence

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

FOR ADDITIONAL INFORMATION on consumer prices, contact the Division of Consumer Prices and Price Indexes: (202) 606-7000.

Producer Price Indexes

Description of the series

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

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1992, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1987. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

FOR ADDITIONAL INFORMATION on producer prices, contact the Division of Industrial Prices and Price Indexes: (202) 606-7705.

International Price Indexes

Description of the series

The **International Price Program** produces monthly and quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts; it includes corporations, businesses, and individuals, but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected primarily by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first week of the month. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined according to the five-digit level of detail for the Bureau of Economic Analysis End-use Classification (SITC), and the four-digit level of detail for the Harmonized System. Aggregate import indexes by country or region of origin are also available.

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

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. Price relatives are assigned equal impor-

tance within each harmonized group and are then aggregated to the higher level. The values assigned to each weight category are based on trade value figures compiled by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1990.

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

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (costs, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges. For a given product, only one price basis series is used in the construction of an index.

FOR ADDITIONAL INFORMATION on international prices, contact the Division of International Prices: (202) 606-7155.

Productivity Data

(Tables 2: 42-45)

Business sector and major sectors

Description of the series

The productivity measures relate real physical output to real input. As such, they encompass a family of measures which include single-factor input measures, such as output per unit of labor input (output per

hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the value of goods and services in constant prices produced per combined unit of labor and capital inputs. Changes in this measure reflect changes in a number of factors which affect the production process, such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and effort of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours at work. **Real compensation per hour** is compensation per hour deflated by the change in Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current-dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits.

Unit profits include corporate profits with inventory valuation and capital consumption adjustments per unit of output.

Hours of all persons are the total hours at work of payroll workers, self-employed persons, and unpaid family workers.

Capital services are the flow of services from the capital stock used in production.

It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Combined units of labor and capital inputs are derived by combining changes in labor and capital input with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

The output measure for the business sector is equal to constant-dollar gross national product, but excludes the rental value of owner-occupied dwellings, the rest-of-world sector, the output of nonprofit institutions, the output of paid employees of private households, general government, and the statistical discrepancy. Output of the nonfarm business sector is equal to business sector output less farming. The measures are derived from data supplied by the U.S. Department of Commerce's Bureau of Economic Analysis and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of manufacturing output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42-45 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input.

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

FOR ADDITIONAL INFORMATION on this productivity series, contact the Division of Productivity Research: (202) 606-5606.

Industry productivity measures

Description of the series

The BLS industry productivity data supplement the measures for the business economy

and major sectors with annual measures of labor productivity for selected industries at the three- and four-digit levels of the Standard Industrial Classification system. The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

Definitions

Output per employee hour is derived by dividing an index of industry output by an index of aggregate hours of all employees. Output indexes are based on quantifiable units of products or services, or both, combined with fixed-period weights. Whenever possible, physical quantities are used as the unit of measurement for output. If quantity data are not available for a given industry, data on the constant-dollar value of production are used.

The labor input series consist of the hours of all employees (production and non-production workers), the hours of all persons (paid employees, partners, proprietors, and unpaid family workers), or the number of employees, depending upon the industry.

Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics, the Departments of Commerce, Interior, and Agriculture, the Federal Reserve Board, regulatory agencies, trade associations, and other sources.

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

FOR ADDITIONAL INFORMATION on this series, contact the Division of Industry Productivity Studies: (202) 606-5618.

International Comparisons

(Tables 46-48)

Labor force and unemployment

Description of the series

Tables 46 and 47 present comparative measures of the labor force, employment, and unemployment—approximating U.S. con-

cepts—for the United States, Canada, Australia, Japan, and several European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

Definitions

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

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and older. Therefore, the adjusted statistics relate to the population age 16 and older in France, Sweden, and from 1973 onward, the United Kingdom; 15 and older in Canada, Australia, Japan, Germany, Italy, the Netherlands, and prior to 1973, the United Kingdom; and 14 and older in Italy prior to 1993. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

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

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

There are breaks in the data series for the United States (1994), Italy (1986, 1991, 1993), and Sweden (1987, 1993). For the United States, the break in series reflects a number of changes in the labor force survey beginning with data for January 1994.

Data for 1994 are not directly comparable with those for earlier years. See the Notes section on Employment and Unemployment Data of the *Review* for further information about the U.S. revisions.

For Italy, the 1986 break in series reflects more accurate enumeration of the number of people reported as seeking work in the last 30 days. The impact was to increase the Italian unemployment rates approximating U.S. concepts by about 1 percentage point. In 1991, the survey sample was modified to obtain more reliable estimates by sex and age. The impact was to raise the adjusted Italian unemployment rate by approximately 0.3 percentage point. In 1993, the survey methodology was revised and the definition of unemployment was changed to include only those who were actively looking for a job within the 30 days preceding the survey and who were available for work. In addition, the lower age limit for the labor force was raised from 14 to 15 years. (Prior to these changes, BLS adjusted Italy's published unemployment rate downward by excluding from the unemployed persons who had not actively sought work in the past 30 days.) The break in series also reflects the incorporation of the 1991 population census results. The impact of these changes was to raise Italy's adjusted unemployment rate by approximately 1.1 percentage points. These changes did not affect employment significantly, except in 1993. Estimates by the Italian Statistical Office indicate that employment declined by about 3 percent in 1993, rather than the 4.5 percent indicated by the data shown in table 47. This difference is attributable mainly to the incorporation of the 1991 population census benchmarks in the 1993 data. Data for earlier years have not yet been adjusted to incorporate the 1991 census results.

Sweden introduced a new questionnaire in 1987. Questions regarding current availability were added and the period of active workseeking was reduced from 60 days to 4 weeks. These changes result in lowering Sweden's unemployment rate by 0.5 percentage point. In 1993, the measurement period for the labor force survey was changed to represent all 52 weeks of the year rather than one week each month, and a new adjustment for population totals was introduced. The impact was to raise the unemployment rate by approximately 0.5 percentage point. The data for 1993 onward are not seasonally adjusted because the previous seasonal adjustment pattern is not applicable following the 1993 break in series.

Preliminary estimates by the Swedish Statistics Bureau indicate that employment linked for the 1993 break in series declined by about 5-1/2 percent in 1993 rather than the nearly 7 percent indicated by the data shown in table 47.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 606-5654.

Manufacturing productivity and labor costs

Description of the series

Table 48 presents comparative measures of manufacturing labor productivity, hourly compensation costs, and unit labor costs for the United States, Canada, and nine European countries. These measures are limited to trend comparisons—that is, intercountry series of changes over time—rather than level comparisons because reliable international comparisons of the levels of manufacturing output are unavailable. The hours and compensation measures refer to all employed persons, including self-employed persons and unpaid family workers, in the United States and Canada and to all employees (wage and salary earners) in the other countries.

Definitions

Output, in general, refers to value added in manufacturing (gross product originating) in constant prices from the national accounts of each country. However, output for Japan prior to 1970 and the Netherlands from 1969 to 1977 are indexes of industrial production. The national accounts measures for the United Kingdom are essentially identical to its indexes of industrial production. While methods of deriving national accounts measures differ substantially from country to country, the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours refer to hours worked in all countries. The measures are developed from statistics of manufacturing employment and average hours. The series used for France (from 1970 forward), Norway, and Sweden are official series published with the national accounts. Where official total hours series are not available, the measures are developed by the Bureau using employment figures published with the national accounts, or other comprehensive employment series, and estimates of annual hours worked.

Compensation (labor cost) includes all payments in cash or kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. In addition, for some countries, compensation is increased to account for other significant

taxes on payrolls or employment (or reduced to reflect subsidies), even if they are not for the direct benefit of workers, because such taxes are regarded as labor costs. However, compensation does not include all items of labor cost. The costs of recruitment, employee training, and plant facilities and services—such as cafeterias and medical clinics—are not covered because data are not available for most countries. The compensation measures are from the national accounts, except those for Belgium, which are developed by the Bureau using statistics on employment, average hours, and hourly compensation. Self-employed workers are included in the U.S. and Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France, Italy (beginning 1970), and the United Kingdom (beginning 1971) refer to mining and manufacturing less energy-related products; the measures for Denmark include mining and exclude manufacturing handicrafts from 1960 to 1966; and the measures for the Netherlands exclude petroleum refining and include coal mining from 1969 to 1976.

The figures for one or more recent years are generally based on current indicators of manufacturing output (such as industrial production indexes), employment, average hours, and hourly compensation and are considered preliminary until the national accounts and other statistics used for the long-term measures become available.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 606-5654.

Occupational Injury and Illness Data

(Table 49)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; fi-

nance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal-State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury, such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

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

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not)

on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and

nonfatal cases without lost workdays. Lost workday cases are separated into those in which the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses or lost workdays per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail of the available measures is presented in the BLS annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Safety, Health, and Working Conditions.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employees' experi-

ence is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by employers to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are available from the BLS Office of Safety, Health, and Working Conditions.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*.

FOR ADDITIONAL INFORMATION on occupational injuries and illnesses, contact the Division of Safety and Health Statistics: (202) 606-6166.

Current Labor Statistics: Comparative Indicators

1. Labor market indicators

Selected indicators	1992	1993	1992			1993				1994
			II	III	IV	I	II	III	IV	I
Employment data¹										
Employment status of the civilian noninstitutionalized population (household survey): ²										
Labor force participation rate	66.3	66.2	66.4	66.4	66.2	66.1	66.2	66.1	66.2	66.6
Employment-population ratio	61.4	61.6	61.5	61.4	61.3	61.4	61.6	61.7	61.9	62.3
Unemployment rate	7.4	6.8	7.5	7.5	7.3	7.0	7.0	6.7	6.5	6.6
Men	7.8	7.1	7.9	7.9	7.6	7.3	7.3	7.1	6.7	6.6
16 to 24 years	15.3	14.3	15.4	15.3	14.8	14.6	14.9	14.2	13.5	13.9
25 years and over	6.4	5.8	6.5	6.5	6.3	6.0	5.8	5.8	5.5	5.3
Women	6.9	6.5	7.0	7.1	6.9	6.7	6.6	6.4	6.3	6.5
16 to 24 years	13.0	12.2	13.0	13.6	12.8	13.0	12.6	11.7	11.6	12.3
25 years and over	5.7	5.4	5.7	5.8	5.7	5.5	5.4	5.3	5.3	5.3
Employment, nonfarm (payroll data), in thousands: ²										
Total	108,604	110,525	108,446	108,720	109,128	109,717	110,251	110,755	111,363	111,976
Private sector	89,959	91,708	89,829	90,028	90,416	90,969	91,461	91,910	92,470	93,057
Goods-producing	23,231	23,256	23,264	23,209	23,189	23,274	23,256	23,215	23,275	23,350
Manufacturing	18,104	18,003	18,134	18,103	18,061	18,103	18,025	17,951	17,942	17,973
Service-producing	85,373	87,269	85,182	85,512	85,938	86,443	86,995	87,540	88,088	88,626
Average hours:										
Private sector	34.4	34.5	34.4	34.4	34.4	34.3	34.5	34.5	34.5	34.6
Manufacturing	41.0	41.4	41.1	41.1	41.2	41.3	41.4	41.5	41.7	41.7
Overtime	3.8	4.1	3.8	3.8	3.9	4.1	4.1	4.1	4.4	4.6
Employment Cost Index										
Percent change in the ECI, compensation:										
All workers (excluding farm, household, and Federal workers)	3.5	3.5	.6	1.1	.6	1.2	.7	1.0	.6	.9
Private industry workers	3.5	3.6	.7	.8	.7	1.3	.8	.9	.6	1.0
Goods-producing ³	3.8	3.9	.7	.9	.7	1.6	.9	.7	.6	1.0
Service-producing ³	3.2	3.6	.7	.7	.7	1.0	.8	1.0	.7	.9
State and local government workers	3.7	2.8	.4	1.9	.6	.6	.3	1.5	.4	.6
Workers by bargaining status (private industry):										
Union	4.3	4.3	.8	1.1	.6	1.6	1.1	.8	.8	.8
Nonunion	3.2	3.5	.6	.8	.7	1.1	.8	.9	.6	1.0

¹ Data for 1994 are not directly comparable with data for 1993 and prior years. For additional information, see the box note under "Employment and Unemployment Data" in the notes to this section.

² Quarterly data seasonally adjusted.

³ Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

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

Selected measures	1992	1993	1992			1993				1994
			II	III	IV	I	II	III	IV	I
Compensation data: ^{1, 2}										
Employment Cost Index--compensation (wages, salaries, benefits):										
Civilian nonfarm	3.5	3.5	0.6	1.1	0.6	1.2	0.7	1.0	0.6	0.9
Private nonfarm	3.5	3.6	.7	.8	.7	1.3	.8	.9	.6	1.0
Employment Cost Index--wages and salaries										
Civilian nonfarm	2.7	3.1	.5	.8	.5	.8	.6	1.0	.6	.6
Private nonfarm	2.6	3.1	.6	.5	.6	.9	.6	1.0	.6	.7
Price data: ¹										
Consumer Price Index (All urban consumers): All items	2.9	2.7	.6	.8	.4	1.2	.6	.5	.5	1.0
Producer Price Index:										
Finished goods	1.6	.2	1.4	-.5	.4	.7	.6	-1.4	.2	.7
Finished consumer goods	1.6	-.2	1.8	-.3	.0	.7	.8	-1.5	-.2	.7
Capital equipment	1.7	1.8	.0	-.6	1.6	.8	-.2	-.5	1.7	.9
Intermediate materials, supplies, components	1.0	1.0	1.6	.3	-.9	1.0	.6	.1	-.7	.7
Crude materials	3.3	.1	4.3	.3	-1.5	1.7	1.6	-3.1	.0	3.8
Productivity data: ³										
Output per hour of all persons:										
Business sector	3.2	1.5	2.3	3.7	3.4	-2.0	.1	2.8	6.8	1.1
Nonfarm business sector	3.0	1.4	2.6	3.0	3.7	-2.3	-.3	3.5	6.1	1.3
Nonfinancial corporations ⁴	4.0	2.0	4.6	5.2	4.1	-4.4	4.1	3.0	5.7	.0

¹ Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted and the price data are not compounded.

² Excludes Federal and private household workers.

³ Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

⁴ Output per hour of all employees.

3. Alternative measures of wage and compensation changes

Components	Quarterly average					Four quarters ended--						
	1992	1993				1994	1992	1993				1994
	IV	I	II	III	IV	I	IV	I	II	III	IV	I
Average hourly compensation: ¹												
All persons, business sector	4.1	2.8	2.6	3.3	2.5	5.3	4.8	4.1	3.8	3.2	2.8	3.4
All persons, nonfarm business sector	4.1	2.4	2.0	3.1	2.5	5.3	4.8	4.0	3.4	2.9	2.5	3.2
Employment Cost Index--compensation:												
Civilian nonfarm ² .....	.6	1.2	.7	1.0	.6	.9	3.5	3.5	3.6	3.6	3.5	3.2
Private nonfarm .....	.7	1.3	.8	.9	.6	1.0	3.5	3.5	3.6	3.7	3.6	3.3
Union .....	.6	1.6	1.1	.8	.8	.8	4.3	4.2	4.5	4.2	4.3	3.5
Nonunion .....	.7	1.1	.8	.9	.6	1.0	3.2	3.3	3.4	3.6	3.5	3.3
State and local governments .....	.6	.6	.3	1.5	.4	.6	3.7	3.6	3.4	3.0	2.8	2.8
Employment Cost Index--wages and salaries:												
Civilian nonfarm ² .....	.5	.8	.6	1.0	.6	.6	2.7	2.7	2.8	3.0	3.1	2.9
Private nonfarm .....	.6	.9	.6	1.0	.6	.7	2.6	2.7	2.7	3.1	3.1	2.9
Union .....	.5	.7	.7	.8	.8	.7	3.1	3.0	2.8	2.8	3.0	3.0
Nonunion .....	.6	.9	.6	1.0	.6	.7	2.5	2.6	2.7	3.1	3.1	2.9
State and local governments .....	.6	.5	.2	1.6	.3	.6	3.0	3.0	2.8	2.9	2.7	2.7
Total effective wage adjustments³												
From current settlements .....	.4	.5	.9	.8	.7	.4	3.1	3.0	2.9	2.6	3.0	2.9
From prior settlements .....	.2	.1	.2	.1	.5	.1	.8	.8	.7	.6	.9	.8
From cost-of-living provision .....	.2	.3	.7	.6	.2	.3	1.9	1.8	1.8	1.8	1.9	1.8
From cost-of-living provision .....	.1	.1	.1	(⁴)	(⁴)	(⁴)	.4	.4	.4	.3	.2	.2
Negotiated wage adjustments from settlements: ³												
First-year adjustments	1.8	2.5	2.5	1.1	2.8	3.2	2.7	2.6	2.5	2.0	2.3	2.4
Annual rate over life of contract	2.6	2.7	2.5	1.7	2.0	2.5	3.0	2.9	2.7	2.3	2.1	2.1
Negotiated wage and benefit adjustments from settlements: ⁵												
First-year adjustment	1.4	3.1	3.2	1.0	3.8	3.0	3.0	3.0	2.9	2.1	3.0	3.0
Annual rate over life of contract	2.7	3.2	2.6	1.4	2.5	2.6	3.1	3.1	2.9	2.4	2.4	2.3

¹ Seasonally adjusted.

² Excludes Federal and household workers.

³ Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

⁴ Data round to zero.

⁵ Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

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

(Numbers in thousands)

Employment status	Annual average		1993							1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
TOTAL															
Civilian noninstitutional population ¹	191,576	193,550	193,456	193,633	193,793	193,971	194,151	194,321	194,472	195,953	196,090	196,213	196,363	196,510	196,693
Civilian labor force	126,982	128,040	128,056	128,102	128,334	128,108	128,580	128,662	128,898	130,667	130,776	130,580	130,747	130,774	130,248
Participation rate	66.3	66.2	66.2	66.2	66.2	66.0	66.2	66.2	66.3	66.7	66.7	66.6	66.6	66.5	66.2
Employed	117,598	119,306	119,187	119,370	119,692	119,568	119,941	120,332	120,661	121,971	122,258	122,037	122,338	122,872	122,430
Employment-population ratio ²	61.4	61.6	61.6	61.6	61.8	61.6	61.8	61.9	62.0	62.2	62.3	62.2	62.3	62.5	62.2
Unemployed	9,384	8,734	8,869	8,732	8,642	8,540	8,639	8,330	8,237	8,696	8,518	8,543	8,408	7,902	7,817
Unemployment rate	7.4	6.8	6.9	6.8	6.7	6.7	6.7	6.5	6.4	6.7	6.5	6.5	6.4	6.0	6.0
Not in labor force	64,593	65,509	65,400	65,531	65,459	65,863	65,571	65,659	65,574	65,286	65,314	65,633	65,616	65,736	66,445
Men, 20 years and over															
Civilian noninstitutional population ¹	84,891	85,907	85,872	85,950	86,002	86,075	86,156	86,245	86,373	86,778	86,820	86,901	86,946	87,000	87,095
Civilian labor force	65,638	66,069	66,087	66,140	66,221	66,038	66,306	66,198	66,321	66,806	66,764	66,723	66,701	66,692	66,409
Participation rate	77.3	76.9	77.0	77.0	77.0	76.7	77.0	76.8	76.8	77.0	76.9	76.8	76.7	76.7	76.2
Employed	61,019	61,865	61,805	61,869	62,006	61,901	62,172	62,315	62,444	62,842	62,778	62,857	62,958	63,192	62,916
Employment-population ratio ²	71.9	72.0	72.0	72.0	72.1	71.9	72.2	72.3	72.3	72.4	72.3	72.3	72.4	72.6	72.2
Agriculture	2,355	2,263	2,220	2,235	2,193	2,264	2,223	2,334	2,300	2,352	2,339	2,358	2,376	2,412	2,307
Nonagricultural industries	58,664	59,602	59,585	59,634	59,813	59,637	59,949	59,981	60,144	60,490	60,439	60,499	60,582	60,780	60,609
Unemployed	4,619	4,204	4,282	4,271	4,215	4,137	4,134	3,883	3,877	3,964	3,986	3,866	3,743	3,500	3,493
Unemployment rate	7.0	6.4	6.5	6.5	6.4	6.3	6.2	5.9	5.8	5.9	6.0	5.8	5.6	5.2	5.3
Women, 20 years and over															
Civilian noninstitutional population ¹	93,524	94,388	94,315	94,425	94,490	94,575	94,656	94,709	94,764	95,109	95,159	95,225	95,282	95,329	95,407
Civilian labor force	54,594	55,146	55,132	55,100	55,249	55,251	55,462	55,621	55,783	56,368	56,611	56,487	56,410	56,548	56,214
Participation rate	58.4	58.4	58.5	58.4	58.5	58.4	58.6	58.7	58.9	59.3	59.5	59.3	59.2	59.3	58.9
Employed	51,181	51,912	51,875	51,901	52,084	52,072	52,243	52,423	52,631	53,014	53,403	53,121	53,265	53,521	53,181
Employment-population ratio ²	54.7	55.0	55.0	55.0	55.1	55.1	55.2	55.4	55.5	55.7	56.1	55.8	55.9	56.1	55.7
Agriculture	627	599	596	616	614	596	601	597	599	744	766	773	837	787	726
Nonagricultural industries	50,553	51,313	51,279	51,285	51,470	51,476	51,642	51,826	52,032	52,270	52,638	52,348	52,428	52,734	52,455
Unemployed	3,413	3,234	3,257	3,199	3,165	3,179	3,219	3,198	3,152	3,354	3,208	3,366	3,145	3,027	3,033
Unemployment rate	6.3	5.9	5.9	5.8	5.7	5.8	5.8	5.7	5.7	6.0	5.7	6.0	5.6	5.4	5.4
Both sexes, 16 to 19 years															
Civilian noninstitutional population ¹	13,161	13,255	13,270	13,258	13,301	13,321	13,339	13,367	13,335	14,066	14,111	14,087	14,135	14,181	14,191
Civilian labor force	6,751	6,826	6,837	6,862	6,864	6,819	6,812	6,843	6,794	7,493	7,401	7,370	7,636	7,534	7,625
Participation rate	51.3	51.5	51.5	51.8	51.6	51.2	51.1	51.2	50.9	53.3	52.4	52.3	54.0	53.1	53.7
Employed	5,398	5,530	5,507	5,600	5,602	5,595	5,526	5,594	5,586	6,115	6,076	6,059	6,116	6,159	6,333
Employment-population ratio ²	41.0	41.7	41.5	42.2	42.1	42.0	41.4	41.8	41.9	43.5	43.1	43.0	43.3	43.4	44.6
Agriculture	225	212	215	192	198	233	197	183	197	236	287	295	245	236	203
Nonagricultural industries	5,174	5,317	5,292	5,408	5,404	5,362	5,329	5,411	5,389	5,879	5,790	5,764	5,870	5,923	6,130
Unemployed	1,352	1,296	1,330	1,262	1,262	1,224	1,286	1,249	1,208	1,378	1,325	1,311	1,520	1,375	1,292
Unemployment rate	20.0	19.0	19.5	18.4	18.4	17.9	18.9	18.3	17.8	18.4	17.9	17.8	19.9	18.3	16.9
White															
Civilian noninstitutional population ¹	162,658	163,921	163,857	163,971	164,074	164,190	164,309	164,421	164,516	165,014	165,096	165,168	165,259	165,351	165,472
Civilian labor force	108,526	109,359	109,373	109,393	109,646	109,492	110,009	109,804	110,016	110,802	110,934	110,633	110,673	110,797	110,358
Participation rate	66.7	66.7	66.7	66.7	66.8	66.7	67.0	66.8	66.9	67.1	67.2	67.0	67.0	67.0	66.7
Employed	101,479	102,812	102,721	102,835	103,179	103,094	103,273	103,662	103,807	104,355	104,669	104,314	104,450	105,038	104,555
Employment-population ratio ²	62.4	62.7	62.7	62.7	62.9	62.8	62.9	63.0	63.1	63.2	63.4	63.2	63.2	63.5	63.2
Unemployed	7,047	6,547	6,652	6,558	6,467	6,398	6,736	6,142	6,209	6,447	6,264	6,319	6,222	5,760	5,804
Unemployment rate	6.5	6.0	6.1	6.0	5.9	5.8	6.1	5.6	5.6	5.8	5.6	5.7	5.6	5.2	5.3
Black															
Civilian noninstitutional population ¹	21,958	22,329	22,313	22,346	22,375	22,408	22,442	22,475	22,504	22,723	22,751	22,774	22,799	22,824	22,855
Civilian labor force	13,891	13,943	13,922	13,920	13,969	13,952	13,945	14,057	14,011	14,368	14,487	14,573	14,523	14,497	14,502
Participation rate	63.3	62.4	62.4	62.3	62.4	62.3	62.1	62.5	62.3	63.2	63.7	64.0	63.7	63.5	63.5
Employed	11,933	12,146	12,076	12,134	12,225	12,202	12,292	12,297	12,397	12,482	12,624	12,749	12,813	12,825	12,874
Employment-population ratio ²	54.3	54.4	54.1	54.3	54.6	54.5	54.8	54.7	55.1	54.9	55.5	56.0	56.2	56.2	56.3
Unemployed	1,958	1,796	1,846	1,786	1,744	1,750	1,853	1,760	1,614	1,887	1,863	1,824	1,710	1,672	1,628
Unemployment rate	14.1	12.9	13.3	12.8	12.5	12.5	11.9	12.5	11.5	13.1	12.9	12.5	11.8	11.5	11.2

See footnotes at end of table.

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

(Numbers in thousands)

Employment status	Annual average		1993							1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Hispanic origin															
Civilian noninstitutional population ¹	15,244	15,753	15,729	15,777	15,824	15,871	15,917	15,967	16,014	17,849	17,896	17,942	17,993	18,041	18,092
Civilian labor force	10,131	10,377	10,285	10,375	10,331	10,433	10,586	10,575	10,625	11,746	11,835	11,871	11,880	11,929	11,850
Participation rate	66.5	65.9	65.4	65.8	65.3	65.7	66.5	66.2	66.3	65.8	66.1	66.2	66.0	66.1	65.5
Employed	8,971	9,272	9,221	9,250	9,311	9,394	9,384	9,476	9,513	10,495	10,650	10,680	10,595	10,801	10,634
Employment-population ratio ²	58.9	58.9	58.6	58.6	58.8	59.2	59.0	59.3	59.4	58.8	59.5	59.5	58.9	59.9	58.8
Unemployed	1,160	1,104	1,064	1,125	1,020	1,039	1,202	1,099	1,112	1,251	1,185	1,190	1,285	1,127	1,217
Unemployment rate	11.4	10.6	10.3	10.8	9.9	10.0	11.4	10.4	10.5	10.6	10.0	10.0	10.8	9.5	10.3

¹ The population figures are not seasonally adjusted.

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

NOTE: Data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under "Employment and Unemployment

Data" in the notes to this section.

Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

5. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1993							1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CHARACTERISTIC															
Employed, 16 years and over	117,598	119,306	119,187	119,370	119,692	119,568	119,941	120,332	120,661	121,971	122,258	122,037	122,338	122,872	122,430
Men	63,805	64,700	64,642	64,728	64,904	64,756	64,971	65,144	65,259	65,963	65,921	65,940	66,036	66,301	66,135
Women	53,793	54,606	54,545	54,642	54,788	54,812	54,970	55,188	55,402	56,007	56,336	56,097	56,302	56,571	56,295
Married men, spouse present ..	40,303	40,869	40,958	40,877	40,792	40,826	40,816	40,842	40,951	41,483	41,328	41,331	41,380	41,367	41,287
Married women, spouse present	30,136	30,512	30,340	30,322	30,536	30,509	30,641	30,872	31,051	31,579	31,709	31,310	31,345	31,324	31,054
Women who maintain families ..	6,582	6,764	6,772	6,806	6,840	6,833	6,784	6,704	6,693	6,796	7,133	7,369	7,191	7,094	6,978
CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,696	1,637	1,602	1,626	1,566	1,667	1,657	1,719	1,724	1,641	1,677	1,719	1,693	1,757	1,629
Self-employed workers	1,398	1,332	1,336	1,323	1,312	1,319	1,274	1,311	1,269	1,590	1,633	1,661	1,710	1,654	1,582
Unpaid family workers	113	105	103	93	110	90	97	89	92	78	55	41	43	40	46
Nonagricultural industries:															
Wage and salary workers	105,540	107,011	106,887	107,057	107,370	107,331	107,727	107,975	108,247	109,526	109,547	109,365	109,749	110,243	110,052
Government	18,086	18,504	18,553	18,435	18,527	18,507	18,476	18,493	18,503	18,163	18,152	18,481	18,393	18,473	18,322
Private industries	87,454	88,507	88,334	88,622	88,843	88,824	89,251	89,482	89,744	91,364	91,395	90,883	91,356	91,770	91,729
Private households	1,116	1,105	1,059	1,081	1,128	1,123	1,179	1,103	1,104	928	1,074	1,035	1,043	997	964
Other	86,338	87,402	87,275	87,541	87,715	87,701	88,072	88,379	88,640	90,436	90,321	89,849	90,313	90,773	90,765
Self-employed workers	8,619	9,003	9,102	9,093	9,026	8,949	8,961	9,011	9,053	8,990	9,312	9,146	8,982	9,138	8,946
Unpaid family workers	232	218	150	203	245	250	229	223	217	142	143	117	131	121	154
PERSONS AT WORK															
PART TIME¹															
All industries:															
Part time for economic reasons ..	6,385	6,348	6,435	6,451	6,469	6,394	6,202	6,126	6,217	5,167	4,643	4,992	4,757	4,878	4,785
Slack work or business conditions	3,220	3,140	3,378	3,099	3,202	3,167	3,072	3,037	3,099	2,561	2,301	2,538	2,363	2,571	2,535
Could only find part-time work ..	2,867	2,908	2,842	2,986	2,935	2,937	2,872	2,810	2,828	2,171	2,028	2,138	2,101	2,026	1,981
Part time for noneconomic reasons	14,759	15,062	15,272	15,121	15,216	15,182	15,201	15,290	15,373	17,744	17,674	17,519	17,072	17,346	17,339
Nonagricultural industries:															
Part time for economic reasons ..	6,116	6,106	6,192	6,213	6,216	6,173	5,957	5,904	5,934	4,842	4,384	4,762	4,613	4,688	4,590
Slack work or business conditions	3,037	2,977	3,220	2,920	3,049	3,006	2,927	2,905	2,922	2,439	2,169	2,411	2,241	2,449	2,430
Could only find part-time work ..	2,792	2,832	2,770	2,931	2,856	2,879	2,773	2,719	2,739	2,075	1,944	2,089	2,078	1,993	1,935
Part time for noneconomic reasons	14,329	14,637	14,847	14,707	14,814	14,757	14,788	14,858	14,909	17,056	17,081	16,893	16,463	16,721	16,842

¹ Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

NOTE: Data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under "Employment and Unemployment Data" in the notes to this section.

6. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1993							1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CHARACTERISTIC															
Total, all workers	7.4	6.8	6.9	6.8	6.7	6.7	6.7	6.5	6.4	6.7	6.5	6.5	6.4	6.0	6.0
Both sexes, 16 to 19 years	20.0	19.0	19.5	18.4	18.4	17.9	18.9	18.3	17.8	18.4	17.9	17.8	19.9	18.3	16.9
Men, 20 years and over	7.0	6.4	6.5	6.5	6.4	6.3	6.2	5.9	5.8	5.9	6.0	5.8	5.6	5.2	5.3
Women, 20 years and over	6.3	5.9	5.9	5.8	5.7	5.8	5.8	5.7	5.7	6.0	5.7	6.0	5.6	5.4	5.4
White, total	6.5	6.0	6.1	6.0	5.9	5.8	6.1	5.6	5.6	5.8	5.6	5.7	5.6	5.2	5.3
Both sexes, 16 to 19 years	17.1	16.2	16.3	15.6	15.9	15.6	17.0	15.6	15.2	16.4	15.8	15.6	17.5	15.5	14.1
Men, 16 to 19 years	18.4	17.6	18.4	17.7	17.7	16.8	17.9	17.7	16.9	18.5	16.7	16.7	19.0	17.3	14.7
Women, 16 to 19 years	15.7	14.6	14.0	13.4	14.0	14.3	16.0	13.3	13.4	14.0	14.7	14.6	16.0	13.5	13.5
Men, 20 years and over	6.3	5.6	5.7	5.8	5.6	5.5	5.7	5.0	5.2	5.3	5.2	5.2	5.0	4.6	4.6
Women, 20 years and over	5.4	5.1	5.3	5.1	5.0	5.0	5.3	5.1	4.9	5.1	4.8	5.0	4.7	4.5	4.8
Black, total	14.1	12.9	13.3	12.8	12.5	12.5	11.9	12.5	11.5	13.1	12.9	12.5	11.8	11.5	11.2
Both sexes, 16 to 19 years	39.8	38.9	41.6	36.4	33.5	36.2	36.7	39.5	37.0	31.7	35.3	34.0	36.2	39.9	37.6
Men, 16 to 19 years	42.0	40.1	38.8	37.9	34.9	39.7	40.6	39.2	38.8	38.1	40.1	37.5	40.8	42.8	40.0
Women, 16 to 19 years	37.2	37.5	44.8	34.7	32.0	32.3	32.8	39.7	35.2	25.5	30.5	30.2	31.3	36.5	34.9
Men, 20 years and over	13.4	12.1	12.6	11.8	12.0	12.1	11.0	12.3	10.5	12.3	12.1	10.2	10.0	9.9	9.7
Women, 20 years and over	11.7	10.6	10.7	11.0	10.5	10.2	10.0	9.7	9.7	11.5	11.0	12.1	10.6	9.9	9.4
Hispanic origin, total	11.4	10.6	10.3	10.8	9.9	10.0	11.4	10.4	10.5	10.6	10.0	10.0	10.8	9.5	10.3
Married men, spouse present	5.0	4.4	4.4	4.5	4.4	4.2	4.4	4.0	3.9	4.1	4.3	4.1	3.9	3.7	3.5
Married women, spouse present	5.0	4.6	4.7	4.7	4.5	4.6	4.8	4.4	4.3	4.4	4.3	4.4	4.1	4.0	4.3
Women who maintain families	9.9	9.5	9.7	9.6	9.0	9.0	9.3	9.0	10.2	9.4	9.7	9.6	9.1	8.9	8.7
Full-time workers	7.4	6.8	6.9	6.8	6.7	6.6	6.6	6.3	6.4	6.8	6.6	6.6	6.4	6.0	6.1
Part-time workers	7.4	7.1	7.1	6.7	6.8	6.9	7.2	6.9	6.6	6.2	5.9	6.3	6.5	6.2	5.8
INDUSTRY															
Nonagricultural private wage and salary workers	7.7	7.0	7.1	7.0	7.0	6.9	6.9	6.7	6.6	7.0	6.8	6.8	6.6	6.2	6.2
Mining	7.9	7.3	6.8	5.9	7.2	7.5	6.5	7.2	6.9	5.1	4.0	5.5	6.8	7.6	6.2
Construction	16.7	14.3	15.1	15.7	14.7	14.1	13.7	12.2	12.7	13.9	13.3	13.5	12.6	11.6	11.8
Manufacturing	7.8	7.2	7.3	7.3	7.3	7.2	6.9	6.7	6.5	6.1	6.1	6.1	5.8	5.5	5.3
Durable goods	8.0	7.1	7.4	7.0	7.2	7.3	6.9	6.5	6.3	5.3	5.5	5.7	5.5	5.2	5.0
Nondurable goods	7.5	7.3	7.1	7.8	7.4	7.2	6.9	7.0	6.8	7.3	7.1	6.8	6.3	5.8	5.6
Transportation and public utilities	5.5	5.1	4.5	4.9	5.4	5.3	5.5	5.2	5.1	5.5	5.2	4.7	5.6	4.6	4.7
Wholesale and retail trade	8.4	7.8	7.9	7.5	7.6	7.5	7.9	7.7	7.4	8.1	8.0	7.9	7.7	7.3	7.1
Finance, insurance, and real estate	4.5	4.1	4.5	3.9	4.2	4.0	3.7	3.7	3.7	3.7	3.6	2.9	3.4	3.5	4.1
Services	6.5	6.1	6.1	6.0	5.7	5.9	5.9	5.9	5.9	6.6	6.3	6.5	6.1	5.8	5.9
Government workers	3.5	3.3	3.4	3.4	3.3	2.8	3.1	3.0	3.1	3.8	3.2	3.9	3.5	3.3	3.9
Agricultural wage and salary workers	12.3	11.6	11.8	11.5	12.1	10.4	11.8	10.3	11.3	13.6	14.3	13.8	10.7	8.3	8.4

NOTE: Data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under "Employment and Unemployment Data" in the notes to this section.

7. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1993								1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
	Total, 16 years and over	7.4	6.8	6.9	6.8	6.7	6.7	6.7	6.5	6.4	6.7	6.5	6.5	6.4	6.0	6.0
16 to 24 years	14.2	13.3	13.4	13.1	13.2	12.7	12.9	12.7	12.3	13.6	12.7	13.2	13.4	12.5	12.0	
16 to 19 years	20.0	19.0	19.5	18.4	18.4	17.9	18.9	18.3	17.8	18.4	17.9	17.8	19.9	18.3	16.9	
16 to 17 years	23.0	21.3	23.2	20.4	20.0	19.1	20.7	20.5	19.0	21.2	21.8	19.9	24.1	20.5	20.1	
18 to 19 years	18.1	17.5	17.4	17.1	17.2	16.9	17.7	16.8	17.1	16.1	15.3	16.5	17.1	16.8	15.1	
20 to 24 years	11.3	10.5	10.4	10.5	10.6	10.0	9.9	9.9	9.5	11.0	10.0	10.9	9.9	9.4	9.4	
25 years and over	6.1	5.6	5.7	5.6	5.5	5.5	5.6	5.3	5.3	5.4	5.3	5.2	5.0	4.7	4.8	
25 to 54 years	6.3	5.8	5.9	5.8	5.7	5.7	5.8	5.5	5.5	5.5	5.4	5.3	5.1	4.8	4.9	
55 years and over	4.8	4.3	4.2	4.3	4.3	4.7	4.5	4.2	4.2	4.6	4.3	4.6	4.2	4.1	3.9	
Men, 16 years and over	7.8	7.1	7.2	7.2	7.1	6.9	6.9	6.6	6.5	6.8	6.7	6.5	6.5	6.1	6.0	
16 to 24 years	15.3	14.3	14.6	14.3	14.5	13.7	13.8	13.6	13.2	14.7	13.3	13.8	14.2	13.4	12.5	
16 to 19 years	21.5	20.4	21.1	20.4	20.1	19.4	20.3	19.9	19.4	20.7	19.0	19.0	21.5	20.1	17.9	
16 to 17 years	24.4	22.8	26.2	22.4	21.7	20.3	22.0	21.7	19.9	23.9	21.9	22.2	25.3	23.0	22.1	
18 to 19 years	19.5	18.8	18.4	19.1	19.0	18.2	19.2	18.5	18.9	18.1	17.1	17.1	18.8	18.5	15.7	
20 to 24 years	12.2	11.3	11.4	11.3	11.7	10.9	10.6	10.4	10.1	11.5	10.5	11.1	10.4	9.9	9.7	
25 years and over	6.4	5.8	5.9	5.9	5.7	5.7	5.7	5.3	5.4	5.4	5.4	5.1	5.0	4.6	4.7	
25 to 54 years	6.6	5.9	6.1	6.0	5.9	5.8	5.9	5.5	5.5	5.5	5.5	5.2	5.0	4.7	4.8	
55 years and over	5.2	4.7	4.4	4.8	4.9	5.3	4.8	4.5	4.7	4.7	4.7	4.6	4.4	4.3	4.0	
Women, 16 years and over	6.9	6.5	6.6	6.4	6.3	6.3	6.4	6.4	6.2	6.5	6.3	6.6	6.4	6.0	6.0	
16 to 24 years	13.0	12.2	12.1	11.8	11.8	11.6	11.9	11.7	11.3	12.3	12.0	12.6	12.6	11.4	11.4	
16 to 19 years	18.5	17.4	17.6	16.2	16.5	16.4	17.3	16.5	16.1	15.8	16.7	16.5	18.2	16.3	16.0	
16 to 17 years	21.4	19.6	19.6	18.1	18.1	17.8	19.4	19.2	18.1	18.2	17.7	17.4	22.8	17.8	18.1	
18 to 19 years	16.5	16.0	16.4	14.9	15.1	15.5	16.0	14.9	15.1	13.8	13.2	15.8	15.3	15.0	14.4	
20 to 24 years	10.2	9.6	9.3	9.6	9.4	9.1	9.0	9.3	8.8	10.4	9.5	10.6	9.4	8.8	8.9	
25 years and over	5.7	5.4	5.5	5.3	5.3	5.3	5.4	5.3	5.2	5.4	5.1	5.4	5.1	4.9	4.9	
25 to 54 years	6.0	5.6	5.7	5.6	5.5	5.6	5.7	5.6	5.5	5.4	5.3	5.5	5.2	5.1	5.1	
55 years and over	4.2	3.8	4.0	3.6	3.5	3.9	4.2	3.8	3.6	4.5	3.8	4.6	3.9	3.9	3.8	

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

(Numbers in thousands)

Reason for unemployment	Annual average		1993								1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
Job losers ¹	5,291	4,769	4,845	4,872	4,864	4,699	4,779	4,444	4,442	4,442	4,185	4,037	3,790	3,531	3,664	
On temporary layoff	1,246	1,104	1,131	1,183	1,190	1,112	1,216	963	1,060	1,196	1,109	983	947	785	911	
Not on temporary layoff	4,045	3,664	3,714	3,689	3,674	3,587	3,563	3,481	3,382	3,246	3,075	3,054	2,843	2,746	2,753	
Job leavers	975	946	940	915	882	926	957	960	932	762	888	873	825	796	782	
Reentrants	2,228	2,145	2,201	2,117	2,081	2,075	2,084	2,018	2,018	2,831	2,898	3,054	3,235	2,838	2,798	
New entrants	890	874	894	870	834	843	839	833	797	651	641	643	689	609	462	
PERCENT OF UNEMPLOYED																
Job losers ¹	56.4	54.6	54.6	55.5	56.2	55.0	55.2	53.4	54.2	51.1	48.6	46.9	44.4	45.4	47.5	
On temporary layoff	13.3	12.6	12.7	13.5	13.7	13.0	14.0	11.6	12.9	13.8	12.9	11.4	11.1	10.1	11.8	
Not on temporary layoff	43.1	42.0	41.8	42.0	42.4	42.0	41.1	41.8	41.3	37.4	35.7	35.5	33.3	35.3	35.7	
Job leavers	10.4	10.8	10.6	10.4	10.2	10.8	11.1	11.5	11.4	8.8	10.3	10.1	9.7	10.2	10.2	
Reentrants	23.7	24.6	24.8	24.1	24.0	24.3	24.1	25.0	24.6	32.6	33.7	35.5	37.9	36.5	36.3	
New entrants	9.5	10.0	10.1	9.9	9.6	9.9	9.7	10.0	9.7	7.5	7.4	7.5	8.1	7.8	6.0	
PERCENT OF CIVILIAN LABOR FORCE																
Job losers ¹	4.2	3.7	3.8	3.8	3.8	3.7	3.7	3.5	3.4	3.4	3.2	3.1	2.9	2.7	2.8	
Job leavers .....	.8	.7	.7	.7	.7	.7	.7	.7	.7	.6	.7	.7	.6	.6	.6
Reentrants	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	2.2	2.2	2.3	2.5	2.2	2.1	
New entrants .....	.7	.7	.7	.7	.6	.7	.7	.6	.6	.5	.5	.5	.5	.5	.4

¹ Includes persons who completed temporary jobs.

9. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1993								1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
Less than 5 weeks	3,270	3,160	3,232	3,223	3,046	3,052	3,156	2,946	3,063	3,349	2,574	2,758	2,863	2,631	2,850	
5 to 14 weeks	2,760	2,522	2,758	2,543	2,608	2,457	2,491	2,401	2,247	2,336	2,727	2,549	2,434	2,437	2,483	
15 weeks and over	3,354	3,052	3,025	3,007	3,000	3,047	3,030	2,971	2,864	3,027	3,103	3,110	2,951	2,801	2,683	
15 to 26 weeks	1,424	1,274	1,257	1,258	1,259	1,297	1,284	1,216	1,150	1,314	1,359	1,264	1,168	1,093	1,151	
27 weeks and over	1,930	1,778	1,768	1,749	1,741	1,750	1,746	1,755	1,714	1,713	1,744	1,847	1,782	1,708	1,532	
Mean duration, in weeks	17.9	18.1	17.8	17.9	18.3	18.4	18.4	18.9	18.2	18.3	18.7	19.2	19.1	19.6	18.3	
Median duration, in weeks	8.8	8.4	8.3	8.3	8.4	8.9	8.3	8.5	8.2	8.5	9.0	9.1	9.2	9.2	8.9	

NOTE: In the three tables above, data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under

"Employment and Unemployment Data" in the notes to this section.

10. Unemployment rates by State, seasonally adjusted

State	May 1993	Apr. 1994	May 1994 ^P	State	May 1993	Apr. 1994	May 1994 ^P
Alabama	7.4	5.8	5.8	Montana	6.1	5.3	4.7
Alaska	8.0	8.3	8.3	Nebraska	2.7	3.0	3.1
Arizona	6.2	5.6	5.9	Nevada	7.2	5.3	5.3
Arkansas	6.3	5.1	5.5	New Hampshire	6.4	4.6	4.8
California	8.9	9.6	8.3	New Jersey	7.4	7.2	6.9
Colorado	5.2	5.4	5.2	New Mexico	7.7	5.2	5.5
Connecticut	6.3	5.0	5.2	New York	7.6	8.2	6.5
Delaware	5.0	5.5	5.2	North Carolina	5.1	3.9	4.0
District of Columbia	8.3	7.4	7.5	North Dakota	4.4	3.8	3.6
Florida	7.1	7.4	6.9	Ohio	6.3	6.3	6.5
Georgia	5.7	5.6	5.3	Oklahoma	6.1	6.6	6.0
Hawaii	4.3	5.6	5.3	Oregon	7.4	5.9	5.8
Idaho	6.4	4.6	4.7	Pennsylvania	7.1	6.6	6.2
Illinois	8.1	5.5	5.8	Rhode Island	7.8	6.2	6.2
Indiana	5.5	4.9	4.8	South Carolina	7.7	7.0	6.4
Iowa	4.0	3.6	3.6	South Dakota	3.2	2.8	2.9
Kansas	5.1	5.0	4.8	Tennessee	5.8	4.7	4.4
Kentucky	6.3	4.9	4.7	Texas	6.7	6.3	6.7
Louisiana	7.4	8.4	7.9	Utah	4.0	3.5	3.7
Maine	7.9	6.4	6.4	Vermont	5.3	4.0	4.4
Maryland	6.2	5.4	5.4	Virginia	5.0	5.2	5.3
Massachusetts	6.9	6.1	5.8	Washington	7.6	6.0	6.2
Michigan	7.0	5.7	5.7	West Virginia	11.2	8.9	9.0
Minnesota	5.2	4.2	3.5	Wisconsin	4.8	4.7	4.2
Mississippi	6.6	7.3	7.3	Wyoming	5.4	6.7	6.0
Missouri	6.4	5.0	5.0				

^P = preliminary

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

(In thousands)

State	May 1993	Apr. 1994	May 1994 ^P	State	May 1993	Apr. 1994	May 1994 ^P
Alabama	1,710.1	1,734.7	1,733.1	Montana	324.7	331.4	332.9
Alaska	250.0	256.7	256.1	Nebraska	760.9	769.2	771.4
Arizona	1,566.8	1,623.9	1,628.2	Nevada	661.7	709.5	710.4
Arkansas	987.2	1,006.4	1,011.2	New Hampshire	500.3	514.0	511.9
California	12,020.8	11,955.2	11,958.6	New Jersey	3,489.2	3,539.5	3,544.6
Colorado	1,656.4	1,706.3	1,707.0	New Mexico	622.6	649.7	651.5
Connecticut	1,529.2	1,530.2	1,534.8	New York	7,738.8	7,796.4	7,802.5
Delaware	347.0	354.5	356.2	North Carolina	3,233.3	3,319.3	3,329.4
District of Columbia	669.9	663.5	663.0	North Dakota	284.4	291.2	291.2
Florida	5,546.0	5,730.5	5,738.8	Ohio	4,907.3	4,940.5	4,952.2
Georgia	3,082.0	3,224.1	3,234.8	Oklahoma	1,238.9	1,256.1	1,261.9
Hawaii	542.1	533.3	530.2	Oregon	1,305.1	1,338.6	1,343.6
Idaho	433.6	458.9	458.5	Pennsylvania	5,117.3	5,149.2	5,170.9
Illinois	5,307.1	5,376.8	5,393.5	Rhode Island	428.5	432.3	434.5
Indiana	2,571.6	2,635.9	2,635.5	South Carolina	1,566.6	1,591.8	1,593.1
Iowa	1,274.5	1,303.3	1,307.8	South Dakota	311.7	326.4	327.6
Kansas	1,130.4	1,147.1	1,155.4	Tennessee	2,317.5	2,377.3	2,387.3
Kentucky	1,533.6	1,550.5	1,550.6	Texas	7,438.4	7,660.2	7,670.0
Louisiana	1,638.6	1,673.8	1,677.9	Utah	798.2	848.7	851.6
Maine	519.6	524.0	527.0	Vermont	257.0	260.4	258.7
Maryland	2,100.9	2,115.6	2,120.7	Virginia	2,909.1	2,995.7	3,001.8
Massachusetts	2,831.1	2,917.2	2,920.7	Washington	2,245.7	2,275.4	2,281.1
Michigan	3,975.3	4,076.6	4,083.9	West Virginia	648.5	667.7	678.2
Minnesota	2,235.1	2,298.8	2,295.0	Wisconsin	2,402.6	2,443.6	2,447.2
Mississippi	995.4	1,025.0	1,028.9	Wyoming	208.6	212.0	211.4
Missouri	2,392.2	2,456.3	2,462.4				

^P = preliminary

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

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

(In thousands)

Industry	Annual average		1993							1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
TOTAL	108,604	110,525	110,372	110,628	110,714	110,923	111,112	111,366	111,610	111,711	111,919	112,298	112,699	112,951	113,330
PRIVATE SECTOR	89,959	91,708	91,568	91,802	91,892	92,036	92,239	92,479	92,692	92,810	93,003	93,357	93,718	93,936	94,305
GOODS-PRODUCING	23,231	23,256	23,225	23,232	23,207	23,206	23,245	23,281	23,298	23,328	23,327	23,395	23,506	23,513	23,564
Mining ¹	635	611	608	606	602	605	605	604	618	616	612	609	606	603	604
Metal mining	53	50	50	50	47	50	50	50	51	50	50	50	50	50	50
Oil and gas extraction	353	351	349	353	357	357	356	355	351	349	346	344	342	338	338
Nonmetallic minerals, except fuels	102	101	100	100	100	100	101	101	101	102	101	100	100	101	101
Construction	4,492	4,642	4,632	4,653	4,659	4,667	4,700	4,733	4,738	4,744	4,745	4,806	4,893	4,906	4,922
General building contractors	1,077	1,111	1,110	1,110	1,106	1,107	1,120	1,133	1,138	1,139	1,134	1,152	1,163	1,160	1,160
Heavy construction, except building	711	708	711	713	711	711	709	712	710	713	709	710	725	724	726
Special trades contractors	2,704	2,823	2,811	2,830	2,842	2,849	2,871	2,888	2,890	2,892	2,944	3,005	3,022	3,036	
Manufacturing	18,104	18,003	17,985	17,973	17,946	17,934	17,940	17,944	17,942	17,968	17,970	17,980	18,007	18,004	18,038
Production workers	12,287	12,290	12,270	12,261	12,247	12,255	12,261	12,285	12,292	12,320	12,341	12,358	12,391	12,392	12,425
Durable goods	10,277	10,172	10,145	10,135	10,121	10,123	10,135	10,142	10,153	10,182	10,182	10,190	10,216	10,215	10,254
Production workers	6,822	6,815	6,793	6,784	6,776	6,792	6,806	6,822	6,843	6,869	6,881	6,892	6,924	6,929	6,966
Lumber and wood products	680	703	697	699	701	705	709	712	716	723	723	723	726	725	729
Furniture and fixtures	478	485	485	486	484	484	485	487	489	492	492	493	493	495	499
Stone, clay, and glass products ..	513	516	515	515	515	516	517	517	518	521	521	523	529	528	529
Primary metal industries	695	679	677	676	675	675	675	678	678	679	680	680	678	679	683
Blast furnaces and basic steel products	250	239	238	237	236	237	237	238	237	238	236	235	231	230	234
Fabricated metal products	1,329	1,333	1,329	1,328	1,327	1,328	1,332	1,335	1,338	1,345	1,345	1,348	1,353	1,357	1,364
Industrial machinery and equipment	1,929	1,918	1,918	1,916	1,912	1,913	1,914	1,916	1,918	1,922	1,925	1,927	1,938	1,940	1,946
Electronic and other electrical equipment	1,528	1,520	1,515	1,516	1,515	1,516	1,518	1,521	1,524	1,524	1,528	1,535	1,542	1,540	1,547
Transportation equipment	1,830	1,750	1,741	1,734	1,732	1,730	1,731	1,725	1,724	1,730	1,726	1,723	1,719	1,718	1,726
Motor vehicles and equipment ..	813	833	821	824	829	832	840	843	853	874	868	867	870	868	877
Aircraft and parts	612	542	544	537	530	528	522	515	507	502	496	491	486	484	480
Instruments and related products ..	929	893	892	889	886	882	880	877	873	871	868	864	861	857	855
Miscellaneous manufacturing industries	368	375	376	376	374	374	374	374	375	375	374	374	377	376	376
Nondurable goods	7,827	7,831	7,840	7,838	7,825	7,811	7,805	7,802	7,789	7,786	7,788	7,790	7,791	7,789	7,784
Production workers	5,466	5,475	5,477	5,477	5,471	5,463	5,455	5,463	5,449	5,451	5,460	5,466	5,467	5,463	5,459
Food and kindred products	1,663	1,676	1,673	1,674	1,678	1,671	1,678	1,675	1,671	1,667	1,672	1,670	1,667	1,664	1,663
Tobacco products	48	43	43	43	42	42	42	42	42	41	40	41	41	40	39
Textile mill products	674	675	676	675	672	672	672	671	671	672	673	674	673	671	671
Apparel and other textile products	1,007	985	990	985	980	977	970	966	959	956	954	956	955	957	955
Paper and allied products	690	689	691	690	688	687	686	685	685	686	685	684	684	684	684
Printing and publishing	1,507	1,513	1,513	1,514	1,516	1,515	1,514	1,515	1,514	1,517	1,518	1,521	1,523	1,524	1,525
Chemicals and allied products ..	1,084	1,078	1,080	1,081	1,077	1,076	1,073	1,071	1,070	1,065	1,062	1,059	1,057	1,056	1,054
Petroleum and coal products	158	151	151	151	150	150	150	151	149	148	148	147	148	148	149
Rubber and miscellaneous plastics products	878	904	905	907	905	905	903	909	911	917	920	922	927	931	931
Leather and leather products	120	118	118	118	117	116	117	117	117	117	116	116	116	114	113
SERVICE-PRODUCING	85,373	87,269	87,147	87,396	87,507	87,717	87,867	88,085	88,312	88,383	88,592	88,903	89,193	89,438	89,766
Transportation and public utilities	5,721	5,787	5,789	5,800	5,786	5,783	5,798	5,800	5,792	5,793	5,803	5,816	5,759	5,859	5,870
Transportation	3,498	3,587	3,585	3,600	3,589	3,590	3,606	3,613	3,611	3,611	3,622	3,638	3,582	3,678	3,695
Railroad transportation	254	250	250	252	246	249	246	247	248	247	248	248	246	245	244
Local and interurban passenger transit	361	374	377	382	379	371	373	374	376	377	380	382	386	383	392
Trucking and warehousing	1,611	1,685	1,680	1,690	1,693	1,695	1,712	1,715	1,704	1,705	1,711	1,721	1,665	1,764	1,777
Water transportation	173	167	167	167	164	165	166	166	165	165	166	168	166	169	167
Transportation by air	730	737	737	735	733	736	734	735	741	739	739	739	738	734	723
Pipelines, except natural gas	19	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Transportation services	348	356	356	356	356	356	357	358	359	360	360	362	363	365	365
Communications and public utilities	2,223	2,201	2,204	2,200	2,197	2,193	2,192	2,187	2,181	2,182	2,181	2,178	2,177	2,181	2,175
Communications	1,269	1,257	1,259	1,256	1,255	1,252	1,252	1,250	1,246	1,249	1,249	1,248	1,250	1,256	1,255
Electric, gas, and sanitary services	954	943	945	944	942	941	940	937	935	933	932	930	927	925	920
Wholesale trade	5,997	5,958	5,949	5,962	5,954	5,962	5,965	5,971	5,976	5,990	6,003	6,013	6,028	6,037	6,045
Retail trade	19,356	19,717	19,695	19,735	19,770	19,805	19,822	19,848	19,931	19,924	19,965	20,026	20,137	20,169	20,271
Building materials and garden supplies	758	781	778	782	786	790	794	798	803	808	812	818	829	833	836
General merchandise stores	2,451	2,461	2,451	2,457	2,452	2,455	2,454	2,451	2,446	2,421	2,433	2,432	2,442	2,438	2,434
Food stores	3,180	3,208	3,213	3,213	3,218	3,216	3,220	3,210	3,214	3,215	3,223	3,232	3,229	3,237	3,239
Automotive dealers and service stations	1,966	2,021	2,012	2,020	2,029	2,039	2,048	2,060	2,074	2,084	2,101	2,117	2,132	2,138	2,147

See footnotes at end of table.

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

(In thousands)

Industry	Annual average		1993							1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
Apparel and accessory stores	1,131	1,147	1,149	1,149	1,152	1,153	1,148	1,144	1,154	1,146	1,148	1,154	1,146	1,144	1,146
Furniture and home furnishings stores	800	828	823	829	832	839	844	849	852	855	862	866	876	880	889
Eating and drinking places	6,609	6,811	6,811	6,825	6,843	6,854	6,850	6,869	6,917	6,928	6,915	6,928	6,995	7,012	7,081
Miscellaneous retail establishments	2,461	2,460	2,458	2,460	2,458	2,459	2,464	2,467	2,471	2,467	2,471	2,479	2,488	2,487	2,499
Finance, insurance, and real estate	6,602	6,712	6,704	6,718	6,724	6,735	6,748	6,763	6,769	6,771	6,776	6,781	6,791	6,781	6,792
Finance	3,160	3,217	3,212	3,222	3,225	3,230	3,240	3,245	3,250	3,252	3,254	3,256	3,259	3,254	3,259
Depository institutions	2,096	2,079	2,080	2,082	2,076	2,072	2,072	2,068	2,064	2,057	2,050	2,044	2,042	2,038	2,039
Nondepository institutions	406	448	445	449	452	457	463	467	472	477	483	486	487	485	485
Security and commodity brokers	440	468	465	468	472	475	479	483	486	489	492	496	499	500	503
Holding and other investment offices	219	223	222	223	225	226	226	227	228	229	229	230	231	231	232
Insurance	2,152	2,181	2,181	2,183	2,185	2,187	2,187	2,192	2,190	2,187	2,186	2,185	2,189	2,185	2,185
Insurance carriers	1,496	1,518	1,518	1,521	1,521	1,524	1,525	1,530	1,527	1,525	1,525	1,524	1,527	1,523	1,523
Insurance agents, brokers and service	657	662	663	662	664	663	662	662	663	662	661	661	662	662	662
Real estate	1,290	1,314	1,311	1,313	1,314	1,318	1,321	1,326	1,329	1,332	1,336	1,340	1,343	1,342	1,348
Services¹	29,052	30,278	30,206	30,355	30,451	30,545	30,661	30,816	30,926	31,004	31,129	31,328	31,497	31,577	31,763
Agricultural services	490	515	510	512	516	522	526	533	538	539	530	528	537	548	549
Hotels and other lodging places	1,576	1,591	1,593	1,594	1,590	1,596	1,602	1,599	1,599	1,602	1,599	1,608	1,608	1,605	1,614
Personal services	1,116	1,136	1,135	1,138	1,136	1,131	1,134	1,137	1,140	1,149	1,143	1,138	1,137	1,128	1,126
Business services	5,315	5,785	5,743	5,799	5,838	5,877	5,950	6,016	6,062	6,092	6,161	6,244	6,318	6,338	6,416
Personnel supply services	1,629	1,924	1,895	1,937	1,961	1,984	2,033	2,066	2,103	2,130	2,173	2,230	2,282	2,284	2,330
Auto repair services, and parking	881	944	941	947	955	962	965	975	986	992	1,002	1,017	1,026	1,029	1,040
Miscellaneous repair services	347	362	362	362	363	364	366	368	370	373	375	375	377	379	380
Motion pictures	401	415	411	413	416	421	423	425	432	435	443	450	465	468	477
Amusement and recreation services	1,188	1,246	1,247	1,254	1,258	1,255	1,249	1,250	1,254	1,251	1,252	1,271	1,275	1,276	1,294
Health services	8,490	8,767	8,756	8,782	8,802	8,830	8,852	8,873	8,890	8,909	8,922	8,959	8,985	8,997	9,018
Hospitals	3,750	3,787	3,789	3,790	3,790	3,791	3,790	3,789	3,787	3,788	3,787	3,791	3,794	3,792	3,787
Legal services	914	928	928	929	930	934	934	935	934	937	939	940	941	941	939
Educational services	1,678	1,686	1,680	1,690	1,693	1,697	1,696	1,707	1,708	1,710	1,720	1,730	1,733	1,749	1,763
Social services	1,959	2,066	2,078	2,109	2,124	2,117	2,121	2,139	2,154	2,162	2,175	2,190	2,205	2,223	2,236
Museums and botanical and zoological gardens	73	76	76	76	76	77	77	77	77	77	78	78	79	79	79
Membership organizations	1,973	2,032	2,036	2,035	2,036	2,035	2,036	2,040	2,040	2,042	2,041	2,044	2,047	2,050	2,061
Engineering and management services	2,471	2,536	2,535	2,540	2,543	2,553	2,556	2,567	2,567	2,560	2,575	2,580	2,590	2,593	2,597
Government	18,645	18,817	18,804	18,826	18,822	18,887	18,873	18,887	18,918	18,901	18,916	18,941	18,981	19,015	19,025
Federal	2,969	2,915	2,908	2,903	2,906	2,902	2,901	2,900	2,915	2,893	2,892	2,884	2,882	2,870	2,858
State	4,408	4,484	4,476	4,488	4,487	4,518	4,504	4,505	4,511	4,492	4,511	4,520	4,534	4,535	4,541
Education	1,799	1,829	1,822	1,831	1,831	1,856	1,840	1,841	1,841	1,824	1,838	1,846	1,850	1,852	1,855
Other State government	2,610	2,655	2,654	2,657	2,656	2,662	2,664	2,664	2,670	2,668	2,673	2,674	2,684	2,683	2,686
Local	11,267	11,417	11,420	11,435	11,429	11,467	11,468	11,482	11,492	11,516	11,513	11,537	11,565	11,610	11,626
Education	6,220	6,348	6,357	6,367	6,374	6,383	6,378	6,382	6,390	6,404	6,392	6,410	6,436	6,449	6,459
Other local government	5,048	5,070	5,063	5,068	5,055	5,084	5,090	5,100	5,102	5,112	5,121	5,127	5,129	5,161	5,167

¹ Includes other industries not shown separately.

^P = preliminary

NOTE: See notes on the data for a description of the most recent benchmark revision.

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

Industry	Annual average		1993							1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
PRIVATE SECTOR	34.4	34.5	34.4	34.5	34.6	34.4	34.5	34.6	34.5	34.8	34.3	34.6	34.7	34.8	34.6
MINING	43.9	44.3	44.2	44.6	44.5	44.2	45.1	44.3	44.1	44.2	44.1	44.4	45.0	44.9	45.3
MANUFACTURING	41.0	41.4	41.3	41.4	41.5	41.5	41.6	41.7	41.7	41.7	41.3	42.1	42.2	42.1	42.0
Overtime hours	3.8	4.1	4.1	4.1	4.1	4.2	4.3	4.4	4.4	4.5	4.5	4.7	4.8	4.6	4.6
Durable goods	41.5	42.1	41.9	42.0	42.2	42.3	42.4	42.5	42.5	42.7	42.2	43.0	43.0	42.9	42.8
Overtime hours	3.7	4.3	4.2	4.2	4.3	4.3	4.5	4.7	4.7	4.8	4.9	5.0	5.2	4.9	4.9
Lumber and wood products	40.6	40.8	40.5	40.7	40.8	41.0	41.2	41.4	41.2	41.7	40.6	41.3	41.4	41.3	41.4
Furniture and fixtures	39.7	40.1	39.8	40.0	40.4	40.0	40.4	40.7	40.2	40.2	39.0	40.6	40.3	40.3	40.7
Stone, clay, and glass products	42.2	42.7	42.6	42.6	42.8	42.7	42.8	43.3	43.1	43.3	42.3	43.6	43.4	43.7	43.6
Primary metal industries	43.0	43.7	43.5	43.5	43.6	43.6	43.8	44.1	44.2	44.2	44.2	44.6	44.9	44.8	44.2
Blast furnaces and basic steel products	43.5	44.1	44.1	44.2	43.9	44.1	43.8	44.0	44.2	43.9	44.3	44.7	45.1	45.0	44.6
Fabricated metal products	41.6	42.1	42.0	42.0	42.1	42.2	42.3	42.5	42.5	42.6	42.3	42.8	43.0	42.8	42.7
Industrial machinery and equipment	42.2	43.0	42.9	43.1	43.0	43.0	43.2	43.2	43.3	43.4	43.1	43.9	43.9	43.8	43.7
Electronic and other electrical equipment	41.2	41.8	41.4	41.8	42.0	42.0	42.1	42.0	41.9	42.1	41.7	42.4	42.6	42.3	42.2
Transportation equipment	41.8	43.0	42.6	42.6	43.2	43.6	43.5	43.8	44.1	44.0	44.0	44.5	44.6	44.3	43.9
Motor vehicles and equipment	42.4	44.3	43.7	43.4	44.4	45.1	45.1	45.9	46.1	46.2	46.3	46.5	46.1	45.8	45.1
Instruments and related products	41.1	41.1	41.2	41.3	41.0	41.1	41.1	41.0	41.2	41.4	41.0	41.7	41.6	41.9	41.7
Miscellaneous manufacturing	39.9	39.8	39.6	39.7	39.8	39.8	39.7	39.8	39.9	40.1	38.9	40.1	40.4	40.2	40.1
Nondurable goods	40.4	40.6	40.5	40.6	40.5	40.5	40.6	40.6	40.6	40.6	40.1	41.0	41.1	41.0	41.0
Overtime hours	3.8	4.0	3.9	3.9	3.9	4.0	4.0	4.0	4.0	4.1	4.1	4.3	4.3	4.2	4.2
Food and kindred products	40.6	40.7	40.6	40.7	40.7	40.6	40.9	40.7	40.7	40.7	40.8	41.2	41.2	41.0	41.3
Textile mill products	41.1	41.4	41.3	41.3	41.4	41.5	41.5	41.8	41.8	41.5	40.4	42.2	42.0	41.8	42.0
Apparel and other textile products	37.2	37.2	37.2	37.2	37.2	37.0	36.9	37.1	37.1	36.9	35.8	37.6	38.0	37.7	37.7
Paper and allied products	43.6	43.6	43.6	43.5	43.6	43.8	43.8	43.7	43.7	43.7	43.2	44.1	44.0	43.9	44.0
Printing and publishing	38.1	38.3	38.4	38.4	38.2	38.3	38.4	38.4	38.3	38.3	38.0	38.4	38.8	38.8	38.6
Chemicals and allied products	43.1	43.1	43.0	43.4	43.2	42.9	43.2	43.0	43.1	43.2	42.8	43.3	43.2	43.5	43.3
Rubber and miscellaneous plastics products	41.7	41.8	41.7	41.7	41.8	41.7	41.8	42.0	42.0	41.9	41.6	42.6	42.4	42.1	42.2
Leather and leather products	38.0	38.6	37.9	38.2	38.4	38.7	38.7	38.5	38.5	38.6	37.7	38.6	39.0	38.7	38.3
TRANSPORTATION AND PUBLIC UTILITIES	38.9	39.6	39.5	39.6	39.8	39.7	39.8	39.7	39.7	40.1	39.7	39.8	40.2	40.1	40.0
WHOLESALE TRADE	38.2	38.2	38.2	38.2	38.3	37.9	38.2	38.2	38.1	38.5	38.1	38.3	38.4	38.5	38.4
RETAIL TRADE	28.8	28.8	28.7	28.9	28.9	28.6	28.9	28.8	28.8	29.0	28.6	28.9	29.0	29.0	28.8
SERVICES	32.5	32.5	32.5	32.5	32.6	32.3	32.4	32.5	32.4	32.8	32.3	32.4	32.5	32.8	32.4

^P = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

14. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls by industry, seasonally adjusted

Industry	Annual average		1993							1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
PRIVATE SECTOR (in current dollars)	\$10.57	\$10.83	\$10.81	\$10.82	\$10.86	\$10.88	\$10.92	\$10.94	\$10.96	\$11.02	\$11.03	\$11.02	\$11.05	\$11.09	\$11.08
Mining	14.54	14.60	14.59	14.56	14.57	14.55	14.62	14.51	14.68	14.88	14.81	14.77	14.87	14.91	14.75
Construction	14.15	14.37	14.35	14.40	14.41	14.41	14.43	14.46	14.41	14.43	14.54	14.47	14.52	14.60	14.66
Manufacturing	11.46	11.74	11.71	11.73	11.77	11.82	11.84	11.87	11.93	11.95	12.01	12.00	12.00	12.01	12.02
Excluding overtime	10.95	11.18	11.17	11.18	11.21	11.25	11.25	11.28	11.32	11.34	11.40	11.37	11.33	11.38	11.40
Transportation and public utilities	13.45	13.63	13.63	13.63	13.63	13.63	13.66	13.70	13.73	13.80	13.82	13.79	13.77	13.83	13.81
Wholesale trade	11.39	11.73	11.71	11.75	11.80	11.79	11.84	11.80	11.82	11.92	11.88	11.88	11.95	11.99	11.97
Retail trade	7.12	7.29	7.28	7.28	7.31	7.30	7.35	7.35	7.37	7.41	7.42	7.43	7.45	7.47	7.47
Finance, insurance, and real estate	10.82	11.35	11.30	11.35	11.46	11.44	11.56	11.58	11.61	11.73	11.67	11.69	11.77	11.83	11.74
Services	10.54	10.79	10.77	10.76	10.81	10.82	10.87	10.88	10.89	10.97	10.96	10.95	10.99	11.04	11.03
PRIVATE SECTOR (in constant (1982) dollars)	7.41	7.39	7.38	7.38	7.39	7.40	7.39	7.39	7.40	7.43	7.42	7.39	7.40	7.42	-

- Data not available.

^P = preliminary

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

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

Industry	Annual average		1993							1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
PRIVATE SECTOR	\$10.57	\$10.83	\$10.76	\$10.75	\$10.78	\$10.91	\$10.94	\$10.96	\$10.97	\$11.06	\$11.06	\$11.04	\$11.07	\$11.09	\$11.03
MINING	14.54	14.60	14.59	14.49	14.44	14.54	14.47	14.43	14.67	15.06	14.92	14.84	14.96	14.91	14.75
CONSTRUCTION	14.15	14.37	14.24	14.37	14.45	14.52	14.55	14.47	14.46	14.41	14.45	14.44	14.49	14.59	14.56
MANUFACTURING	11.46	11.74	11.71	11.72	11.70	11.85	11.80	11.87	12.00	11.96	12.00	11.99	12.01	12.02	12.02
Durable goods	12.02	12.33	12.31	12.28	12.29	12.44	12.40	12.49	12.62	12.56	12.61	12.59	12.61	12.62	12.61
Lumber and wood products	9.44	9.61	9.56	9.65	9.67	9.73	9.71	9.67	9.72	9.74	9.70	9.69	9.74	9.80	9.82
Furniture and fixtures	9.01	9.27	9.23	9.29	9.33	9.40	9.40	9.44	9.44	9.42	9.41	9.39	9.46	9.47	9.49
Stone, clay, and glass products	11.60	11.85	11.83	11.90	11.89	12.03	11.92	11.99	11.95	11.96	11.96	11.93	12.02	12.10	12.13
Primary metal industries	13.66	13.99	14.01	14.06	14.00	14.20	14.00	14.09	14.26	14.16	14.24	14.20	14.20	14.21	14.32
Blast furnaces and basic steel products	15.87	16.36	16.50	16.49	16.40	16.57	16.42	16.51	16.56	16.56	16.57	16.63	16.65	16.72	16.88
Fabricated metal products	11.42	11.69	11.69	11.65	11.67	11.81	11.74	11.82	11.91	11.87	11.89	11.89	11.90	11.89	11.90
Industrial machinery and equipment	12.41	12.73	12.67	12.76	12.74	12.83	12.82	12.87	12.99	12.92	12.95	12.94	12.93	12.94	12.95
Electronic and other electrical equipment	11.00	11.25	11.25	11.26	11.26	11.32	11.29	11.37	11.52	11.41	11.45	11.46	11.46	11.49	11.47
Transportation equipment	15.20	15.80	15.77	15.53	15.67	15.98	15.99	16.19	16.42	16.26	16.35	16.36	16.43	16.41	16.38
Motor vehicles and equipment	15.45	16.09	16.10	15.66	15.89	16.34	16.33	16.56	16.88	16.69	16.78	16.80	16.95	16.90	16.80
Instruments and related products	11.89	12.23	12.18	12.24	12.24	12.33	12.32	12.36	12.46	12.41	12.43	12.41	12.42	12.39	12.38
Miscellaneous manufacturing	9.15	9.38	9.36	9.39	9.32	9.42	9.41	9.47	9.58	9.57	9.56	9.55	9.59	9.59	9.55
Nondurable goods	10.73	10.98	10.95	11.01	10.96	11.09	11.02	11.07	11.16	11.16	11.18	11.18	11.20	11.21	11.23
Food and kindred products	10.20	10.45	10.47	10.49	10.43	10.51	10.38	10.55	10.63	10.59	10.57	10.62	10.64	10.66	10.65
Tobacco products	16.92	16.79	18.00	18.39	17.22	16.13	15.84	16.20	16.55	16.69	17.94	18.40	19.28	19.99	20.37
Textile mill products	8.60	8.89	8.86	8.87	8.91	8.96	8.95	8.98	9.01	9.03	9.04	9.03	9.09	9.08	9.11
Apparel and other textile products	6.95	7.09	7.07	7.01	7.07	7.15	7.14	7.18	7.24	7.22	7.22	7.25	7.28	7.26	7.30
Paper and allied products	13.07	13.42	13.38	13.49	13.40	13.67	13.55	13.54	13.61	13.56	13.60	13.61	13.66	13.70	13.69
Printing and publishing	11.74	11.93	11.83	11.91	11.96	12.09	12.04	12.01	12.11	12.06	12.04	12.10	12.05	12.05	12.09
Chemicals and allied products	14.51	14.84	14.75	14.82	14.76	14.97	14.89	14.95	15.06	15.00	15.04	15.03	15.08	15.11	15.18
Petroleum and coal products	17.90	18.54	18.47	18.43	18.36	18.70	18.57	18.67	18.71	18.84	19.26	19.36	18.99	18.73	18.80
Rubber and miscellaneous plastics products	10.36	10.57	10.54	10.58	10.53	10.66	10.60	10.61	10.67	10.70	10.71	10.68	10.70	10.71	10.77
Leather and leather products	7.42	7.62	7.57	7.56	7.63	7.69	7.67	7.80	7.86	7.88	7.92	7.97	7.95	7.95	7.97
TRANSPORTATION AND PUBLIC UTILITIES	13.45	13.63	13.57	13.63	13.62	13.67	13.66	13.69	13.74	13.83	13.85	13.80	13.78	13.79	13.75
WHOLESALE TRADE	11.39	11.73	11.66	11.73	11.75	11.80	11.81	11.80	11.85	11.95	11.93	11.87	11.99	11.99	11.92
RETAIL TRADE	7.12	7.29	7.26	7.24	7.24	7.32	7.36	7.36	7.36	7.45	7.45	7.45	7.47	7.47	7.45
FINANCE, INSURANCE, AND REAL ESTATE	10.82	11.35	11.23	11.27	11.39	11.41	11.52	11.57	11.65	11.79	11.77	11.75	11.81	11.84	11.67
SERVICES	10.54	10.79	10.66	10.62	10.66	10.83	10.87	10.93	10.98	11.06	11.05	11.02	11.01	11.03	10.92

^P = preliminary

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

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

Industry	Annual average		1993							1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
PRIVATE SECTOR															
Current dollars	\$363.61	\$373.64	\$372.30	\$374.10	\$378.38	\$376.40	\$378.52	\$378.12	\$380.66	\$379.36	\$376.04	\$379.78	\$381.92	\$385.93	\$383.84
Seasonally adjusted	-	-	371.86	373.29	375.76	374.27	376.74	378.52	378.12	383.50	378.33	381.29	383.44	385.93	383.37
Constant (1982) dollars	254.99	254.87	254.13	255.18	257.40	255.71	255.93	255.49	257.38	255.98	253.06	254.89	255.81	258.15	-
MINING	638.31	646.78	644.88	639.01	648.36	647.03	658.39	645.02	654.28	664.15	652.00	652.96	665.72	667.97	668.18
CONSTRUCTION	537.70	551.81	559.63	567.62	572.22	556.12	571.82	558.54	553.82	533.17	521.65	550.16	554.97	579.22	578.03
MANUFACTURING															
Current dollars	469.86	486.04	484.79	480.52	485.55	491.78	493.24	498.54	508.80	496.34	490.80	502.38	504.42	504.84	506.04
Constant (1982) dollars	329.50	331.54	330.91	327.78	330.31	334.09	333.50	336.85	344.02	334.91	330.28	337.17	337.86	337.69	-
Durable goods	498.83	519.09	518.25	510.85	517.41	523.72	527.00	534.57	547.71	532.54	527.10	538.85	540.97	541.40	542.23
Lumber and wood products	383.26	392.09	390.05	391.79	398.40	401.85	401.99	400.34	404.35	398.37	386.06	397.29	402.26	407.68	409.49
Furniture and fixtures	357.70	371.73	366.43	368.81	379.73	377.88	382.58	386.10	390.82	375.86	358.52	378.42	379.35	377.85	385.29
Stone, clay, and glass products	489.52	506.00	511.06	510.51	516.03	520.90	518.52	522.76	512.66	502.32	491.56	510.60	521.67	533.61	536.15
Primary metal industries	587.38	611.36	613.64	611.61	607.60	620.54	611.80	622.78	637.42	625.87	625.14	631.90	633.32	636.61	638.67
Blast furnaces and basic steel products	690.35	721.48	734.25	737.10	721.60	734.05	715.91	726.44	738.58	723.67	725.77	736.71	744.26	749.06	759.60
Fabricated metal products	475.07	492.15	493.32	482.31	491.31	492.48	500.12	507.08	518.09	503.29	498.19	505.33	508.13	508.89	511.70
Industrial machinery and equipment	523.70	547.39	543.54	543.58	542.72	546.56	553.82	558.56	576.76	562.02	556.85	568.07	565.04	565.48	565.92
Electronic and other electrical equipment	453.20	470.25	466.88	462.79	469.54	472.04	475.31	483.23	495.36	480.36	475.18	484.76	484.76	483.73	485.18
Transportation equipment	635.36	679.40	678.11	649.15	670.68	688.74	700.36	712.36	737.26	710.56	712.86	728.02	731.14	731.89	725.63
Motor vehicles and equipment	655.08	712.79	719.67	665.55	700.75	728.76	741.38	758.45	786.61	757.73	766.85	779.52	786.48	785.85	772.80
Instruments and related products	488.68	502.65	503.03	496.94	498.17	504.30	505.12	511.70	524.57	515.02	509.63	517.50	515.43	515.42	517.48
Miscellaneous manufacturing	365.09	373.32	369.72	365.27	370.94	375.86	378.28	384.48	388.95	379.93	368.06	382.96	385.52	383.60	382.00
Nondurable goods	433.49	445.79	444.57	443.70	446.07	453.58	450.72	454.98	459.79	450.86	443.85	455.03	456.96	457.37	461.55
Food and kindred products	414.12	425.32	424.04	425.89	429.72	435.11	429.73	436.77	439.02	426.78	423.86	431.17	430.92	433.86	437.72
Tobacco products	653.11	627.95	694.80	662.04	644.03	614.55	613.01	610.74	618.97	625.88	635.08	695.52	759.63	775.61	871.84
Textile mill products	353.46	368.05	370.35	362.78	372.44	375.42	373.22	378.96	380.22	372.04	357.98	376.55	380.87	379.54	387.18
Apparel and other textile products	258.54	263.75	264.42	259.37	264.42	263.84	265.61	269.97	272.22	265.70	255.59	271.15	273.00	272.98	276.67
Paper and allied products	569.85	585.11	583.37	582.77	581.56	602.85	596.20	597.11	605.65	592.57	580.72	593.40	598.31	598.69	602.36
Printing and publishing	447.29	456.92	449.54	453.77	459.26	467.88	464.74	465.99	471.08	458.28	453.91	465.85	465.13	462.72	461.84
Chemicals and allied products	625.38	639.60	635.73	637.26	633.20	649.70	641.76	648.83	662.64	648.00	640.70	650.80	649.95	654.26	657.29
Petroleum and coal products	784.02	819.47	814.53	810.92	809.68	824.67	850.51	819.61	812.01	830.84	841.66	863.46	856.45	848.47	853.52
Rubber and miscellaneous plastics products	432.01	441.83	442.68	434.84	439.10	443.46	444.14	448.80	454.54	448.33	442.32	452.83	453.68	451.96	457.73
Leather and leather products	281.96	294.13	291.45	288.79	292.99	295.30	296.83	302.64	306.54	303.38	294.62	304.45	306.87	307.67	310.03
TRANSPORTATION AND PUBLIC UTILITIES	523.21	539.75	538.73	545.20	548.89	544.07	545.03	543.49	546.85	547.67	545.69	545.10	549.82	552.98	552.75
WHOLESALE TRADE	435.10	448.09	446.58	449.26	451.20	449.58	452.32	450.76	453.86	456.49	452.15	452.25	459.22	462.81	458.92
RETAIL TRADE	205.06	209.95	210.54	214.30	215.03	210.82	211.97	210.50	215.65	210.09	209.35	212.33	214.39	215.88	216.80
FINANCE, INSURANCE, AND REAL ESTATE	387.36	406.33	399.79	401.21	414.60	406.20	411.26	413.05	415.91	429.16	421.37	418.30	421.62	427.42	414.29
SERVICES	342.55	350.68	347.52	348.34	352.85	349.81	352.19	354.13	355.75	359.45	355.81	355.95	356.72	360.68	354.90

- Data not available.

^P = preliminary

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

17. Diffusion indexes of employment change, seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Private nonfarm payrolls, 356 industries												
Over 1-month span:												
1992	42.1	46.1	48.3	57.7	53.1	50.4	52.8	46.5	53.4	56.9	52.5	57.3
1993	57.9	61.7	49.0	56.0	57.0	51.1	58.8	50.0	56.7	57.4	61.0	57.4
1994	56.6	58.3	62.9	62.5	54.4	59.8	-	-	-	-	-	-
Over 3-month span:												
1992	39.7	42.3	51.0	56.2	57.6	54.1	50.4	49.9	51.7	56.2	58.6	59.8
1993	64.0	61.4	59.7	55.8	54.9	57.7	54.6	55.9	55.8	62.4	61.5	60.8
1994	62.1	64.5	65.2	65.0	63.6	-	-	-	-	-	-	-
Over 6-month span:												
1992	43.5	46.3	47.2	52.0	54.2	56.6	52.8	53.1	55.8	56.3	64.2	62.2
1993	61.4	60.8	59.0	59.8	54.4	54.5	57.9	58.8	59.7	60.8	62.8	63.6
1994	67.0	65.6	66.7	-	-	-	-	-	-	-	-	-
Over 12-month span:												
1992	47.2	42.3	42.7	44.1	48.0	52.5	55.8	60.7	59.7	60.4	60.1	60.7
1993	60.0	61.1	60.7	62.2	63.2	62.1	62.4	60.8	63.5	62.8	62.6	62.9
1994	-	-	-	-	-	-	-	-	-	-	-	-
Manufacturing payrolls, 139 industries												
Over 1-month span:												
1992	38.1	40.6	45.0	57.9	47.8	50.0	53.2	41.7	49.3	47.8	52.5	51.8
1993	52.5	57.6	47.8	41.7	46.0	40.3	49.3	42.8	46.8	50.0	55.4	51.1
1994	54.3	53.6	51.1	56.1	48.9	57.2	-	-	-	-	-	-
Over 3-month span:												
1992	30.9	36.3	45.3	50.7	55.4	53.6	47.1	47.1	42.4	50.0	51.1	55.0
1993	60.1	58.3	51.4	40.6	37.1	43.5	40.3	41.0	43.2	52.9	54.7	56.1
1994	56.1	57.6	56.5	52.9	56.1	-	-	-	-	-	-	-
Over 6-month span:												
1992	34.2	37.1	41.0	48.6	52.2	54.7	46.4	49.3	50.4	48.9	57.9	56.8
1993	54.0	51.8	48.6	47.1	37.1	34.2	39.6	45.7	47.8	50.4	54.3	55.8
1994	58.3	57.2	59.0	-	-	-	-	-	-	-	-	-
Over 12-month span:												
1992	42.4	36.7	36.3	36.0	39.6	45.7	50.0	55.8	57.9	55.4	52.9	52.9
1993	50.0	52.5	48.6	49.3	50.7	48.9	50.0	48.9	50.0	50.7	51.8	52.2
1994	-	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

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

employment. Data for the 2 most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

18. Annual data: Employment status of the population

(Numbers in thousands)

Employment status	1985	1986	1987	1988	1989	1990	1991	1992	1993
Civilian noninstitutional population	178,206	180,587	182,753	184,613	186,393	188,049	189,765	191,576	193,550
Civilian labor force	115,461	117,834	119,865	121,669	123,869	124,787	125,303	126,982	128,040
Labor force participation rate	64.8	65.3	65.6	65.9	66.5	66.4	66.0	66.3	66.2
Employed	107,150	109,597	112,440	114,968	117,342	117,914	116,877	117,598	119,306
Employment-population ratio	60.1	60.7	61.5	62.3	63.0	62.7	61.6	61.4	61.6
Agriculture	3,179	3,163	3,208	3,169	3,199	3,186	3,233	3,207	3,074
Nonagricultural industries	103,971	106,434	109,232	111,800	114,142	114,728	113,644	114,391	116,232
Unemployed	8,312	8,237	7,425	6,701	6,528	6,874	8,426	9,384	8,734
Unemployment rate	7.2	7.0	6.2	5.5	5.3	5.5	6.7	7.4	6.8
Not in labor force	62,744	62,752	62,888	62,944	62,523	63,262	64,462	64,593	65,509

19. Annual data: Employment levels by industry

(In thousands)

Industry	1985	1986	1987	1988	1989	1990	1991	1992	1993
Total employment	97,387	99,344	101,958	105,210	107,895	109,419	108,256	108,604	110,525
Private sector	80,992	82,651	84,948	87,824	90,117	91,115	89,854	89,959	91,708
Goods-producing	24,842	24,533	24,674	25,125	25,254	24,905	23,745	23,231	23,256
Mining	927	777	717	713	692	709	689	635	611
Construction	4,668	4,810	4,958	5,098	5,171	5,120	4,650	4,492	4,642
Manufacturing	19,248	18,947	18,999	19,314	19,391	19,076	18,406	18,104	18,003
Service-producing	72,544	74,811	77,284	80,086	82,642	84,514	84,511	85,373	87,269
Transportation and public utilities	5,233	5,247	5,362	5,514	5,625	5,793	5,762	5,721	5,787
Wholesale trade	5,727	5,761	5,848	6,030	6,187	6,173	6,081	5,997	5,958
Retail trade	17,315	17,880	18,422	19,023	19,475	19,601	19,284	19,356	19,717
Finance, insurance, and real estate	5,948	6,273	6,533	6,630	6,668	6,709	6,646	6,602	6,712
Services	21,927	22,957	24,110	25,504	26,907	27,934	28,336	29,052	30,278
Government	16,394	16,693	17,010	17,386	17,779	18,304	18,402	18,645	18,817
Federal	2,875	2,899	2,943	2,971	2,988	3,085	2,966	2,969	2,915
State	3,832	3,893	3,967	4,076	4,182	4,305	4,355	4,408	4,484
Local	9,687	9,901	10,100	10,339	10,609	10,914	11,081	11,267	11,417

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

20. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

Industry	1985	1986	1987	1988	1989	1990	1991	1992	1993
Private sector:									
Average weekly hours	34.9	34.8	34.8	34.7	34.6	34.5	34.3	34.4	34.5
Average hourly earnings (in dollars)	8.57	8.76	8.98	9.28	9.66	10.01	10.32	10.57	10.83
Average weekly earnings (in dollars)	299.09	304.85	312.50	322.02	334.24	345.35	353.98	363.61	373.64
Mining:									
Average weekly hours	43.4	42.2	42.4	42.3	43.0	44.1	44.4	43.9	44.3
Average hourly earnings (in dollars)	11.98	12.46	12.54	12.80	13.26	13.68	14.19	14.54	14.60
Average weekly earnings (in dollars)	519.93	525.81	531.70	541.44	570.18	603.29	630.04	638.31	646.78
Construction:									
Average weekly hours	37.7	37.4	37.8	37.9	37.9	38.2	38.1	38.0	38.4
Average hourly earnings (in dollars)	12.32	12.48	12.71	13.08	13.54	13.77	14.00	14.15	14.37
Average weekly earnings (in dollars)	464.46	466.75	480.44	495.73	513.17	526.01	533.40	537.70	551.81
Manufacturing:									
Average weekly hours	40.5	40.7	41.0	41.1	41.0	40.8	40.7	41.0	41.4
Average hourly earnings (in dollars)	9.54	9.73	9.91	10.19	10.48	10.83	11.18	11.46	11.74
Average weekly earnings (in dollars)	386.37	396.01	406.31	418.81	429.68	441.86	455.03	469.86	486.04
Transportation and public utilities:									
Average weekly hours	39.5	39.2	39.2	38.8	38.9	38.9	38.7	38.9	39.6
Average hourly earnings (in dollars)	11.40	11.70	12.03	12.26	12.60	12.97	13.22	13.45	13.63
Average weekly earnings (in dollars)	450.30	458.64	471.58	475.69	490.14	504.53	511.61	523.21	539.75
Wholesale trade:									
Average weekly hours	38.4	38.3	38.1	38.1	38.0	38.1	38.1	38.2	38.2
Average hourly earnings (in dollars)	9.15	9.34	9.59	9.98	10.39	10.79	11.15	11.39	11.73
Average weekly earnings (in dollars)	351.36	357.72	365.38	380.24	394.82	411.10	424.82	435.10	448.09
Retail trade:									
Average weekly hours	29.4	29.2	29.2	29.1	28.9	28.8	28.6	28.8	28.8
Average hourly earnings (in dollars)	5.94	6.03	6.12	6.31	6.53	6.75	6.94	7.12	7.29
Average weekly earnings (in dollars)	174.64	176.08	178.70	183.62	188.72	194.40	198.48	205.06	209.95
Finance, insurance, and real estate:									
Average weekly hours	36.4	36.4	36.3	35.9	35.8	35.8	35.7	35.8	35.8
Average hourly earnings (in dollars)	7.94	8.36	8.73	9.06	9.53	9.97	10.39	10.82	11.35
Average weekly earnings (in dollars)	289.02	304.30	316.90	325.25	341.17	356.93	370.92	387.36	406.33
Services:									
Average weekly hours	32.5	32.5	32.5	32.6	32.6	32.5	32.4	32.5	32.5
Average hourly earnings (in dollars)	7.90	8.18	8.49	8.88	9.38	9.83	10.23	10.54	10.79
Average weekly earnings (in dollars)	256.75	265.85	275.93	289.49	305.79	319.48	331.45	342.55	350.68

Current Labor Statistics: Compensation & Industrial Relations

21. Employment Cost Index, compensation,¹ by occupation and industry group

(June 1989=100)

Series	1992				1993				1994	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
	Mar. 1994										
Civilian workers ²	113.5	114.2	115.4	116.1	117.5	118.3	119.5	120.2	121.3	0.9	3.2
Workers, by occupational group:											
White-collar workers	113.9	114.6	115.8	116.6	117.9	118.6	119.9	120.6	121.8	1.0	3.3
Professional specialty and technical	115.4	116.2	118.2	119.1	120.1	120.6	122.0	122.5	123.7	1.0	3.0
Executive, administrative, and managerial	113.0	113.4	114.3	115.0	116.9	117.5	118.6	119.4	120.6	1.0	3.2
Administrative support, including clerical	113.9	114.6	115.9	116.8	118.3	119.3	120.4	121.3	122.6	1.1	3.6
Blue-collar workers	112.6	113.5	114.4	115.2	116.7	117.8	118.8	119.4	120.4	.8	3.2
Service occupations	114.1	114.7	116.2	116.7	117.9	118.7	119.9	120.5	121.6	.9	3.1
Workers, by industry division:											
Goods-producing	113.5	114.3	115.3	116.2	118.0	119.1	120.0	120.6	121.9	1.1	3.3
Manufacturing	114.0	114.7	115.7	116.5	118.6	119.7	120.6	121.3	122.5	1.0	3.3
Service-producing	113.5	114.2	115.4	116.2	117.2	118.0	119.3	120.0	121.0	.8	3.2
Services	115.5	116.3	118.2	119.2	120.1	120.6	122.2	122.9	123.8	.7	3.1
Health services	117.5	118.4	120.2	121.3	123.3	124.4	125.4	126.1	126.1	.6	3.1
Hospitals	117.3	118.1	119.8	121.0	122.0	122.6	123.9	125.0	125.9	.7	3.2
Educational services	115.7	116.1	118.9	119.7	120.1	120.2	122.6	122.9	123.2	.2	2.6
Public administration ³	114.0	114.6	115.8	116.3	117.6	118.0	119.3	120.0	121.5	1.3	3.3
Nonmanufacturing	113.3	114.1	115.3	116.0	117.1	117.9	119.2	119.8	120.9	.9	3.2
Private industry workers	113.1	113.9	114.8	115.6	117.1	118.0	119.1	119.8	121.0	1.0	3.3
Excluding sales occupations	113.3	114.1	115.1	115.9	117.5	118.5	119.5	120.2	121.4	1.0	3.3
Workers, by occupational group:											
White-collar workers	113.4	114.2	115.1	115.9	117.4	118.3	119.4	120.2	121.5	1.1	3.5
Excluding sales occupations	113.8	114.6	115.8	116.6	118.3	119.2	120.2	121.0	122.4	1.2	3.5
Professional specialty and technical occupations	115.3	116.4	118.0	119.0	120.4	121.3	122.2	122.9	124.6	1.4	3.5
Executive, administrative, and managerial occupations	112.7	113.1	113.9	114.5	116.5	117.2	118.1	118.9	120.3	1.2	3.3
Sales occupations	111.6	112.2	111.8	112.6	112.9	113.8	115.6	116.5	117.2	.6	3.8
Administrative support occupations, including clerical	113.6	114.4	115.5	116.4	118.1	119.2	120.3	121.2	122.5	1.1	3.7
Blue-collar workers	112.5	113.4	114.3	115.0	116.6	117.7	118.7	119.3	120.3	.8	3.2
Precision production, craft, and repair occupations	112.2	113.1	114.3	115.0	116.6	117.6	118.7	118.9	120.2	1.1	3.1
Machine operators, assemblers, and inspectors	113.9	114.6	115.0	115.8	117.8	119.0	120.0	120.8	121.3	.4	3.0
Transportation and material moving occupations	110.4	111.4	112.5	113.0	113.9	115.2	115.9	117.0	118.5	1.3	4.0
Handlers, equipment cleaners, helpers, and laborers	112.6	113.4	114.6	115.3	116.8	117.6	118.4	119.1	120.2	.9	2.9
Service occupations	113.5	114.2	115.4	115.9	117.2	118.0	118.9	119.5	120.6	.9	2.9
Production and nonsupervisory occupations ⁴	113.0	113.8	114.8	115.5	116.9	117.9	119.0	119.7	120.7	.8	3.3
Workers, by industry division:											
Goods-producing	113.5	114.3	115.3	116.1	118.0	119.1	119.9	120.6	121.8	1.0	3.2
Excluding sales occupations	113.4	114.1	115.2	115.9	117.8	118.8	119.6	120.1	121.4	1.1	3.1
White-collar occupations	113.6	114.5	115.5	116.7	118.6	119.6	120.5	121.1	123.0	1.6	3.7
Excluding sales occupations	113.2	113.9	115.1	116.2	118.1	119.0	119.7	119.9	121.9	1.7	3.2
Blue-collar occupations	113.4	114.1	115.1	115.8	117.6	118.7	119.6	120.2	121.1	.7	3.0
Service occupations	113.8	115.5	116.9	117.5	120.0	120.6	121.5	122.4	123.5	.9	2.9
Construction	110.6	111.7	113.1	113.8	114.9	116.0	116.8	116.5	118.6	1.8	3.2
Manufacturing	114.0	114.7	115.7	116.5	118.6	119.7	120.6	121.3	122.5	1.0	3.3
White-collar occupations	113.6	114.6	115.5	116.6	118.7	119.7	120.5	121.3	122.7	1.2	3.4
Excluding sales occupations	113.0	113.8	115.0	115.9	118.0	118.8	119.5	119.9	121.3	1.2	2.8
Blue-collar occupations	114.2	114.8	115.7	116.4	118.5	119.6	120.5	121.3	122.3	.8	3.2
Service occupations	113.9	115.4	117.0	117.6	120.3	120.7	121.7	122.7	123.8	.9	2.9
Durables	114.1	114.8	115.8	116.7	119.0	120.0	121.0	121.9	122.9	.8	3.3
Nondurables	113.8	114.7	115.4	116.3	117.9	119.0	119.7	120.3	121.7	1.2	3.2
Service-producing	112.8	113.6	114.4	115.2	116.4	117.3	118.5	119.3	120.4	.9	3.4
Excluding sales occupations	113.2	114.0	115.1	115.9	117.3	118.3	119.3	120.2	121.4	1.0	3.5
White-collar occupations	113.4	114.1	114.9	115.7	116.9	117.8	119.0	119.8	121.0	1.0	3.5
Excluding sales occupations	114.1	114.9	116.1	116.8	118.4	119.3	120.4	121.4	122.7	1.1	3.6
Blue-collar occupations	110.4	111.6	112.4	113.2	114.3	115.5	116.6	117.2	118.4	1.0	3.6
Service occupations	113.4	114.1	115.2	115.7	116.8	117.7	118.6	119.1	120.2	.9	2.9
Transportation and public utilities	111.1	111.9	112.9	113.5	114.8	116.0	116.8	117.5	119.2	1.4	3.8
Transportation	109.9	110.5	111.7	111.8	112.8	114.1	114.8	115.7	117.1	1.2	3.8
Public utilities	112.6	113.7	114.4	115.6	117.4	118.3	119.2	119.9	121.7	1.5	3.7
Communications	111.8	112.7	113.4	114.7	116.5	117.5	118.5	119.2	121.0	1.5	3.9
Electric, gas, and sanitary services	113.7	115.0	115.9	116.7	118.6	119.4	120.2	120.8	122.7	1.6	3.5
Wholesale and retail trade	111.4	112.5	113.0	113.7	114.7	115.9	116.4	117.1	117.6	.4	2.5
Excluding sales occupations	111.5	112.7	113.5	114.1	115.4	116.2	117.0	118.0	118.6	.5	2.8
Wholesale trade	112.5	113.5	113.2	114.4	115.3	116.4	116.6	117.8	117.9	.1	2.3
Excluding sales occupations	112.5	113.5	114.1	114.9	116.0	116.8	117.6	118.7	119.3	.5	2.8
Retail trade	110.8	112.1	112.9	113.4	114.5	115.6	116.2	116.8	117.5	.6	2.6
Food stores	112.6	113.6	114.2	115.1	115.9	117.2	117.1	118.3	119.6	1.1	3.2
General merchandise stores	111.7	112.9	113.3	113.3	114.1	114.7	115.5	116.3	115.3	-.9	1.1

See footnotes at end of table.

21. Continued—Employment Cost Index, compensation,¹ by occupation and industry group

(June 1989=100)

Series	1992				1993				1994	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
	Mar. 1994										
Finance, insurance, and real estate	111.7	110.8	111.1	111.3	112.6	113.1	115.7	116.4	117.7	1.1	4.5
Excluding sales occupations	112.5	112.2	112.5	113.0	114.9	116.4	117.5	118.2	119.7	1.3	4.2
Banking, savings and loan, and other credit agencies	110.2	110.0	111.0	111.4	114.6	116.0	116.9	117.8	118.7	.8	3.6
Insurance	113.2	114.7	114.9	115.2	114.3	116.1	117.4	119.7	119.9	.2	4.9
Services	115.3	116.4	117.8	118.9	120.1	120.9	122.3	123.1	124.4	1.1	3.6
Business services	112.5	113.6	115.2	115.9	116.5	117.4	118.1	118.6	121.3	2.3	4.1
Health services	117.9	118.9	120.6	121.8	123.0	124.0	125.0	126.0	126.7	.6	3.0
Hospitals	117.7	118.5	120.2	121.6	122.7	123.4	124.5	125.6	126.7	.9	3.3
Educational services	115.8	116.3	119.3	120.0	120.5	120.6	123.8	124.1	124.5	.3	3.3
Colleges and universities	116.8	117.4	120.3	120.8	121.5	121.5	125.0	125.3	125.7	.3	3.5
Nonmanufacturing	112.7	113.5	114.4	115.1	116.3	117.2	118.4	119.0	120.3	1.1	3.4
White-collar occupations	113.4	114.1	114.9	115.7	117.0	117.9	119.0	119.9	121.1	1.0	3.5
Excluding sales occupations	114.1	114.9	116.0	116.9	118.5	119.4	120.4	121.4	122.8	1.2	3.6
Blue-collar occupations	110.7	111.8	112.8	113.4	114.6	115.6	116.6	117.1	118.2	.9	3.1
Service occupations	113.4	114.1	115.2	115.7	116.8	117.7	118.6	119.1	120.2	.9	2.9
State and local government workers	115.2	115.7	117.9	118.6	119.3	119.6	121.4	121.9	122.6	.6	2.8
Workers, by occupational group:											
White-collar workers	115.4	115.8	118.1	118.9	119.5	119.6	121.5	121.9	122.6	.6	2.6
Professional specialty and technical	115.5	116.0	118.5	119.2	119.6	119.7	121.7	122.0	122.5	.4	2.4
Executive, administrative, and managerial	115.0	115.2	116.8	117.8	119.0	119.2	121.0	121.6	122.8	1.0	3.2
Administrative support, including clerical	115.4	115.7	117.5	118.5	119.2	119.6	121.0	121.6	122.7	.9	2.9
Blue-collar workers	114.2	115.3	116.9	117.8	118.3	118.7	120.5	121.4	122.3	.7	3.4
Workers, by industry division:											
Services	115.8	116.2	118.8	119.6	120.0	120.2	122.2	122.6	123.1	.4	2.6
Services excluding schools ⁵	115.1	115.6	117.5	118.6	119.6	120.0	121.4	121.9	122.8	.7	2.7
Health services	115.9	116.8	118.6	119.4	120.2	120.7	122.2	123.1	124.2	.9	3.3
Hospitals	115.9	116.7	118.6	119.4	120.0	120.4	122.0	123.3	123.7	.3	3.1
Educational services	115.7	116.1	118.9	119.7	120.0	120.1	122.3	122.7	122.9	.2	2.4
Schools	116.0	116.4	119.2	119.9	120.2	120.3	122.5	122.9	123.2	.2	2.5
Elementary and secondary	116.6	117.1	119.9	120.7	120.7	120.8	123.0	123.6	123.7	.1	2.5
Colleges and universities	114.0	114.1	116.9	117.2	118.4	118.5	120.8	120.7	121.5	.7	2.6
Public administration ³	114.0	114.6	115.8	116.3	117.6	118.0	119.3	120.0	121.5	1.3	3.3

¹ Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

² Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

³ Consist of legislative, judicial, administrative, and regulatory activities.

⁴ This series has the same industry and occupational coverage as the Hourly Earnings Index, which was discontinued in January 1989.

⁵ Includes, for example, library, social, and health services.

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

(June 1989=100)

Series	1992				1993				1994	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1994	
Civilian workers ¹	111.5	112.1	113.0	113.6	114.5	115.2	116.4	117.1	117.8	0.6	2.9
Workers, by occupational group:											
White-collar workers	112.2	112.8	113.7	114.5	115.4	116.0	117.4	118.1	118.8	.6	2.9
Professional specialty and technical	113.6	114.4	116.0	116.7	117.5	118.0	119.5	120.0	120.7	.6	2.7
Executive, administrative, and managerial	111.9	112.2	112.8	113.5	115.0	115.5	116.5	117.3	118.1	.7	2.7
Administrative support, including clerical	111.8	112.5	113.4	114.2	115.3	116.1	117.1	118.0	118.9	.8	3.1
Blue-collar workers	109.8	110.6	111.3	111.9	112.7	113.4	114.4	115.0	115.8	.7	2.8
Service occupations	111.9	112.4	113.4	113.8	114.5	115.2	116.1	116.6	117.5	.8	2.6
Workers, by industry division:											
Goods-producing	110.7	111.4	112.2	112.9	113.8	114.6	115.4	116.2	117.0	.7	2.8
Manufacturing	111.5	112.2	112.9	113.7	114.7	115.5	116.3	117.3	118.0	.6	2.9
Service-producing	111.8	112.4	113.3	114.0	114.8	115.5	116.8	117.5	118.2	.6	3.0
Services	113.7	114.3	115.9	116.7	117.4	117.8	119.5	120.0	120.9	.8	3.0
Health services	115.4	116.2	117.7	118.6	119.5	120.3	121.4	122.2	122.8	.5	2.8
Hospitals	115.2	115.7	117.1	118.0	118.9	119.5	120.7	121.7	122.4	.6	2.9
Educational services	114.1	114.4	116.9	117.5	117.9	118.0	120.4	120.7	121.0	.2	2.6
Public administration ²	111.9	112.4	113.1	113.6	114.4	114.9	115.9	116.6	117.9	1.1	3.1
Nonmanufacturing	111.5	112.0	113.0	113.6	114.4	115.1	116.4	117.0	117.7	.6	2.9
Private industry workers	110.9	111.6	112.2	112.9	113.9	114.6	115.7	116.4	117.2	.7	2.9
Excluding sales occupations	111.1	111.8	112.5	113.2	114.2	115.0	115.9	116.6	117.5	.8	2.9
Workers, by occupational group:											
White-collar workers	111.7	112.3	112.9	113.7	114.7	115.5	116.7	117.5	118.3	.7	3.1
Excluding sales occupations	112.1	112.8	113.7	114.4	115.7	116.4	117.4	118.2	119.0	.7	2.9
Professional specialty and technical occupations	113.0	114.0	115.3	116.0	117.1	117.9	118.9	119.5	120.4	.8	2.8
Executive, administrative, and managerial occupations	111.6	112.0	112.5	113.2	114.7	115.3	116.2	117.0	117.8	.7	2.7
Sales occupations	109.7	110.1	109.7	110.7	110.5	111.6	113.8	114.7	114.8	.1	3.9
Administrative support occupations, including clerical	111.6	112.4	113.2	114.0	115.2	116.1	117.1	118.0	119.0	.8	3.3
Blue-collar workers	109.7	110.4	111.1	111.6	112.5	113.2	114.1	114.8	115.6	.7	2.8
Precision production, craft, and repair occupations	109.3	110.1	111.0	111.5	112.4	113.2	114.2	114.7	115.5	.7	2.8
Machine operators, assemblers, and inspectors	110.9	111.6	111.7	112.4	113.2	113.8	114.7	115.6	116.2	.5	2.7
Transportation and material moving occupations	107.4	108.3	109.3	109.7	110.0	111.2	111.7	112.6	113.5	.8	3.2
Handlers, equipment cleaners, helpers, and laborers	110.6	111.3	112.1	112.6	113.6	114.3	114.9	115.7	116.6	.8	2.6
Service occupations	111.2	111.6	112.5	112.9	113.5	114.1	114.9	115.3	116.3	.9	2.5
Production and nonsupervisory occupations ³	110.6	111.3	112.0	112.6	113.4	114.2	115.3	115.9	116.6	.6	2.8
Workers, by industry division:											
Goods-producing	110.7	111.4	112.1	112.8	113.8	114.5	115.3	116.1	116.9	.7	2.7
Excluding sales occupations	110.5	111.2	112.0	112.6	113.5	114.2	114.9	115.6	116.4	.7	2.6
White-collar occupations	111.7	112.5	113.2	114.2	115.4	116.4	117.3	118.2	119.1	.8	3.2
Excluding sales occupations	111.3	112.0	112.9	113.7	114.9	115.6	116.4	116.8	117.7	.8	2.4
Blue-collar occupations	110.1	110.7	111.4	111.9	112.8	113.4	114.1	114.9	115.6	.6	2.5
Service occupations	110.1	111.0	112.2	113.1	113.9	114.4	115.7	116.9	116.4	-.4	2.2
Construction	107.2	107.9	108.7	108.9	109.5	110.4	111.3	111.1	112.2	1.0	2.5
Manufacturing	111.5	112.2	112.9	113.7	114.7	115.5	116.3	117.3	118.0	.6	2.9
White-collar occupations	111.9	112.9	113.6	114.6	116.0	116.9	117.7	118.8	119.5	.6	3.0
Excluding sales occupations	111.4	112.2	113.0	114.0	115.3	115.9	116.7	117.2	118.0	.7	2.3
Blue-collar occupations	111.1	111.7	112.4	113.1	113.9	114.5	115.2	116.2	116.9	.6	2.6
Service occupations	110.1	111.0	112.3	113.4	114.3	114.5	116.0	117.3	116.8	-.4	2.2
Durables	111.2	111.8	112.7	113.4	114.4	115.1	115.9	117.2	117.8	.5	3.0
Nondurables	111.8	112.8	113.2	114.3	115.5	116.3	116.9	117.5	118.3	.7	2.4
Service-producing	111.1	111.7	112.3	113.0	113.9	114.7	115.9	116.6	117.3	.6	3.0
Excluding sales occupations	111.5	112.2	113.0	113.7	114.8	115.6	116.6	117.4	118.3	.8	3.0
White-collar occupations	111.7	112.2	112.8	113.6	114.5	115.2	116.5	117.3	118.0	.6	3.1
Excluding sales occupations	112.4	113.1	114.0	114.7	116.0	116.8	117.8	118.7	119.6	.8	3.1
Blue-collar occupations	108.7	109.7	110.3	111.0	111.9	112.9	114.1	114.6	115.5	.8	3.2
Service occupations	111.3	111.7	112.6	112.9	113.5	114.1	114.9	115.2	116.3	1.0	2.5
Transportation and public utilities	109.7	110.6	111.2	111.8	112.9	114.0	114.7	115.4	116.4	.9	3.1
Transportation	108.3	109.2	109.8	109.9	110.8	112.0	112.6	113.4	114.2	.7	3.1
Public utilities	111.4	112.4	113.0	114.1	115.4	116.4	117.2	117.9	119.1	1.0	3.2
Communications	110.8	111.7	112.2	113.5	114.7	115.6	116.5	117.1	118.4	1.1	3.2
Electric, gas, and sanitary services	112.2	113.3	114.2	114.8	116.3	117.4	118.2	118.8	119.9	.9	3.1

See footnotes at end of table.

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

(June 1989 = 100)

Series	1992				1993				1994	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1994	
Wholesale and retail trade	109.9	111.2	111.5	112.3	113.0	114.2	114.7	115.4	115.5	0.1	2.2
Excluding sales occupations	110.1	111.4	112.1	112.6	113.6	114.4	115.2	116.1	116.5	.3	2.6
Wholesale trade	111.4	112.5	111.9	113.5	113.9	115.1	115.1	116.4	116.2	-.2	2.0
Excluding sales occupations	111.5	112.7	113.3	114.1	114.7	115.5	116.3	117.5	117.8	.3	2.7
Retail trade	109.3	110.6	111.3	111.8	112.6	113.8	114.5	115.0	115.2	.2	2.3
Food stores	110.9	112.3	112.9	113.7	114.6	115.4	114.9	115.9	117.0	.9	2.1
General merchandise stores	111.1	111.7	111.7	111.8	112.4	113.4	114.5	115.0	114.0	-.9	1.4
Finance, insurance, and real estate	109.5	108.2	108.2	108.3	109.3	109.3	112.3	112.9	113.7	.7	4.0
Excluding sales occupations	110.6	109.9	109.9	110.2	112.0	113.1	114.0	114.6	115.5	.8	3.1
Banking, savings and loan, and other credit agencies	108.2	107.7	108.6	109.0	112.1	112.9	113.7	114.5	114.7	.2	2.3
Insurance	111.2	112.7	112.7	112.7	111.2	112.9	113.9	116.6	116.0	-.5	4.3
Services	113.2	114.0	115.2	116.1	117.0	117.6	118.9	119.6	120.8	1.0	3.2
Business services	111.0	111.7	113.3	113.9	114.2	114.6	115.3	115.7	118.8	2.7	4.0
Health services	115.6	116.3	117.9	118.9	119.8	120.7	121.7	122.6	123.1	.4	2.8
Hospitals	115.4	115.9	117.3	118.3	119.3	119.9	121.0	122.0	122.8	.7	2.9
Educational services	113.4	113.6	116.5	117.1	117.5	117.4	120.7	120.9	121.2	.2	3.1
Colleges and universities	114.2	114.5	117.3	117.6	118.0	117.7	121.3	121.6	122.0	.3	3.4
Nonmanufacturing	110.7	111.3	111.9	112.6	113.4	114.2	115.4	116.0	116.8	.7	3.0
White-collar occupations	111.6	112.1	112.8	113.5	114.4	115.2	116.4	117.2	117.9	.6	3.1
Excluding sales occupations	112.3	113.0	113.9	114.6	115.8	116.6	117.6	118.5	119.4	.8	3.1
Blue-collar occupations	108.2	109.1	109.7	110.2	111.1	111.9	113.0	113.4	114.2	.7	2.8
Service occupations	111.3	111.7	112.6	112.9	113.4	114.1	114.8	115.1	116.3	1.0	2.6
State and local government workers	113.8	114.2	115.9	116.6	117.2	117.4	119.3	119.7	120.4	.6	2.7
Workers, by occupational group:											
White-collar workers	114.0	114.3	116.2	116.9	117.5	117.6	119.6	119.9	120.6	.6	2.6
Professional specialty and technical	114.5	114.8	117.0	117.6	118.1	118.2	120.4	120.7	121.1	.3	2.5
Executive, administrative, and managerial	113.3	113.5	114.7	115.5	116.5	116.6	118.2	118.8	119.8	.8	2.8
Administrative support, including clerical	112.7	112.9	114.1	114.9	115.4	115.9	117.2	117.8	118.9	.9	3.0
Blue-collar workers	112.5	113.7	115.0	115.6	116.2	116.5	118.4	119.0	119.7	.6	3.0
Workers, by industry division:											
Services	114.4	114.7	116.9	117.5	118.1	118.2	120.3	120.6	121.1	.4	2.5
Services excluding schools ⁴	114.8	115.2	116.4	117.4	118.4	118.7	120.1	120.4	121.3	.7	2.4
Health services	114.9	115.7	116.7	117.4	118.1	118.8	120.4	121.0	121.9	.7	3.2
Hospitals	114.5	115.2	116.5	117.1	117.6	118.2	119.9	120.7	121.2	.4	3.1
Educational services	114.3	114.6	116.9	117.6	118.0	118.1	120.3	120.6	120.9	.2	2.5
Schools	114.3	114.6	117.0	117.5	117.9	118.0	120.3	120.7	121.0	.2	2.6
Elementary and secondary	114.9	115.3	117.9	118.5	118.7	118.8	121.1	121.6	121.7	.1	2.5
Colleges and universities	112.3	112.3	114.1	114.3	115.5	115.6	117.8	117.7	118.6	.8	2.7
Public administration ²	111.9	112.4	113.1	113.6	114.4	114.9	115.9	116.6	117.9	1.1	3.1

¹ Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

² Consists of legislative, judicial, administrative, and regulatory activities.

³ This series has the same industry and occupational coverage as the Hourly Earnings Index, which was discontinued in January 1989.

⁴ Includes, for example, library, social and health services.

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

(June 1989 = 100)

Series	1992				1993				1994	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1994	
Private industry workers	118.6	119.7	121.2	122.2	125.2	126.7	127.7	128.3	130.7	1.9	4.4
Workers, by occupational group:											
White-collar workers	118.4	119.4	121.0	122.0	124.7	125.9	126.8	127.6	130.5	2.3	4.7
Blue-collar workers	118.7	119.7	121.2	122.2	125.5	127.3	128.4	128.9	130.5	1.2	4.0
Workers, by industry group:											
Goods-producing	119.7	120.6	122.3	123.4	127.3	129.0	130.0	130.3	132.7	1.8	4.2
Service-producing	117.7	118.8	120.4	121.2	123.4	124.6	125.7	126.7	128.9	1.7	4.5
Manufacturing	119.3	120.1	121.5	122.6	126.8	128.6	129.7	130.0	132.0	1.5	4.1
Nonmanufacturing	118.2	119.4	121.0	122.0	124.2	125.5	126.5	127.4	129.9	2.0	4.6

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

(June 1989=100)

Series	1992				1993				1994	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
	Mar. 1994										
COMPENSATION											
Workers, by bargaining status¹											
Union	113.1	114.0	115.2	115.9	117.8	119.1	120.0	120.9	121.9	0.8	3.5
Goods-producing	114.0	114.6	115.7	116.4	118.7	120.0	121.0	121.9	122.5	.5	3.2
Service-producing	111.9	113.2	114.6	115.2	116.7	117.7	118.6	119.6	121.0	1.2	3.7
Manufacturing	114.8	115.2	116.1	116.9	119.8	121.1	121.9	123.0	123.6	.5	3.2
Nonmanufacturing	111.8	113.1	114.5	115.1	116.3	117.4	118.5	119.3	120.5	1.0	3.6
Nonunion	113.1	113.8	114.7	115.5	116.8	117.7	118.8	119.5	120.7	1.0	3.3
Goods-producing	113.3	114.1	115.1	116.0	117.7	118.6	119.4	119.9	121.5	1.3	3.2
Service-producing	113.0	113.7	114.4	115.2	116.3	117.2	118.4	119.2	120.3	.9	3.4
Manufacturing	113.6	114.5	115.5	116.4	118.1	119.0	120.0	120.6	122.0	1.2	3.3
Nonmanufacturing	112.9	113.5	114.3	115.1	116.3	117.2	118.3	119.0	120.2	1.0	3.4
Workers, by region¹											
Northeast	113.9	114.5	115.5	116.4	117.8	119.1	120.2	120.7	121.6	.7	3.2
South	112.5	113.3	114.1	114.8	116.2	117.0	118.1	118.8	120.0	1.0	3.3
Midwest (formerly North Central)	113.8	114.6	115.3	116.1	117.9	119.3	120.1	121.2	122.8	1.3	4.2
West	111.9	112.9	114.1	114.9	116.2	116.4	117.8	118.1	119.4	1.1	2.8
Workers, by area size¹											
Metropolitan areas	113.1	113.9	114.8	115.6	117.1	118.1	119.1	119.8	120.9	.9	3.2
Other areas	113.1	113.7	114.8	115.6	117.0	117.8	118.7	119.7	121.3	1.3	3.7
WAGES AND SALARIES											
Workers, by bargaining status¹											
Union	109.8	110.8	111.7	112.3	113.1	113.9	114.8	115.7	116.5	.7	3.0
Goods-producing	109.6	110.2	111.1	111.7	112.2	113.0	113.8	114.8	115.4	.5	2.9
Service-producing	110.1	111.5	112.5	113.1	114.2	115.1	116.0	116.8	118.0	1.0	3.3
Manufacturing	110.4	110.9	111.7	112.5	113.2	113.9	114.6	115.9	116.6	.6	3.0
Nonmanufacturing	109.4	110.7	111.7	112.2	113.0	113.9	114.9	115.5	116.4	.8	3.0
Nonunion	111.2	111.8	112.4	113.1	114.1	114.8	115.9	116.6	117.4	.7	2.9
Goods-producing	111.2	111.9	112.6	113.3	114.4	115.2	116.0	116.7	117.6	.8	2.8
Service-producing	111.2	111.7	112.3	113.0	113.8	114.6	115.9	116.6	117.2	.5	3.0
Manufacturing	111.9	112.7	113.4	114.2	115.4	116.1	117.0	117.9	118.6	.6	2.8
Nonmanufacturing	110.9	111.4	112.0	112.7	113.5	114.3	115.5	116.1	116.9	.7	3.0
Workers, by region¹											
Northeast	111.7	112.2	113.0	113.7	114.6	115.7	116.8	117.3	117.8	.4	2.8
South	110.8	111.5	112.0	112.7	113.6	114.3	115.3	116.0	116.6	.5	2.6
Midwest (formerly North Central)	110.7	111.3	111.8	112.5	113.5	114.6	115.2	116.5	117.5	.9	3.5
West	110.2	111.1	112.2	112.8	113.6	113.7	115.3	115.7	116.6	.8	2.6
Workers, by area size¹											
Metropolitan areas	110.9	111.6	112.3	112.9	113.9	114.7	115.8	116.5	117.2	.6	2.9
Other areas	110.7	111.2	112.0	112.8	113.5	114.4	115.0	115.8	117.0	1.0	3.1

¹ The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the

Monthly Labor Review Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Percent of full-time employees participating in employer-provided benefit plans, 1980-91

Item	Medium and large private establishments ¹										Small private establishments ²	State and local governments ³	
	1980	1981	1982	1983	1984	1985	1986	1988	1989	1991	1990	1987	1990
Time-off plans													
Participants with:													
Paid lunch time	10	10	9	11	9	10	10	11	10	8	8	⁴ 17	11
Average minutes per day	-	-	25	25	26	27	27	29	26	30	37	34	36
Paid rest time	75	75	76	74	73	72	72	71	67	48	⁴ 58	56	56
Average minutes per day	-	-	25	25	26	26	26	26	26	26	27	29	29
Paid funeral leave	-	-	-	-	-	88	88	85	84	80	47	56	63
Average days per occurrence	-	-	-	-	-	3.2	3.2	3.2	3.3	3.3	2.9	3.7	3.7
Paid holidays	99	99	99	99	99	98	99	96	97	92	84	81	74
Average days per year	10.1	10.2	10.0	9.8	9.8	10.1	10.0	9.4	9.2	10.2	9.5	10.9	13.6
Paid personal leave	20	23	24	25	23	26	25	24	22	21	11	38	39
Average days per year	-	-	3.8	3.7	3.6	3.7	3.7	3.3	3.1	3.3	2.8	2.7	2.9
Paid vacations	100	99	99	100	99	99	100	98	97	96	88	72	67
Paid sick leave	62	65	67	67	67	67	70	69	68	67	47	97	95
Unpaid maternity leave	-	-	-	-	-	-	-	33	37	37	17	57	51
Unpaid paternity leave	-	-	-	-	-	-	-	16	18	26	8	30	33
Insurance plans													
Participants in medical care plans	97	97	97	96	97	96	95	90	92	83	69	93	93
Participants with coverage for:													
Home health care	-	-	-	37	46	56	66	76	75	81	79	76	82
Extended care facilities	58	60	62	58	62	67	70	79	80	80	83	78	79
Mental health care	98	99	99	99	99	99	99	98	97	98	98	98	99
Alcohol abuse treatment	-	-	50	53	61	68	70	80	97	97	97	87	99
Drug abuse treatment	-	-	37	43	52	61	66	74	96	96	94	86	98
Participants with employee contribution required for:													
Self coverage	26	27	27	33	36	36	43	44	47	51	42	35	38
Average monthly contribution	-	-	-	\$10.13	\$11.93	\$12.05	\$12.80	\$19.29	\$25.31	\$26.60	\$25.13	\$15.74	\$25.53
Family coverage	46	49	51	54	58	56	63	64	66	69	67	71	65
Average monthly contribution ⁵	-	-	-	\$32.51	\$35.93	\$38.33	\$41.40	\$60.07	\$72.10	\$96.97	\$109.34	\$71.89	\$117.59
Participants in life insurance plans	96	96	96	96	96	96	96	92	94	94	64	85	88
Participants with:													
Accidental death and dismemberment insurance	69	72	72	72	74	73	72	76	71	71	78	67	67
Survivor income benefits	-	-	-	-	-	13	10	8	7	6	1	1	1
Retiree protection available	-	64	64	66	64	62	59	49	42	44	19	55	45
Participants in long-term disability insurance plans	40	41	43	45	47	48	48	42	45	40	19	31	27
Participants in sickness and accident insurance plans	54	50	51	49	51	52	49	46	43	45	26	14	21
Retirement plans													
Participants in defined benefit pension plans ⁶	84	84	84	82	82	80	76	63	63	59	20	93	90
Participants with:													
Normal retirement prior to age 65	55	56	58	64	63	67	64	59	62	55	54	92	89
Early retirement available	98	98	97	97	97	97	98	98	97	98	95	90	88
Ad hoc pension increase in last 5 years	-	-	-	51	47	41	35	26	22	7	7	33	16
Terminal earnings formula	53	50	52	54	54	57	57	55	64	56	58	100	100
Benefit coordinated with Social Security	45	43	45	55	56	61	62	62	63	54	49	18	8
Participants in defined contribution plans	-	-	-	-	-	⁷ 53	⁷ 60	45	48	48	31	9	9
Participants in plans with tax-deferred savings arrangements	-	-	-	-	-	26	33	36	41	44	17	28	45
Other benefits													
Employees eligible for:													
Flexible benefits plans	-	-	-	-	-	-	2	5	9	10	1	5	5
Reimbursement accounts	-	-	-	-	-	-	5	12	23	36	8	5	31

¹ From 1979 to 1986, data were collected in private sector establishments with a minimum employment varying from 50 to 250 employees, depending upon industry. In addition, coverage in service industries was limited. Beginning in 1988, data were collected in all private sector establishments employing 100 workers or more in all industries.

² Includes private sector establishments with fewer than 100 workers.

³ In 1987, coverage excluded local governments employing fewer than 50 workers. In 1990, coverage included all State and local governments.

⁴ Data exclude college teachers.

⁵ Data for 1983 refer to the average monthly employee contribution for dependent coverage, excluding the employee. Beginning in 1984, data refer

to the average monthly employee contribution for family coverage, which includes the employee.

⁶ Prior to 1985, data on participation in defined benefit pension plans included a small percentage of workers participating in money purchase pension plans. Beginning in 1985, these workers were classified as participating in defined contribution plans.

⁷ Includes employees who participated in Payroll-based Employee Stock Ownership Plans. Beginning in 1987, these plans were no longer available.

NOTE: Dash indicates data were not collected in this year.

26. Specified compensation and wage rate changes from contract settlements, and wage rate changes under all agreements, private industry collective bargaining agreements covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
	1992	1993	1992			1993				1994
			II	III	IV	I	II	III	IV	
Rate changes under settlements:										
Specified total compensation changes, settlements covering 5,000 workers or more:										
First year of contract	3.0	3.0	3.6	3.3	1.4	3.1	3.2	1.0	3.8	3.0
Annual average over life of contract	3.1	2.4	3.6	3.0	2.7	3.2	2.6	1.4	2.5	2.6
Specified wage changes, settlements covering 1,000 workers or more:										
First year of contract	2.7	2.3	2.8	2.9	1.8	2.5	2.5	1.1	2.8	3.2
Annual average over life of contract	3.0	2.1	3.0	3.1	2.6	2.7	2.5	1.7	2.0	2.5
Wage rate changes under all agreements:										
Average wage change ¹	3.1	3.0	1.0	1.0	.4	.5	.9	.8	.7	.4
Source:										
Current settlements .....	.8	.9	.2	.3	.2	.1	.2	.1	.5	.1
Prior settlements	1.9	1.9	.7	.6	.2	.3	.7	.6	.2	.3
COLA provisions .....	.4	.2	.1	.1	.1	.1	.1	(²)	(²)	(²)

¹ Because of rounding, total may not equal sum of parts.
² Between -0.05 and 0.05 percent.

P = preliminary.

27. Specified compensation and wage rate changes from contract settlements, and wage rate changes under all agreements, private industry collective bargaining agreements covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending--							
	1992			1993				1994
	II	III	IV	I	II	III	IV	^P
Rate changes under settlements:								
Specified total compensation changes, settlements covering 5,000 workers or more, all industries:								
First year of contract	3.6	3.5	3.0	3.0	2.9	2.1	3.0	3.0
Annual average over life of contract	3.2	3.2	3.1	3.1	2.9	2.4	2.4	2.3
Specified wage changes, settlements covering 1,000 workers or more:								
All industries:								
First year of contract	3.2	3.1	2.7	2.6	2.5	2.0	2.3	2.4
Contracts with COLA clauses	3.0	3.1	2.7	2.8	2.7	2.5	2.8	2.7
Contracts without COLA clauses	3.2	3.1	2.7	2.6	2.5	1.8	2.1	2.3
Contracts with either lump sums, COLA, or both	3.1	3.1	2.8	2.7	2.6	2.3	2.6	2.6
Contracts with neither lump sums nor COLA	3.2	3.1	2.6	2.6	2.5	1.7	2.0	2.1
Annual average over life of contract	3.1	3.1	3.0	2.9	2.7	2.3	2.1	2.1
Contracts with COLA clauses	2.6	2.6	2.5	2.6	2.5	2.1	1.4	1.0
Contracts without COLA clauses	3.2	3.2	3.1	3.0	2.8	2.4	2.5	2.5
Contracts with either lump sums, COLA, or both	2.8	3.0	2.9	2.8	2.7	2.1	1.9	1.8
Contracts with neither lump sums nor COLA	3.2	3.1	3.0	3.0	2.8	2.5	2.5	2.5
Manufacturing:								
First year of contract	3.1	3.0	2.6	2.9	2.8	2.5	2.7	2.5
Contracts with COLA clauses	2.7	2.2	1.6	2.4	2.4	2.6	2.9	2.7
Contracts without COLA clauses	3.7	3.6	3.4	3.3	3.0	2.5	2.3	1.9
Contracts with either lump sums, COLA, or both	3.0	2.7	1.9	2.4	2.3	2.3	2.7	2.4
Contracts with neither lump sums nor COLA	3.4	3.4	3.4	3.4	3.3	3.1	2.9	2.7
Annual average over life of contract	2.7	2.7	2.6	2.8	2.6	2.1	1.5	1.2
Contracts with COLA clauses	2.1	1.8	1.9	2.5	2.3	1.9	1.3	1.0
Contracts without COLA clauses	3.3	3.3	3.2	3.0	2.8	2.5	2.1	1.9
Contracts with either lump sums, COLA, or both	2.4	2.3	2.0	2.4	2.2	1.8	1.3	1.0
Contracts with neither lump sums nor COLA	3.1	3.1	3.2	3.2	3.0	2.9	2.5	2.3
Nonmanufacturing:								
First year of contract	3.2	3.1	2.7	2.6	2.5	1.7	2.1	2.3
Contracts with COLA clauses	3.8	3.8	3.6	3.1	3.0	2.5	1.8	1.9
Contracts without COLA clauses	3.2	3.0	2.6	2.4	2.4	1.6	2.1	2.3
Contracts with either lump sums, COLA, or both	3.3	3.2	3.2	2.8	2.7	2.3	2.4	2.8
Contracts with neither lump sums nor COLA	3.2	3.0	2.5	2.4	2.4	1.5	1.8	2.0
Annual average over life of contract	3.2	3.2	3.0	2.9	2.8	2.4	2.5	2.6
Contracts with COLA clauses	3.7	3.3	3.0	2.8	2.7	2.7	2.3	2.5
Contracts without COLA clauses	3.2	3.2	3.0	3.0	2.8	2.4	2.6	2.6
Contracts with either lump sums, COLA, or both	3.1	3.3	3.2	3.0	2.9	2.5	2.6	2.7
Contracts with neither lump sums nor COLA	3.3	3.1	3.0	2.9	2.7	2.4	2.5	2.5
Construction:								
First year of contract	2.3	2.0	2.0	1.9	1.8	2.0	2.1	2.4
Annual average over life of contract	2.7	2.5	2.4	2.5	2.4	2.4	2.6	2.7
Wage rate changes under all agreements:								
Average wage change ¹	3.4	3.2	3.1	3.0	2.9	2.6	3.0	2.9
Source:								
Current settlements .....	.9	.9	.8	.8	.7	.6	.9	.8
Prior settlements	2.0	1.9	1.9	1.8	1.8	1.8	1.9	1.8
COLA provisions .....	.4	.4	.4	.4	.4	.3	.2	.2

¹ Because of rounding, total may not equal sum of parts.

^P = preliminary.

Current Labor Statistics: Compensation & Industrial Relations

28. Specified changes in the cost of compensation and components annualized over the life of the contract in private industry collective bargaining settlements covering 5,000 workers or more, by quarter, and during 4-quarter periods (in percent)

Measure	1992			1993				1994
	II	III	IV	I	II	III	IV	I ^a
	Quarterly average							
All industries:								
Compensation	2.3	2.3	1.2	1.9	1.8	0.9	1.8	2.0
Cash payments	2.1	2.1	1.1	1.4	1.7	.8	1.4	1.9
Wages	2.1	2.0	1.3	1.6	1.7	.7	1.4	1.7
Benefits	2.7	2.8	1.4	2.7	1.8	1.1	2.4	2.2
Average for four quarters								
All industries:								
Compensation	2.2	2.3	2.1	2.0	1.9	1.4	1.6	1.6
Cash payments	2.2	2.1	1.9	1.8	1.7	1.2	1.3	1.3
Wages	2.0	2.0	1.9	1.9	1.8	1.3	1.3	1.3
Benefits	2.2	2.6	2.6	2.5	2.3	1.7	2.1	2.0
With contingent pay provisions:								
Compensation	1.8	2.1	2.1	2.1	2.0	1.4	1.5	1.4
Cash payments	1.8	2.1	2.0	1.9	1.7	1.2	1.2	1.2
Wages	1.9	2.0	2.0	2.0	1.9	1.4	1.4	1.3
Benefits	1.8	2.0	2.3	2.5	2.5	1.8	2.0	1.8
Without contingent pay provisions:								
Compensation	2.4	2.3	2.2	2.0	1.9	1.4	1.7	1.8
Cash payments	2.3	2.1	1.9	1.8	1.7	1.3	1.4	1.6
Wages	2.1	2.0	1.9	1.8	1.7	1.2	1.3	1.4
Benefits	2.4	2.9	2.7	2.5	2.3	1.6	2.1	2.2
Manufacturing:								
Compensation	1.8	2.0	2.1	2.1	1.8	1.1	1.2	1.1
Cash payments	1.8	1.8	1.5	1.6	1.3	1.0	.8	.7
Wages	1.8	1.6	1.7	2.0	1.7	1.2	1.1	.9
Benefits	2.0	2.5	3.4	3.3	2.7	1.4	1.6	1.5
Nonmanufacturing:								
Compensation	2.4	2.3	2.1	2.0	2.0	1.5	1.9	2.0
Cash payments	2.3	2.1	2.0	1.9	1.8	1.3	1.6	1.8
Wages	2.1	2.1	1.9	1.8	1.8	1.3	1.5	1.6
Benefits	2.3	2.6	2.5	2.4	2.2	1.8	2.4	2.4
Goods-producing:								
Compensation	2.0	1.8	1.9	1.9	1.9	1.6	1.4	1.4
Cash payments	1.9	1.7	1.5	1.5	1.6	1.4	1.1	1.2
Wages	1.9	1.6	1.6	1.8	1.8	1.5	1.2	1.2
Benefits	2.2	2.4	2.8	2.9	2.7	2.1	1.9	1.8
Service-producing:								
Compensation	2.3	2.4	2.2	2.1	2.0	1.2	1.8	1.8
Cash payments	2.3	2.3	2.1	1.9	1.8	1.1	1.5	1.6
Wages	2.1	2.2	2.0	1.9	1.8	1.0	1.5	1.5
Benefits	2.2	2.7	2.5	2.4	2.2	1.3	2.3	2.3

29. Specified compensation and wage rate changes from contract settlements, and wage rate changes under all agreements, State and local government collective bargaining agreements covering 1,000 workers or more (in percent)

Measure	Annual average		
	1992	1993	1994
Changes under settlements:			
Total compensation ¹ changes, ² settlements covering 5,000 workers or more:			
First year of contract	0.6	0.9	0.9
Annual average over life of contract	1.9	1.8	1.9
Wage changes, settlements covering 1,000 workers or more:			
First year of contract	1.1	1.1	1.1
Annual average over life of contract	2.1	2.1	2.1
Wage changes under all agreements:			
Average wage change ³	1.9	2.8	2.7
Source:			
Current settlements .....	.8	1.6	1.5
Prior settlements	1.1	1.1	1.1
COLA provisions	(⁴)	(⁴)	(⁴)

¹ Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

² Changes are the net result of increases, decreases, and zero change in

compensation or wages.

³ Because of rounding, total may not equal sum of parts.

⁴ Less than 0.05 percent.

30. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1993							1994				
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ^P	Feb. ^P	Mar. ^P	Apr. ^P	May ^P
Number of stoppages:														
Beginning in period	35	35	2	4	4	3	3	3	0	1	2	3	5	3
In effect during period	41	36	7	8	7	7	8	7	3	1	2	3	5	5
Workers involved:														
Beginning in period (in thousands)	36.4	18.2	3.7	7.0	6.7	13.4	12.7	34.6	.0	2.5	41.1	16.8	102.5	12.5
In effect during period (in thousands)	388.0	18.4	22.3	28.6	26.7	35.8	37.3	58.4	18.4	2.5	41.1	16.8	102.5	17.0
Days idle:														
Number (in thousands)	398.9	398.1	408.6	464.6	530.3	505.8	510.5	505.6	240.0	12.5	46.6	34.6	1,532.8	138.5
Percent of estimated working time ¹ .....	.01	.01	.01	.01	.02	.02	.01	.01	.01	(²)	(²)	(²)	.02	.02

¹ Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "'Total economy' measure of strike idleness," *Monthly Labor Re-*

view, October 1968, pp. 54-56.

² Less than 0.005 percent.

^P = preliminary.

31. Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

(1982=84=100, unless otherwise indicated)

Series	Annual average		1993								1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:																
All items	140.3	144.5	144.4	144.4	144.8	145.1	145.7	145.8	145.8	146.2	146.7	147.2	147.4	147.5	148.0	
All items (1967=100)	420.3	432.7	432.4	432.6	433.9	434.7	436.4	436.9	436.8	437.8	439.3	441.1	441.4	441.9	443.3	
Food and beverages	138.7	141.6	141.1	141.1	141.5	141.8	142.3	142.6	143.3	144.3	143.6	143.9	144.0	144.1	144.2	
Food	137.9	140.9	140.4	140.3	140.8	141.1	141.6	141.9	142.7	143.7	142.9	143.2	143.4	143.5	143.5	
Food at home	136.8	140.1	139.3	139.1	139.7	140.0	140.8	141.2	142.3	143.8	142.6	142.8	143.0	143.0	142.9	
Cereals and bakery products	151.5	156.6	156.7	157.2	157.5	157.7	158.1	157.9	158.9	160.3	161.3	160.4	162.5	162.3	163.4	
Meats, poultry, fish, and eggs	130.9	135.5	135.3	135.4	136.0	135.8	136.6	137.3	137.1	137.8	137.4	137.9	137.6	137.1	137.2	
Dairy products	128.5	129.4	129.8	130.2	130.5	129.6	129.5	129.5	130.2	131.6	131.8	131.8	131.8	132.0	132.2	
Fruits and vegetables	155.4	159.0	154.2	152.0	154.2	157.1	158.7	160.4	166.5	169.8	161.7	162.7	161.8	163.2	161.6	
Other foods at home	128.8	130.5	130.3	130.6	130.6	130.4	131.4	131.0	130.9	132.2	132.5	132.6	133.0	132.8	132.9	
Sugar and sweets	133.1	133.4	133.1	133.2	133.7	133.3	134.1	133.7	133.3	134.9	135.6	135.3	135.9	135.5	134.9	
Fats and oils	129.8	130.0	130.1	130.4	130.1	130.0	130.0	129.2	129.4	131.3	131.5	132.6	133.2	133.4	133.5	
Nonalcoholic beverages	114.3	114.6	114.6	114.4	114.1	113.8	115.4	115.4	114.8	116.1	116.0	116.0	115.5	115.6	115.8	
Other prepared foods	140.1	143.7	143.3	144.1	144.3	144.2	145.1	144.4	144.9	145.8	146.5	146.4	147.5	147.0	147.2	
Food away from home	140.7	143.2	143.2	143.4	143.6	143.8	144.0	144.2	144.3	144.5	144.6	144.8	145.1	145.3	145.5	
Alcoholic beverages	147.3	149.6	149.6	149.6	149.7	149.9	150.1	150.0	150.3	151.0	151.1	151.4	151.6	151.5	151.7	
Housing	137.5	141.2	141.5	141.9	142.3	142.3	142.2	142.0	142.3	142.9	143.7	144.1	143.9	144.1	144.9	
Shelter	151.2	155.7	155.7	156.3	156.8	156.6	156.8	156.7	157.1	158.1	159.1	159.8	159.6	159.6	160.1	
Renters' costs (12/82=100)	160.9	165.0	165.2	166.8	167.3	165.3	165.4	164.4	166.8	168.9	170.1	169.1	168.5	169.6	169.6	
Rent, residential	146.9	150.3	150.3	150.4	150.8	151.0	151.4	151.6	151.9	152.2	152.8	153.2	153.3	153.3	153.4	
Other renters' costs	184.8	190.3	191.1	197.3	198.0	189.1	188.7	183.8	183.3	191.6	198.4	201.9	197.3	194.9	198.9	
Homeowners' costs (12/82=100)	155.3	160.2	160.1	160.3	160.8	161.4	161.6	162.0	162.5	162.9	163.7	164.1	164.2	164.5	164.8	
Owners' equivalent rent (12/82=100)	155.5	160.5	160.4	160.6	161.1	161.6	161.9	162.3	162.8	163.2	164.0	164.4	164.6	164.8	165.1	
Household insurance (12/82=100)	142.2	146.9	146.6	147.4	148.0	148.7	148.9	149.2	149.0	149.2	149.4	150.0	150.1	150.8	151.9	
Maintenance and repairs	128.6	130.6	131.2	131.3	131.6	131.3	130.8	127.9	127.6	128.9	129.4	129.3	130.2	131.0	131.5	
Maintenance and repair services	133.1	135.0	136.0	136.2	136.5	137.4	136.4	130.2	130.8	131.3	131.2	131.8	133.3	135.0	135.4	
Maintenance and repair commodities	122.4	124.6	124.8	124.7	124.9	122.8	123.1	124.9	123.5	125.9	127.1	126.1	126.3	127.7	126.2	
Fuel and other utilities	117.8	121.3	122.9	123.2	123.3	123.9	122.4	121.2	121.7	121.6	122.4	122.4	122.6	122.2	124.2	
Fuels	108.1	111.2	114.1	114.2	114.1	114.8	112.1	110.1	110.7	110.6	111.1	111.1	109.8	110.6	113.9	
Fuel oil, coal, and bottled gas	90.7	90.3	90.4	89.1	87.8	87.9	89.1	89.4	88.3	88.9	93.6	92.5	90.2	88.7	87.7	
Gas (piped) and electricity	114.8	118.5	122.0	122.2	122.2	123.1	119.7	117.3	118.1	118.0	117.9	118.1	116.9	118.0	122.1	
Other utilities and public services	142.5	147.0	146.5	147.1	147.8	148.1	148.4	148.6	148.8	148.9	150.0	150.1	150.0	150.4	150.4	
Household furnishings and operations	118.0	119.3	119.1	118.8	119.2	119.6	120.0	120.3	120.3	120.5	120.4	120.6	120.6	121.1	121.4	
Housefurnishings	109.0	109.5	109.1	109.0	109.5	109.7	110.0	110.4	110.3	110.7	110.5	110.5	110.7	111.4	111.6	
Housekeeping supplies	129.6	130.7	131.3	129.7	129.2	130.7	131.8	131.9	131.9	131.5	131.7	132.3	131.5	131.9	132.4	
Housekeeping services	132.1	135.8	135.6	135.8	136.5	136.9	137.0	137.1	137.2	137.4	137.6	137.8	137.9	138.1	138.4	
Apparel and upkeep	131.9	133.7	131.9	129.4	131.9	134.6	136.1	136.2	132.6	130.4	132.4	136.1	136.4	135.6	133.8	
Apparel commodities	129.4	131.0	129.1	126.4	129.0	132.0	133.5	133.5	129.7	127.3	129.5	133.4	133.7	132.8	130.8	
Men's and boys' apparel	126.5	127.5	126.5	124.9	126.0	127.8	129.4	130.8	127.5	124.2	124.1	125.6	126.9	127.4	125.9	
Women's and girls' apparel	130.4	132.6	129.1	125.0	130.0	134.2	136.0	135.5	130.6	127.0	131.1	137.2	137.4	135.1	131.6	
Infants' and toddlers' apparel	129.3	127.1	128.1	126.7	128.4	126.5	126.3	127.5	127.1	125.6	125.5	125.8	128.0	125.2	128.4	
Footwear	125.0	125.9	125.6	123.9	123.5	126.2	127.3	127.4	125.8	125.9	125.9	127.0	128.0	128.5	127.3	
Other apparel commodities	142.6	145.6	145.2	143.8	144.4	147.3	149.0	146.6	140.5	142.5	146.4	152.9	149.0	149.9	149.7	
Apparel services	147.9	151.7	151.3	151.7	152.0	152.4	152.9	153.6	153.8	153.8	154.0	154.2	154.8	155.0	155.5	
Transportation	126.5	130.4	130.3	130.3	130.2	130.1	131.8	132.6	132.1	131.6	131.9	132.2	132.6	132.8	133.8	
Private transportation	124.6	127.5	127.6	127.4	127.3	127.1	129.0	129.5	128.6	128.2	128.5	128.6	129.2	130.0	131.0	
New vehicles	129.2	132.7	132.2	132.2	132.2	132.1	133.4	134.8	135.6	136.1	136.5	136.8	136.9	137.2	137.4	
New cars	128.4	131.5	131.0	130.9	130.8	130.6	131.9	133.4	134.2	134.7	135.0	135.3	135.4	135.7	135.8	
Used cars	123.2	133.9	134.3	136.1	137.5	138.7	139.8	140.7	139.3	136.8	134.1	133.6	135.3	137.9	140.9	
Motor fuel	99.0	98.0	99.8	98.1	97.0	96.1	99.7	98.4	94.8	92.6	93.6	93.3	94.8	96.0	98.2	
Gasoline	99.0	97.7	99.6	98.0	96.9	95.9	99.2	97.8	94.2	92.1	93.0	92.7	94.3	95.6	97.9	
Maintenance and repair	141.3	145.9	145.8	146.2	146.2	146.8	147.1	147.4	147.7	148.1	148.6	149.0	149.4	149.7	149.8	
Other private transportation	153.2	156.8	155.8	156.0	156.4	156.1	157.8	159.1	159.0	159.5	159.7	160.2	160.4	160.8	161.3	
Other private transportation commodities	104.8	103.4	102.9	102.9	102.7	103.0	102.8	102.7	103.3	103.5	103.4	103.5	103.4	103.4	103.4	
Other private transportation services	164.2	169.1	167.9	168.2	168.7	168.3	170.5	172.1	171.8	172.4	172.8	173.3	173.6	174.0	174.8	
Public transportation	151.4	167.0	164.5	167.7	168.1	168.4	168.2	173.0	176.5	175.3	175.9	178.5	176.5	169.9	169.9	
Medical care	190.1	201.4	201.1	202.2	202.9	203.3	204.4	204.9	205.2	206.4	207.7	208.3	209.2	209.7	210.4	
Medical care commodities	188.1	195.0	194.7	195.7	196.1	196.2	196.6	196.6	197.0	197.8	198.7	199.1	199.7	200.1	200.5	
Medical care services	190.5	202.9	202.6	203.8	204.5	205.0	206.2	206.8	207.1	208.4	209.8	210.4	211.4	212.0	212.6	
Professional services	175.8	184.7	184.8	185.4	185.9	186.3	186.8	187.1	187.4	188.3	189.4	190.3	191.4	191.7	192.3	
Hospital and related services	214.0	231.9	230.9	232.8	234.0	234.6	236.8	238.1	238.2	240.1	241.8	242.0	242.6	243.5	244.1	
Entertainment	142.3	145.8	145.5	145.3	145.8	146.6	147.3	147.7	147.8	148.5	149.1	149.6	149.7	149.9	149.8	
Entertainment commodities	131.3	133.4	133.2	133.1	133.3	133.6	134.3	134.3	134.4	134.7	134.5	135.2	135.7	136.2	136.1	
Entertainment services	155.9	160.8	160.4	160.2	160.9	162.1	162.9	163.7								

31. Continued— Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

(1982-84=100, unless otherwise indicated)

Series	Annual average		1993								1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
All items	140.3	144.5	144.4	144.4	144.8	145.1	145.7	145.8	145.8	146.2	146.7	147.2	147.4	147.5	148.0	
Commodities	129.1	131.5	131.4	130.9	131.1	131.3	132.3	132.5	132.0	132.0	132.2	132.8	133.1	133.4	133.5	
Food and beverages	138.7	141.6	141.1	141.1	141.5	141.8	142.3	142.6	143.3	144.3	143.6	143.9	144.0	144.1	144.2	
Commodities less food and beverages	123.2	125.3	125.3	124.5	124.7	124.9	126.1	126.3	125.1	124.5	125.1	126.0	126.4	126.8	126.9	
Nondurables less food and beverages	126.5	128.1	128.4	127.0	127.1	127.3	128.8	128.6	126.5	125.4	126.5	127.8	128.3	128.5	128.4	
Apparel commodities	129.4	131.0	129.1	126.4	129.0	132.0	133.5	133.5	129.7	127.3	129.5	133.4	133.7	132.8	130.8	
Nondurables less food, beverages, and apparel	127.9	129.6	131.0	130.2	129.1	127.8	129.3	129.0	127.7	127.3	127.8	127.9	128.5	129.3	130.2	
Durables	118.6	121.3	121.0	121.1	121.3	121.5	122.3	123.1	123.3	123.4	123.3	123.4	123.7	124.4	124.9	
Services	152.0	157.9	157.8	158.4	159.0	159.3	159.5	159.6	160.0	160.7	161.5	162.1	162.0	162.0	162.8	
Rent of shelter (12/82=100)	157.3	162.0	162.0	162.6	163.1	162.9	163.1	163.1	163.5	164.5	165.6	166.3	166.1	166.0	166.6	
Household services less rent of shelter (12/82=100)	130.2	134.2	135.7	136.0	136.4	137.0	135.6	134.5	134.9	134.9	135.3	135.5	135.0	135.7	137.7	
Transportation services	155.7	162.9	161.7	162.7	163.0	163.0	164.2	166.2	166.9	167.1	167.5	168.5	168.2	167.1	167.5	
Medical care services	190.5	202.9	202.6	203.8	204.5	205.0	206.2	206.8	207.1	208.4	209.8	210.4	211.4	212.0	212.6	
Other services	168.5	177.0	175.6	176.0	177.4	180.0	180.8	181.3	181.6	182.3	182.9	183.2	183.8	183.9	184.3	
Special indexes:																
All items less food	140.8	145.1	145.1	145.2	145.6	145.9	146.4	146.6	146.4	146.6	147.3	148.0	148.1	148.3	148.8	
All items less shelter	137.3	141.4	141.2	141.1	141.5	142.0	142.6	142.9	142.7	142.9	143.2	143.7	144.0	144.2	144.6	
All items less homeowners' costs (12/82=100)	141.9	146.0	145.9	145.9	146.3	146.5	147.2	147.3	147.2	147.5	148.0	148.6	148.7	148.9	149.4	
All items less medical care	137.5	141.2	141.1	141.1	141.6	141.8	142.3	142.5	142.5	142.8	143.2	143.8	143.9	144.0	144.5	
Commodities less food	124.2	126.3	126.3	125.5	125.7	125.9	127.1	127.3	126.1	125.6	126.2	127.0	127.4	127.8	127.9	
Nondurables less food	127.6	129.3	129.5	128.2	128.4	128.6	129.9	129.8	127.8	126.9	127.9	129.1	129.6	129.7	129.9	
Nondurables less food and apparel	128.9	130.7	131.9	131.2	130.3	129.2	130.5	130.2	129.1	128.8	129.3	129.4	130.0	130.6	131.4	
Nondurables	132.8	135.1	135.0	134.2	134.5	134.7	135.8	135.8	135.1	135.0	135.2	136.0	136.4	136.5	136.5	
Services less rent of shelter (12/82=100)	157.6	164.8	164.7	165.4	166.0	167.0	167.1	167.4	167.8	168.2	168.9	169.3	169.4	169.5	170.5	
Services less medical care	148.4	153.6	153.6	154.1	154.7	155.0	155.1	155.2	155.6	156.2	157.0	157.5	157.4	157.4	158.2	
Energy	103.0	104.2	106.5	105.8	105.2	105.2	105.4	103.7	102.4	101.3	102.0	101.9	102.0	102.9	105.7	
All items less energy	145.4	150.0	149.6	149.7	150.3	150.6	151.2	151.5	151.7	152.2	152.6	153.3	153.4	153.5	153.7	
All items less food and energy	147.3	152.2	151.8	152.0	152.6	152.9	153.5	153.9	154.3	155.0	155.8	155.9	156.0	156.2	156.2	
Commodities less food and energy	132.5	135.2	134.9	134.4	134.8	135.1	136.0	136.4	135.7	135.4	135.8	136.9	137.2	137.5	137.3	
Energy commodities	98.3	97.3	98.9	97.3	96.2	95.4	98.7	97.6	94.3	92.4	93.8	93.4	94.5	95.4	97.2	
Services less energy	155.9	161.9	161.5	162.2	162.8	163.1	163.6	163.9	164.3	165.1	166.0	166.6	166.6	166.6	167.1	
Purchasing power of the consumer dollar:																
1982-84=\$1.00	71.3	69.2	69.3	69.2	69.0	68.9	68.6	68.6	68.6	68.4	68.2	67.9	67.9	67.8	67.6	
1967=\$1.00	23.8	23.1	23.1	23.1	23.0	23.0	22.9	22.9	22.9	22.8	22.8	22.7	22.7	22.6	22.6	
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:																
All items	138.2	142.1	142.0	142.1	142.4	142.6	143.3	143.4	143.3	143.6	144.0	144.4	144.7	144.9	145.4	
All items (1967=100)	411.5	423.1	423.1	423.2	424.2	424.9	426.7	427.1	426.8	427.7	428.8	430.2	430.9	431.7	433.2	
Food and beverages	138.3	141.2	140.8	140.8	141.2	141.5	142.0	142.2	142.9	143.8	143.2	143.4	143.6	143.7	143.8	
Food	137.5	140.5	140.1	140.1	140.5	140.8	141.3	141.6	142.2	143.3	142.5	142.8	143.0	143.1	143.2	
Food at home	136.4	139.6	138.8	138.8	139.4	139.7	140.4	140.7	141.7	143.2	142.0	142.3	142.4	142.4	142.4	
Cereals and bakery products	151.3	156.3	156.4	156.9	157.2	157.4	157.7	157.7	158.6	159.9	160.9	160.2	162.2	162.0	163.1	
Meats, poultry, fish, and eggs	130.8	135.4	135.3	135.5	135.9	135.8	136.5	137.2	136.9	137.7	137.2	137.8	137.4	137.0	137.0	
Dairy products	128.2	129.1	129.5	130.0	130.3	129.4	129.2	129.3	130.0	131.4	131.6	131.6	131.6	131.7	132.1	
Fruits and vegetables	154.8	158.2	153.8	151.4	153.7	156.9	158.5	159.6	165.4	168.8	161.0	161.7	160.9	162.3	161.1	
Other foods at home	128.8	130.4	130.2	130.5	130.6	130.3	131.3	131.0	130.8	132.2	132.4	132.5	132.9	132.7	132.7	
Sugar and sweets	132.8	133.1	132.9	133.0	133.5	133.1	133.8	133.5	133.1	134.9	135.6	135.2	135.8	135.4	134.7	
Fats and oils	129.7	129.9	130.0	130.4	130.1	130.0	129.9	129.2	129.3	131.3	131.5	132.5	133.2	133.4	133.4	
Nonalcoholic beverages	114.6	115.1	115.0	114.8	114.6	114.2	115.9	116.0	115.1	116.6	116.3	116.4	115.9	116.1	116.2	
Other prepared foods	140.0	143.5	143.2	143.9	144.1	144.0	144.8	144.2	144.7	145.6	146.1	146.1	147.3	146.7	146.9	
Food away from home	140.6	143.1	143.1	143.3	143.4	143.6	143.8	144.0	144.1	144.3	144.4	144.6	144.9	145.2	145.4	
Alcoholic beverages	147.0	149.3	149.4	149.3	149.4	149.6	149.8	149.7	150.0	150.5	150.6	150.9	151.0	150.9	151.3	
Housing	135.0	138.5	138.8	139.1	139.5	139.7	139.6	139.4	139.7	140.2	140.9	141.3	141.1	141.3	142.1	
Shelter	147.2	151.6	151.5	152.0	152.4	152.7	152.7	153.1	153.9	154.8	155.3	155.3	155.3	155.3	155.8	
Renters' costs (12/84=100)	141.3	144.7	144.7	145.8	146.2	145.1	145.3	144.8	144.9	146.4	147.8	148.5	148.0	147.7	148.4	
Rent, residential	146.5	150.0	150.0	150.1	150.4	150.7	151.1	151.3	151.6	151.9	152.5	152.8	153.0	153.0	153.1	
Other renters' costs	185.3	190.2	190.7	197.6	198.2	189.1	188.8	183.7	183.3	192.0	198.4	201.4	197.3	194.9	199.1	
Homeowners' costs (12/84=100)	141.5	146.1	145.9	146.1	146.6	147.1	147.4	147.7	148.2	148.6	149.2	149.6	149.8	150.0	150.3	
Owners' equivalent rent (12/84=100)	141.8	146.3	146.2	146.3	146.8	147.3	147.6	147.9	148.4	148.8	149.5	149.9	150.0	150.2	150.5	
Household insurance (12/84=100)	130.2	134.4	134.3	134.9	135.5	136.1	136.3	136.5	136.4	136.5	136.7	137.3	137.3	138.1	139.1	
Maintenance and repairs	129.9	130.9	131.2	131.7	132.1	131.3	131.1	128.6	127.7	129.6	129.4	129.4	130.0	130.9	131.5	
Maintenance and repair services	136.8	138.6	139.5	139.7	140.1	141.4	140.4	133.5	134.0	134.9	134.8	135.3	136.6	138.8	139.1	
Maintenance and repair commodities	120.4	120.7	120.3	121.2	121.6	118.4	119.1	121.4	119.0	121.8	121.7	121.0	120.9	120.6	121.4	
Fuel and other utilities	117.5	121.1	122.8	123.0	123.2	123.8	122.2	121.0	121.5	121.5	122.1	122.1	121.4	121.9	124.0	
Fuels	107.5	110.7	113.8	113.8	113.7	114.5	111.6	109.5	110.2	110.1	110.5	110.5	109.3	110.0	113.5	
Fuel oil, coal, and bottled gas	90.6	90.2	90.3	89.1	87.8	87.8	89.1	89.3	88.2	88.9	93.6	92.3	90.1	88.6	87.6	
Gas (piped) and electricity	114.3	118.0	121.6	121.8	121.8	122.7	119.2	116.7	117.7	117.5	117.4	117.5	116.4	117.4	121.5	
Other utilities and public services	143.1	147.7	147.2	147.8	148.5	148.8	149.1	149.3	149.6	149.6	150.7	150.7	150.7	151.0	151.1	
Household furnishings and operations</																

31. Continued— Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

(1982-84=100, unless otherwise indicated)

Series	Annual average		1993								1994					
	1992	1993	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
Apparel and upkeep	130.7	132.4	130.7	128.4	130.5	133.3	135.1	135.0	131.3	129.4	131.4	134.7	135.0	134.3	132.4	
Apparel commodities	128.3	129.8	128.1	125.6	127.8	130.7	132.6	132.5	128.5	126.5	128.6	132.1	132.4	131.6	129.6	
Men's and boys' apparel	125.6	126.8	125.8	124.0	125.2	127.2	128.7	130.1	127.0	124.1	124.0	124.9	126.0	126.5	125.3	
Women's and girls' apparel	128.9	130.4	127.0	123.2	127.5	131.3	134.4	133.9	128.4	125.1	129.5	135.2	135.0	132.7	129.5	
Infants' and toddlers' apparel	131.6	128.9	129.6	128.5	129.8	127.8	127.6	128.6	128.1	126.1	126.6	126.7	128.5	126.2	129.6	
Footwear	125.4	126.5	126.2	124.6	124.3	127.1	128.2	128.3	126.6	126.9	127.0	128.1	129.0	129.5	128.2	
Other apparel commodities	140.4	145.4	145.6	145.2	145.4	149.8	149.7	145.4	140.1	142.9	145.0	152.2	150.1	151.3	148.3	
Apparel services	147.6	151.2	150.8	151.2	151.4	151.9	152.4	153.2	153.4	153.4	153.5	153.7	154.2	154.5	155.0	
Transportation	125.8	129.4	129.5	129.4	129.4	129.2	131.0	131.6	130.8	130.2	130.4	130.5	131.2	131.8	132.9	
Private transportation	124.4	127.4	127.6	127.4	127.4	127.3	129.1	129.5	128.5	127.9	128.1	128.1	128.9	129.8	131.0	
New vehicles	129.6	133.3	132.8	132.7	132.8	132.9	134.1	135.4	136.2	136.6	137.1	137.4	137.6	138.0	138.2	
New cars	128.1	131.2	130.8	130.7	130.6	130.5	131.8	133.2	133.9	134.4	134.7	135.0	135.1	135.4	135.6	
Used cars	123.6	134.6	135.0	136.9	138.3	139.5	140.7	141.6	140.2	137.6	134.8	134.3	136.0	138.6	141.5	
Motor fuel	99.0	97.9	99.7	98.1	96.9	96.0	99.2	98.2	94.6	92.5	93.5	93.1	94.7	96.0	98.2	
Gasoline	99.0	97.6	99.7	97.9	96.8	95.8	99.1	97.7	94.0	92.0	93.0	92.6	94.3	95.6	97.9	
Maintenance and repair	141.8	146.5	146.5	146.9	146.9	147.4	147.8	148.0	148.3	148.8	149.3	149.7	150.1	150.5	150.5	
Other private transportation	149.9	152.9	151.9	152.1	152.3	152.1	153.7	154.9	154.9	155.3	155.5	155.7	156.0	156.6	157.3	
Other private transportation commodities	104.2	102.8	102.3	102.4	102.2	102.5	102.3	102.2	102.6	102.9	102.8	102.9	102.8	102.8	102.8	
Other private transportation services	160.9	165.0	164.0	164.2	164.6	164.2	166.2	167.8	167.6	168.2	168.4	168.7	169.0	169.8	170.7	
Public transportation	150.0	163.0	160.9	163.3	163.9	163.9	164.1	167.8	171.1	170.3	170.9	173.2	171.5	166.4	165.9	
Medical care	189.6	200.9	200.7	201.7	202.4	202.8	203.8	204.2	204.5	205.8	207.0	207.7	208.6	209.1	209.7	
Medical care commodities	185.5	193.2	193.0	193.8	194.3	194.4	194.8	194.7	195.1	195.9	196.8	197.2	197.8	198.2	198.7	
Medical care services	190.3	202.7	202.4	203.5	204.2	204.7	205.8	206.3	206.6	208.0	209.3	210.0	211.0	211.5	212.2	
Professional services	176.3	185.2	185.4	186.0	186.4	186.9	187.4	187.6	188.0	189.0	191.0	191.0	192.2	192.5	193.1	
Hospital and related services	211.5	229.2	228.2	230.2	231.2	231.8	233.9	235.0	235.1	237.2	238.9	239.9	239.7	240.5	241.3	
Entertainment	140.8	144.1	143.8	143.7	144.1	144.8	145.5	145.8	146.1	146.7	147.1	147.7	147.8	148.1	148.0	
Entertainment commodities	130.7	132.9	132.7	132.6	132.9	133.1	133.7	133.7	133.9	134.2	134.0	134.8	135.2	135.7	135.6	
Entertainment services	155.7	160.5	160.0	159.9	160.7	161.9	162.7	163.5	163.8	164.8	166.0	166.3	166.2	166.1	166.2	
Other goods and services	183.3	192.2	193.3	193.8	192.7	190.9	191.1	191.6	192.0	193.1	193.2	193.4	194.4	195.3	195.8	
Tobacco products	219.7	228.3	235.9	235.5	227.7	214.8	214.1	214.5	215.4	217.5	217.2	217.5	217.8	220.6	220.7	
Personal care	138.6	141.6	141.3	142.2	142.2	142.5	142.6	143.0	143.2	143.5	143.1	143.2	144.5	144.7	145.3	
Toilet goods and personal care appliances	137.2	139.6	139.6	140.6	140.3	140.2	140.3	140.7	140.7	141.0	140.5	140.3	142.2	142.4	142.3	
Personal care services	140.0	143.9	143.2	143.9	144.3	145.2	145.2	145.6	146.2	146.4	146.3	146.7	147.2	147.3	149.0	
Personal and educational expenses	194.3	206.9	204.9	205.6	208.0	211.5	212.5	213.0	213.3	214.1	214.7	215.0	216.3	216.6	217.2	
School books and supplies	190.6	199.2	198.0	198.2	201.3	201.1	201.8	201.9	202.3	205.1	205.8	205.8	205.8	205.9	206.4	
Personal and educational services	194.9	207.8	205.7	206.5	208.9	212.6	213.7	214.2	214.5	215.2	215.7	216.0	217.4	217.7	218.4	
All items	138.2	142.1	142.0	142.1	142.4	142.6	143.3	143.4	143.3	143.6	144.0	144.4	144.7	144.9	145.4	
Commodities	128.7	131.2	131.2	130.7	130.9	131.0	132.0	132.2	131.6	131.6	131.7	132.2	132.6	132.9	133.2	
Food and beverages	138.3	141.2	140.8	140.8	141.2	141.5	142.0	142.2	142.9	143.8	143.2	143.4	143.6	143.7	143.8	
Commodities less food and beverages	122.7	125.0	125.2	124.5	124.5	125.9	126.0	124.7	124.1	124.6	125.3	125.8	126.3	126.6	126.6	
Nondurables less food and beverages	126.2	127.7	128.3	126.9	126.7	126.5	128.3	127.9	125.7	124.7	125.7	126.9	127.5	127.9	127.9	
Apparel commodities	128.3	129.8	128.1	125.6	127.8	130.7	132.6	132.5	128.5	126.5	128.6	132.1	132.4	131.6	129.6	
Nondurables less food, beverages, and apparel	128.1	129.7	131.3	130.4	129.1	127.4	129.1	128.7	127.2	126.7	127.2	127.3	128.0	129.0	130.0	
Durables	116.8	120.1	119.9	120.1	120.4	120.7	121.6	122.3	122.3	122.2	121.9	121.9	122.4	123.1	123.8	
Services	150.0	155.5	155.5	156.0	156.5	156.9	157.1	157.2	157.6	158.2	159.0	159.4	159.4	159.6	160.4	
Rent of shelter (12/84=100)	141.6	145.8	145.7	146.2	146.6	146.6	146.9	146.9	147.3	148.1	148.9	149.5	149.4	149.4	149.9	
Household services less rent of shelter (12/84=100)	119.7	123.5	124.9	125.3	125.6	126.3	124.8	123.7	124.2	124.2	124.5	124.6	124.1	124.8	126.7	
Transportation services	154.3	160.0	159.0	159.6	160.0	159.9	161.2	162.8	163.3	163.6	164.0	164.6	164.6	164.3	164.8	
Medical care services	190.3	202.7	202.4	203.5	204.2	204.7	205.8	206.3	206.6	208.0	209.3	210.0	211.0	211.5	212.2	
Other services	166.1	174.1	172.9	173.3	174.7	176.8	177.6	178.2	178.5	179.2	179.9	180.2	180.8	181.0	181.5	
Special indexes:																
All items less food	138.2	142.3	142.4	142.4	142.7	142.9	143.6	143.7	143.4	143.5	144.1	144.7	144.9	145.2	145.8	
All items less shelter	135.9	139.7	139.7	139.6	139.9	140.2	140.9	141.1	140.8	141.0	141.2	141.7	141.9	142.3	142.8	
All items less homeowners' costs (12/84=100)	130.3	133.9	133.9	133.9	134.2	134.3	135.0	135.1	134.9	135.1	135.4	135.9	136.1	136.4	136.9	
All items less medical care	135.7	139.2	139.2	139.2	139.5	139.8	140.4	140.5	140.4	140.6	140.9	141.4	141.6	141.9	142.4	
Commodities less food	123.7	125.9	126.1	125.5	125.5	125.5	126.8	126.9	125.7	125.1	125.6	126.3	126.8	127.3	127.6	
Nondurables less food	127.4	128.9	129.4	128.1	128.0	127.8	129.4	129.1	127.1	126.2	127.2	128.3	128.8	129.2	129.2	
Nondurables less food and apparel	129.0	130.7	132.1	131.3	130.2	128.7	130.2	129.9	128.6	128.2	128.7	128.8	129.5	130.3	131.2	
Nondurables	132.5	134.7	134.8	134.1	134.2	134.3	135.4	135.4	134.6	134.7	135.4	136.4	135.8	136.1	136.1	
Services less rent of shelter (12/84=100)	141.0	147.0	147.1	147.6	148.1	148.9	148.9	149.0	149.5	149.8	150.4	150.7	150.8	151.0	152.1	
Services less medical care	146.5	151.4	151.4	151.9	152.4	152.8	152.9	152.9	153.4	153.9	154.6	155.0	155.0	155.1	155.9	
Energy	102.6	103.6	106.0	105.2	104.6	104.5	104.9	103.2	101.7	100.5	101.2	101.1	101.3	102.3	105.1	
All items less energy	143.2	147.5	147.2	147.3	147.8	148.0	148.7	149.1	149.1	149.6	149.9	150.5	150.7	150.9	151.1	
All items less food and energy	144.7	149.3	149.0	149.2	149.7	149.9	150.6	151.0	150.9	151.2	151.8	152.5	152.7	152.9	153.2	
Commodities less food and energy	131.2	134.3	134.2	133.7	134.0	134.2	135.1	135.5	134.7	134.4	134.7	135.6	135.9	136.4	136.3	
Energy commodities	98.5	97.5	99.2	97.5	96.4	95.5	98.9	97.7	94.3	92.4	93.8	93				

32. Consumer Price Index: U.S. city average and available local area data: all items

(1982-84=100, unless otherwise indicated)

Area ¹	Pricing schedule ²	All Urban Consumers						Urban Wage Earners							
		1993		1994				1993		1994					
		May	June	Feb.	Mar.	Apr.	May	June	May	June	Feb.	Mar.	Apr.	May	June
U.S. city average	M	144.2	144.4	146.7	147.2	147.4	147.5	148.0	141.9	142.0	144.0	144.4	144.7	144.9	145.4
Region and area size³															
Northeast urban	M	150.8	151.2	154.0	154.3	154.4	154.2	154.8	148.7	149.0	151.4	151.7	151.8	151.7	152.3
Size A - More than 1,200,000	M	151.2	151.7	154.6	155.1	155.0	154.7	155.4	148.0	148.5	150.9	151.4	151.4	151.1	151.9
Size B - 500,000 to 1,200,000	M	150.3	150.3	153.0	152.7	153.3	152.8	153.5	148.3	148.4	150.7	150.6	151.1	150.8	151.4
Size C - 50,000 to 500,000	M	149.2	149.5	151.9	152.2	152.6	152.7	153.2	151.0	151.2	153.2	153.4	153.9	154.2	154.6
North Central urban	M	139.8	140.0	142.1	142.6	142.9	143.3	144.0	137.2	137.3	139.0	139.4	139.8	140.2	140.9
Size A - More than 1,200,000	M	141.0	141.1	143.2	143.9	144.1	144.5	145.1	137.5	137.6	139.4	140.0	140.3	140.7	141.4
Size B - 360,000 to 1,200,000	M	137.8	138.6	141.3	141.8	142.2	142.0	143.0	134.7	135.5	137.6	137.9	138.5	138.4	139.5
Size C - 50,000 to 360,000	M	141.9	141.4	143.0	143.1	143.7	144.4	144.7	139.9	139.3	140.6	140.6	141.2	141.9	142.2
Size D - Nonmetropolitan (less than 50,000)	M	134.4	134.9	137.2	137.8	137.9	138.8	139.8	133.5	133.8	135.8	136.3	136.4	137.3	138.4
South urban	M	140.7	140.8	142.9	143.6	143.8	144.3	144.7	139.3	139.6	141.2	141.9	142.2	142.8	143.2
Size A - More than 1,200,000	M	141.1	141.0	143.4	144.4	144.4	144.7	145.3	139.4	139.6	141.3	142.3	142.4	142.8	143.4
Size B - 450,000 to 1,200,000	M	142.1	142.6	144.6	145.4	145.5	146.3	146.6	138.9	139.4	141.2	141.8	141.8	142.8	143.2
Size C - 50,000 to 450,000	M	140.0	140.2	141.6	142.0	142.9	143.1	143.5	140.1	140.2	141.3	141.6	142.6	142.8	143.3
Size D - Nonmetropolitan (less than 50,000)	M	138.7	138.8	140.7	141.3	141.3	142.3	142.5	138.8	138.9	141.0	141.4	141.4	142.5	142.7
West urban	M	146.0	146.0	148.3	149.0	148.9	148.8	148.9	143.5	143.4	145.4	145.9	145.9	146.0	146.1
Size A - More than 1,250,000	M	148.1	147.8	149.9	150.5	150.4	150.4	150.4	143.9	143.7	145.4	145.9	145.8	146.0	146.0
Size C - 50,000 to 330,000	M	143.6	144.0	148.3	148.7	148.6	147.8	148.6	141.8	142.1	146.0	146.3	146.3	145.7	146.4
Size classes:															
A (12/86=100)	M	131.0	131.1	133.3	133.9	133.9	133.9	134.3	130.2	130.3	132.1	132.7	132.7	132.9	133.3
B	M	143.2	143.7	146.1	146.5	146.8	147.0	147.5	140.9	141.3	143.4	143.8	144.1	144.4	145.0
C	M	142.8	142.9	144.9	145.2	145.8	146.0	146.4	142.4	142.4	144.1	144.3	144.9	145.2	145.6
D	M	139.1	139.4	141.5	142.0	142.1	143.0	143.4	138.6	138.9	140.8	141.2	141.4	142.3	142.8
Selected local areas															
Chicago, IL-Northwestern IN ...	M	145.7	145.6	146.8	147.6	147.9	147.6	148.1	141.4	141.2	142.3	143.0	143.3	143.1	143.6
Los Angeles-Long Beach, Anaheim, CA	M	150.1	149.7	152.2	152.5	152.0	151.4	151.3	145.1	144.8	146.9	147.0	146.6	146.2	146.1
New York, NY-Northeastern NJ	M	153.8	154.2	157.4	157.9	157.7	157.3	157.8	150.4	150.7	153.5	154.0	153.9	153.6	154.2
Philadelphia, PA-NJ	M	149.4	150.5	152.9	153.5	153.1	153.2	154.6	149.3	150.4	152.2	152.8	152.6	152.7	154.2
San Francisco-Oakland, CA	M	146.9	146.1	147.4	148.2	148.0	148.3	148.1	144.8	144.0	145.0	145.6	145.6	146.1	145.7
Baltimore, MD	1	142.8	-	-	145.0	-	145.8	-	142.1	-	-	144.2	-	144.9	-
Boston, MA	1	151.9	-	-	155.0	-	153.6	-	151.4	-	-	153.5	-	152.2	-
Cleveland, OH	1	139.6	-	-	143.3	-	143.7	-	132.7	-	-	135.7	-	136.1	-
Miami, FL	1	139.0	-	-	143.5	-	143.3	-	137.2	-	-	141.1	-	141.2	-
St. Louis, MO-IL	1	136.8	-	-	139.7	-	140.0	-	136.4	-	-	138.7	-	139.2	-
Washington, DC-MD-VA	1	149.2	-	-	151.5	-	151.4	-	147.0	-	-	148.9	-	149.2	-
Dallas-Ft. Worth, TX	2	-	136.2	139.2	-	140.3	-	141.4	-	136.5	138.1	-	139.3	-	140.6
Detroit, MI	2	-	139.1	141.7	-	142.6	-	144.8	-	135.1	137.0	-	137.9	-	140.2
Houston, TX	2	-	132.9	137.0	-	136.8	-	137.4	-	132.4	136.3	-	136.2	-	137.0
Pittsburgh, PA	2	-	139.5	142.6	-	143.9	-	144.0	-	133.7	136.3	-	137.4	-	137.8

¹ Area definitions are those established by the Office of Management and Budget in 1983, except for Boston-Lawrence-Salem, MA-NH, Area (excludes Monroe County); and Milwaukee, WI, Area (includes only the Milwaukee MSA). Definitions do not include revisions made since 1983. Excludes farms and the military.

² Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M - Every month.

1 - January, March, May, July, September, and November.

2 - February, April, June, August, October, and December.

³ Regions are defined as the four Census regions.

- Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

33. Annual data: Consumer Price Index, U.S. city average, all items and major groups

(1982-84=100)

Series	1985	1986	1987	1988	1989	1990	1991	1992	1993
Consumer Price Index for All Urban Consumers:									
All items:									
Index	107.6	109.6	113.6	118.3	124.0	130.7	136.2	140.3	144.5
Percent change	3.6	1.9	3.6	4.1	4.8	5.4	4.2	3.0	3.0
Food and beverages:									
Index	105.6	109.1	113.5	118.2	124.9	132.1	136.8	138.7	141.6
Percent change	2.3	3.3	4.0	4.1	5.7	5.8	3.6	1.4	2.1
Housing:									
Index	107.7	110.9	114.2	118.5	123.0	128.5	133.6	137.5	141.2
Percent change	4.0	3.0	3.0	3.8	3.8	4.5	4.0	2.9	2.7
Apparel and upkeep:									
Index	105.0	105.9	110.6	115.4	118.6	124.1	128.7	131.9	133.7
Percent change	2.8	.9	4.4	4.3	2.8	4.6	3.7	2.5	1.4
Transportation:									
Index	106.4	102.3	105.4	108.7	114.1	120.5	123.8	126.5	130.4
Percent change	2.6	-3.9	3.0	3.1	5.0	5.6	2.7	2.2	3.1
Medical care:									
Index	113.5	122.0	130.1	138.6	149.3	162.8	177.0	190.1	201.4
Percent change	6.3	7.5	6.6	6.5	7.7	9.0	8.7	7.4	5.9
Entertainment:									
Index	107.9	111.6	115.3	120.3	126.5	132.4	138.4	142.3	145.8
Percent change	3.9	3.4	3.3	4.3	5.2	4.7	4.5	2.8	2.5
Other goods and services:									
Index	114.5	121.4	128.5	137.0	147.7	159.0	171.6	183.3	192.9
Percent change	6.1	6.0	5.8	6.6	7.8	7.7	7.9	6.8	5.2
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	106.9	108.6	112.5	117.0	122.6	129.0	134.3	138.2	142.1
Percent change	3.5	1.6	3.6	4.0	4.8	5.2	4.1	2.9	2.8

34. Producer Price Indexes, by stage of processing

(1982=100)

Grouping	Annual average		1993						1994					
	1992	1993	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Finished goods	123.2	124.7	125.3	124.2	123.8	124.6	124.5	124.1	124.5	124.8	125.0	125.0	125.3	125.5
Finished consumer goods	123.3	125.7	125.0	125.4	125.7	125.4	126.6	127.2	127.0	126.7	127.5	127.0	126.5	125.9
Finished consumer goods	123.3	125.7	125.0	125.4	125.7	125.4	126.6	127.2	127.0	126.7	127.5	127.0	126.5	125.9
Finished consumer goods excluding foods	120.8	121.7	123.0	120.9	120.5	121.2	120.3	119.4	119.9	120.5	120.7	120.7	121.3	121.9
Nondurable goods less food	117.3	117.6	119.5	116.6	116.8	116.5	115.0	113.7	114.0	114.9	114.8	115.1	115.7	116.7
Durable goods	125.7	128.0	127.9	127.9	126.0	129.1	129.7	129.7	130.5	130.5	130.6	130.4	130.9	130.8
Capital equipment	77.8	78.0	79.6	79.1	79.5	78.8	76.2	73.3	73.6	74.9	74.8	75.4	76.2	78.0
Intermediate materials, supplies, and components	114.7	116.2	116.6	116.6	116.8	116.5	116.4	116.0	116.2	116.6	116.8	116.8	117.3	118.0
Materials and components for manufacturing	110.7	112.7	114.0	114.3	113.7	113.6	114.7	116.8	116.8	117.2	117.5	117.4	116.7	115.6
Materials for food manufacturing	113.9	115.6	116.5	116.1	116.3	116.7	117.3	118.8	118.9	119.2	119.9	120.9	120.3	118.1
Materials for nondurable manufacturing	115.4	115.5	115.6	115.4	115.2	115.2	115.4	114.8	114.9	114.7	114.7	115.7	116.3	117.0
Materials for durable manufacturing	117.2	119.1	118.8	119.3	119.4	119.1	119.3	120.0	120.6	121.4	122.2	122.0	122.7	124.3
Components for manufacturing	122.0	123.0	123.0	123.1	123.1	123.2	123.3	123.3	123.6	123.8	123.7	124.0	124.0	124.1
Materials and components for construction	84.3	84.6	87.0	86.1	86.9	85.3	83.3	79.9	79.5	81.1	81.0	80.5	81.5	83.6
Processed fuels and lubricants	122.0	123.8	123.6	123.8	123.9	124.0	124.2	124.4	124.8	124.9	125.1	125.3	125.7	126.3
Containers	134.2	135.8	136.4	134.6	133.7	135.4	135.6	135.9	136.6	136.7	136.8	136.8	137.2	137.1
Supplies	122.7	125.0	125.2	125.5	125.4	125.5	125.7	126.1	126.4	126.6	126.5	126.5	126.6	126.9
Crude materials for further processing	100.4	102.4	101.5	100.6	101.0	102.8	102.2	101.0	103.2	101.8	104.8	104.4	103.3	103.6
Foodstuffs and feedstuffs	105.1	108.4	107.5	108.0	107.7	105.7	110.2	112.1	112.2	113.1	114.0	113.1	110.0	107.7
Crude nonfood materials	78.8	76.7	75.0	73.6	74.5	79.4	74.4	70.0	72.9	68.3	73.1	73.0	73.7	76.1
Special groupings:														
Finished goods, excluding foods	123.1	124.4	125.3	123.8	123.2	124.3	123.7	123.1	123.7	124.1	124.2	124.4	124.9	125.4
Finished energy goods	77.8	78.0	79.6	79.1	79.5	78.8	76.2	73.3	73.6	74.9	74.8	75.4	76.2	78.0
Finished goods less energy	131.1	132.9	133.2	132.0	131.4	132.6	133.1	133.4	133.9	134.2	134.2	134.0	134.2	133.9
Finished consumer goods less energy	131.8	133.5	133.9	132.2	131.8	132.7	133.3	133.8	134.1	134.0	134.3	134.1	134.1	133.8
Finished goods less food and energy	134.2	135.8	136.4	134.6	133.7	135.4	135.6	135.9	136.6	136.7	136.8	136.8	137.2	137.1
Finished consumer goods less food and energy	137.3	138.5	139.5	136.7	135.7	137.3	137.6	138.0	138.6	138.7	138.7	138.6	139.0	138.9
Consumer nondurable goods less food and energy	145.8	146.1	148.1	142.8	142.7	142.9	142.9	143.7	144.1	144.2	144.2	144.2	144.4	144.3
Intermediate materials less foods and feeds	114.9	116.4	116.7	116.7	117.0	116.7	116.5	116.0	116.2	116.6	116.8	116.8	117.3	118.2
Intermediate foods and feeds	110.7	112.7	114.0	114.3	113.7	113.6	114.7	116.8	116.8	117.2	117.5	117.4	116.7	115.6
Intermediate energy goods	84.3	84.6	87.0	86.1	86.9	85.3	83.3	79.9	79.5	81.1	81.0	80.5	81.5	83.6
Intermediate goods less energy	121.3	123.2	123.1	123.2	123.3	123.4	123.6	123.9	124.3	124.4	124.7	124.8	125.1	125.6
Intermediate materials less foods and energy	122.0	123.8	123.6	123.8	123.9	124.0	124.2	124.4	124.8	124.9	125.1	125.3	125.7	126.3
Crude energy materials	78.8	76.7	75.0	73.6	74.5	79.4	74.4	70.0	72.9	68.3	73.1	73.0	73.7	76.1
Crude materials less energy	110.7	116.3	116.3	115.9	115.7	114.5	118.0	119.9	121.2	122.9	123.9	123.3	120.6	119.0
Crude nonfood materials less energy	128.4	140.2	142.6	139.8	139.8	140.8	141.8	143.6	147.9	152.0	153.3	153.5	151.6	152.0

35. Producer price indexes for the net output of major industry groups

(December 1984=100, unless otherwise indicated)

Industry	SIC	Annual average		1993						1994					
		1992	1993	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Total mining industries		76.9	76.4	75.2	74.2	75.2	78.3	74.8	72.7	75.8	71.5	76.0	75.1	74.0	75.9
Metal mining	10	76.6	69.7	69.8	71.4	70.5	66.9	66.5	69.5	70.5	72.6	73.7	73.6	74.6	81.0
Coal mining (12/85=100)	12	94.0	93.3	92.9	93.1	93.2	94.4	94.1	94.0	93.8	92.5	93.2	92.3	93.0	92.1
Oil and gas extraction (12/85=100)	13	76.5	76.2	74.6	73.0	74.5	78.8	74.0	70.9	75.1	69.3	75.4	74.2	72.5	74.9
Mining and quarrying of nonmetallic minerals, except fuels	14	117.5	118.8	118.7	118.7	118.9	119.6	119.1	119.2	119.8	120.0	120.2	120.9	120.6	120.5
Total manufacturing industries		117.4	119.1	119.3	118.6	118.4	119.4	119.3	118.8	119.3	119.8	119.9	120.1	120.4	120.5
Food and kindred products	20	116.9	118.7	119.1	119.1	119.0	119.0	119.4	119.8	120.0	120.5	120.9	121.0	120.6	119.9
Tobacco manufactures	21	230.2	218.0	240.8	178.5	178.5	178.7	178.7	187.4	187.6	187.7	187.7	187.7	187.7	187.8
Textile mill products	22	113.6	113.6	113.6	113.7	113.8	113.7	113.7	113.5	113.5	113.1	113.0	113.1	113.2	113.5
Apparel and other finished products made from fabrics and similar materials	23	118.0	119.2	119.4	119.4	119.3	119.3	119.4	119.3	119.5	119.6	119.8	119.5	119.7	119.5
Lumber and wood products, except furniture	24	129.7	148.3	145.7	146.3	148.2	149.0	151.3	153.5	156.6	155.5	155.8	153.6	152.6	153.6
Furniture and fixtures	25	122.9	125.4	125.5	125.7	125.8	126.6	126.7	127.2	127.6	128.1	128.4	128.3	129.7	129.9
Paper and allied products	26	121.2	120.2	120.0	119.9	119.7	120.1	119.9	120.0	119.9	120.0	120.2	120.2	120.9	121.5
Printing, publishing, and allied industries	27	140.8	145.6	145.3	145.7	145.9	146.5	146.5	146.8	148.4	148.4	148.5	148.7	148.9	149.3
Chemicals and allied products	28	125.8	127.2	127.2	126.9	127.1	127.1	127.3	126.7	126.9	126.8	126.8	127.4	127.7	128.4
Petroleum refining and related products	29	80.3	77.6	77.7	75.8	76.7	78.7	75.9	67.5	67.5	71.2	71.0	72.0	73.7	74.7
Rubber and miscellaneous plastic products	30	114.2	115.4	115.4	115.4	115.7	115.8	115.7	115.9	115.7	115.8	115.7	115.8	116.1	116.2
Leather and leather products	31	127.0	129.0	128.9	129.8	129.0	129.0	129.1	129.3	130.1	129.2	129.6	129.9	129.9	130.0
Stone, clay, glass, and concrete products	32	112.8	115.4	115.5	115.9	116.1	116.1	116.5	116.6	116.9	117.4	118.0	118.4	119.0	119.9
Primary metal industries	33	111.7	111.4	111.7	112.0	111.9	111.8	111.8	112.4	112.7	113.6	114.2	114.2	115.1	116.0
Fabricated metal products, except machinery and transportation equipment	34	117.2	118.2	118.3	118.4	118.6	118.6	118.9	118.9	119.1	119.3	119.5	119.6	119.8	120.0
Machinery, except electrical	35	116.7	116.8	116.6	116.6	116.8	116.7	116.7	116.8	117.1	117.0	117.3	117.5	117.5	117.5
Electrical and electronic machinery, equipment, and supplies	36	110.8	112.0	111.9	112.0	112.1	112.2	112.3	112.4	112.5	112.6	112.8	113.0	112.9	112.8
Transportation equipment	37	123.0	126.3	126.3	126.2	124.1	128.1	128.3	128.5	129.4	129.5	129.3	129.3	130.1	130.0
Measuring and controlling instruments; photographic, medical, optical goods; watches, clocks	38	118.7	120.8	121.0	121.2	121.2	120.9	121.1	121.1	121.8	121.7	121.7	122.1	122.2	122.3
Miscellaneous manufacturing industries (12/85=100)	39	119.6	121.5	121.8	122.0	121.9	122.0	122.1	122.1	122.6	122.7	122.9	123.3	123.3	123.3
Service industries:															
Motor freight transportation and warehousing (06/93=100)	42	-	-	99.5	99.9	99.9	100.0	100.1	100.2	100.6	101.1	101.3	101.4	101.7	101.7
U.S. Postal Service (06/89=100)	43	119.8	119.8	119.8	119.8	119.8	119.8	119.8	119.8	119.8	119.8	119.8	119.8	119.8	119.8
Water transportation (12/92=100)	44	-	99.7	100.2	99.0	99.0	99.9	99.6	99.1	98.4	98.5	99.1	99.2	99.4	99.5
Transportation by air (12/92=100)	45	-	105.6	105.2	106.0	106.3	108.0	108.6	108.2	109.2	108.1	108.5	108.1	108.3	109.3
Pipelines, except natural gas (12/86=100)	46	96.4	96.6	96.5	96.5	96.5	96.7	96.7	97.1	100.8	100.8	100.6	101.0	100.9	101.0

- Data not available.

36. Annual data: Producer Price Indexes, by stage of processing

(1982=100)

Index	1985	1986	1987	1988	1989	1990	1991	1992	1993
Finished goods:									
Total	104.7	103.2	105.4	108.0	113.6	119.2	121.7	123.2	124.7
Foods	104.6	107.3	109.5	112.6	118.7	124.4	124.1	123.3	125.7
Energy	87.6	63.0	61.8	59.8	65.7	75.0	78.1	77.8	78.0
Other	108.1	110.6	113.3	117.0	122.1	126.6	131.1	134.2	135.8
Intermediate materials, supplies, and components:									
Total	102.7	99.1	101.5	107.1	112.0	114.5	114.4	114.7	116.2
Foods	97.3	96.2	99.2	109.5	113.8	113.3	111.1	110.7	112.7
Energy	92.6	72.6	73.0	70.9	76.1	85.5	85.1	84.3	84.6
Other	105.2	104.9	107.8	115.2	120.2	120.9	121.4	122.0	123.8
Crude materials for further processing:									
Total	95.8	87.7	93.7	96.0	103.1	108.9	101.2	100.4	102.4
Foods	94.8	93.2	96.2	106.1	111.2	113.1	105.5	105.1	108.4
Energy	93.3	71.8	75.0	67.7	75.9	85.9	80.4	78.8	76.7
Other	104.9	103.1	115.7	133.0	137.9	136.3	128.2	128.4	140.2

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

(1990=100, unless otherwise indicated)

Category	SITC Rev. 3	1993						1994				
		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Food and live animals	0	101.9	102.1	102.2	102.9	105.5	107.8	110.7	107.4	108.6	106.3	108.0
Meat and meat preparations	01	110.6	110.4	106.9	105.0	107.3	107.1	106.7	106.3	110.5	110.3	110.9
Cereals and cereal preparations	04	99.5	99.5	96.0	99.4	106.3	111.2	117.7	112.3	112.0	105.9	107.8
Vegetables, fruit, and nuts, prepared fresh or dry	05	109.9	108.2	118.0	119.9	116.0	114.3	113.8	111.2	112.2	110.0	113.1
Crude materials, inedible, except fuels	2	100.6	99.5	98.0	95.9	96.1	98.7	101.1	103.4	104.7	105.6	106.3
Hides, skins, and furskins, raw	21	78.1	80.2	82.9	83.5	84.8	86.0	85.2	86.7	91.3	93.8	97.9
Oilseeds and oleaginous fruits	22	112.0	114.1	108.8	101.3	104.1	112.0	115.4	112.3	112.3	109.8	111.1
Crude rubber (including synthetic and reclaimed)	23	97.3	97.3	97.6	96.6	94.9	93.6	92.4	92.8	92.9	93.2	94.1
Cork and wood	24	157.5	151.6	148.7	146.8	144.9	146.8	151.3	153.2	153.0	153.7	151.2
Pulp and waste paper	25	69.3	65.2	66.7	65.1	65.0	67.3	68.3	71.5	76.2	80.4	84.5
Textile fibers and their waste	26	82.1	81.2	81.1	81.2	80.8	83.0	87.0	97.2	98.3	100.0	103.5
Crude fertilizers and crude minerals	27	94.9	93.7	97.2	96.2	96.0	97.3	97.0	94.6	95.4	97.3	95.8
Metalliferous ores and metal scrap	28	85.1	86.6	83.9	83.3	84.3	85.2	88.3	89.7	90.6	90.9	89.6
Mineral fuels, lubricants, and related products	3	86.5	86.3	85.6	86.3	84.6	81.8	82.0	85.4	83.7	84.2	85.3
Coal, coke, and briquettes	32	93.9	94.0	93.9	94.1	93.9	94.0	94.0	94.2	95.2	94.2	93.9
Petroleum, petroleum products, and related materials	33	78.6	78.3	76.8	77.9	75.3	70.4	71.1	76.5	73.1	74.6	76.6
Animal and vegetable oils, fats, and waxes	4	100.0	103.4	100.9	98.7	100.3	105.6	110.0	109.3	110.0	109.3	109.7
Chemicals and related products, n.e.s.	5	95.5	95.4	95.3	95.2	95.1	95.4	95.8	96.0	96.4	97.0	97.8
Medicinal and pharmaceutical products	54	-	108.2	107.4	-	-	108.2	108.7	108.9	108.8	107.9	108.1
Essential oils; polishing and cleaning preparations	55	103.5	103.8	104.3	104.7	104.8	104.9	105.0	105.3	106.5	107.0	107.3
Plastics in primary forms (12/92=100)	57	102.0	101.6	101.4	100.6	99.8	100.5	100.9	101.2	101.7	103.4	105.3
Plastics in nonprimary forms (12/92=100)	58	96.6	96.7	97.6	97.2	97.7	97.5	97.5	98.0	98.3	99.3	99.3
Chemical materials and products, n.e.s.	59	105.8	105.8	105.8	105.4	105.5	105.7	107.4	107.4	108.2	108.3	108.5
Manufactured goods classified chiefly by materials	6	100.8	101.3	101.3	101.0	100.9	100.8	101.7	102.8	103.0	103.7	103.9
Rubber manufactures, n.e.s.	62	108.8	108.8	108.9	109.1	109.1	108.7	109.9	109.4	109.2	109.3	108.6
Paper, paperboard, and articles of paper, pulp, and paperboard	64	93.3	92.1	92.9	93.3	93.4	93.1	93.0	93.5	93.8	94.2	95.7
Nonmetallic mineral manufactures, n.e.s.	66	105.4	107.3	106.7	106.9	107.0	105.8	106.3	107.0	106.9	106.8	106.9
Nonferrous metals	68	82.5	85.1	83.2	80.1	78.5	79.0	81.7	86.5	87.8	89.7	89.1
Machinery and transport equipment	7	104.3	104.2	104.2	104.5	104.5	104.4	104.4	104.2	104.4	104.2	104.2
Power generating machinery and equipment	71	111.0	111.1	111.1	111.2	112.1	111.8	112.2	112.6	112.6	112.4	112.4
Machinery specialized for particular industries	72	108.1	108.2	108.6	108.8	109.1	109.2	109.2	108.9	109.2	109.7	109.7
General industrial machines and parts, n.e.s., and machine parts	74	108.5	108.6	109.0	109.3	109.6	109.5	109.8	110.0	109.9	110.1	110.1
Computer equipment and office machines	75	86.9	86.6	85.9	85.5	84.9	84.6	83.5	82.9	82.5	82.3	81.7
Telecommunications and sound recording and reproducing apparatus and equipment	76	109.0	108.1	108.7	108.8	108.5	108.6	108.4	107.5	107.4	107.1	107.5
Electrical machinery and equipment	77	103.3	103.3	102.8	103.7	103.7	103.5	103.5	103.6	103.6	103.0	103.0
Road vehicles	78	105.1	105.0	105.2	105.6	105.4	105.5	105.8	105.6	106.2	106.0	106.3
Professional, scientific, and controlling instruments and apparatus	87	109.9	109.8	110.9	110.6	111.0	110.8	111.8	112.0	111.4	111.6	111.4

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

(1990=100, unless otherwise indicated)

Category	SITC Rev.3	1993					1994				
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Food and live animals	0	101.3	102.3	103.7	102.1	102.1	102.5	101.7	103.1	104.3	106.3
Meat and meat preparations	01	102.3	97.9	97.9	96.0	94.0	92.9	93.8	96.5	97.4	93.5
Fish and crustaceans, mollusks, and other aquatic invertebrates	03	107.8	109.1	113.2	114.0	114.1	114.7	115.8	116.6	119.7	121.5
Cereals and cereal preparations	04	100.7	98.5	98.3	97.8	99.8	100.0	99.5	99.5	101.6	101.6
Vegetables and fruit, prepared fresh or dried	05	104.9	106.5	105.9	103.7	101.7	104.2	98.6	100.2	98.5	102.4
Sugars, sugar preparations, and honey	06	96.5	96.5	96.5	97.5	96.4	96.7	96.8	96.9	97.2	97.9
Coffee, tea, cocoa, spices, and manufactures thereof	07	92.1	98.2	102.4	97.3	101.6	100.0	101.2	103.1	108.1	115.9
Beverages and tobacco	1	111.5	111.8	112.8	112.7	112.7	111.8	111.6	112.2	113.1	113.5
Beverages	11	112.1	112.0	112.5	112.4	112.4	112.4	111.6	112.1	112.3	112.6
Crude materials, inedible, except fuels	2	95.9	96.9	96.9	98.7	102.3	103.6	104.9	105.3	104.5	105.2
Crude rubber (including synthetic and reclaimed)	23	98.8	99.1	96.6	97.2	98.0	99.1	100.8	103.4	108.7	107.1
Cork and wood	24	134.8	141.9	148.0	156.1	170.2	175.1	161.2	166.9	156.6	153.4
Pulp and waste paper	25	61.8	60.4	59.3	58.8	58.4	59.7	60.3	61.6	63.8	64.9
Crude fertilizers	27	84.0	83.0	.0	.0	84.0	82.9	82.3	81.2	82.5	82.5
Metalliferous ores and metal scrap	28	87.8	87.1	84.3	83.7	83.2	83.0	87.8	90.2	90.8	89.5
Crude animal and vegetable materials, n.e.s.	29	109.5	109.2	107.0	110.2	115.4	114.8	144.4	120.7	123.1	141.2
Mineral fuels, lubricants, and related products	3	74.0	73.5	74.4	70.7	63.8	62.5	65.6	64.4	67.5	74.6
Petroleum, petroleum products, and related materials	33	73.1	72.3	73.4	69.7	61.8	60.6	63.9	62.7	66.2	73.6
Gas, natural and manufactured	34	86.4	91.7	89.5	85.2	94.1	92.2	91.6	90.7	88.0	89.0
Electrical energy	35	83.1	87.5	86.4	84.1	85.8	86.2	88.2	89.3	86.4	90.3
Animal and vegetable oils, fats, and waxes	4	118.4	117.3	116.4	115.1	120.0	127.8	124.4	123.3	125.5	130.2
Chemicals and related products, n.e.s.	5	101.9	102.1	102.5	102.1	101.3	101.0	101.1	101.4	102.3	102.3
Inorganic chemicals	52	99.5	100.5	101.4	100.8	100.2	100.0	99.3	99.6	99.3	99.8
Dyeing, tanning, and coloring materials	53	99.6	100.0	101.4	101.1	99.9	100.6	103.4	101.0	100.9	101.1
Medicinal and pharmaceutical products	54	115.3	115.7	117.6	117.4	116.6	116.7	117.7	117.4	118.3	117.6
Essential oils; polishing and cleaning preparations	55	108.7	108.7	110.0	110.1	109.9	108.6	108.2	108.0	107.8	107.8
Fertilizers	56	103.0	102.4	102.5	101.9	100.5	101.0	100.7	102.9	102.1	104.5
Plastics in primary forms (12/92=100)	57	100.0	99.7	99.9	99.8	99.7	101.3	100.8	100.9	100.9	101.1
Plastics in nonprimary forms (12/92=100)	58	98.5	98.7	99.6	98.7	97.5	96.4	95.8	95.3	99.2	97.7
Chemical materials and products, n.e.s.	59	105.1	103.4	102.3	102.1	101.7	101.3	101.3	102.7	102.2	102.2
Manufactured goods classified chiefly by material	6	99.3	98.7	98.2	97.8	97.8	98.2	98.7	99.3	100.2	100.6
Rubber manufactures, n.e.s.	62	103.1	103.1	103.4	103.4	103.2	103.0	102.2	101.6	102.5	102.4
Paper, paperboard, and articles of paper pulp, paper, or paperboard	64	94.6	95.4	94.8	94.0	94.2	93.5	92.9	94.0	93.5	95.4
Nonmetallic mineral manufactures, n.e.s.	66	107.9	107.8	108.6	108.5	107.9	107.4	107.8	107.8	108.3	108.5
Nonferrous metals	68	77.8	75.9	73.4	71.8	72.3	76.5	78.8	80.3	84.2	83.7
Manufactures of metals, n.e.s.	69	104.4	104.3	103.6	103.3	103.9	103.9	104.0	103.9	104.3	104.3
Machinery and transport equipment	7	105.4	105.5	106.3	106.3	106.2	106.4	106.1	106.4	106.5	106.6
Machinery specialized for particular industries	72	106.7	107.1	108.2	108.4	107.3	107.6	107.6	108.3	108.8	108.7
General industrial machinery and equipment, n.e.s., and machine parts	74	106.1	107.0	108.0	108.3	107.8	108.2	107.8	108.4	108.7	108.6
Computer equipment and office machines	75	90.5	90.6	90.1	89.2	89.5	89.1	88.7	88.2	87.8	87.2
Telecommunications and sound recording and reproducing apparatus and equipment	76	98.7	99.0	98.6	98.2	98.2	97.9	97.6	97.4	97.2	97.6
Electrical machinery and equipment	77	106.4	105.9	106.3	105.7	105.4	105.1	104.7	105.6	105.8	105.9
Road vehicles	78	108.7	109.0	110.5	111.3	111.4	111.8	111.6	112.0	112.1	112.4
Footwear	85	100.3	100.4	100.8	100.4	100.1	99.9	99.7	99.6	99.9	100.0
Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.	88	107.2	107.9	109.1	109.2	108.7	108.6	108.3	108.5	109.2	109.3

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

(1990 = 100 unless otherwise indicated)

Category	1993					1994				
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
ALL COMMODITIES	101.6	101.5	101.4	101.6	101.9	102.6	102.6	102.8	102.8	103.1
Foods, feeds, and beverages	102.6	102.1	101.8	104.4	107.5	110.5	107.4	108.4	106.2	107.7
Agricultural foods, feeds, and beverages	103.6	102.9	102.9	105.8	109.1	112.2	108.9	109.5	106.5	107.8
Nonagricultural (fish, beverages) food products	91.4	93.4	90.1	90.1	91.0	92.6	90.9	96.1	101.2	104.4
Industrial supplies and materials	96.0	95.6	95.0	94.9	95.1	96.1	97.5	97.8	98.6	99.2
Agricultural industrial supplies and materials	93.4	93.3	92.2	92.8	94.4	95.8	101.0	102.3	102.6	104.8
Fuels and lubricants	89.0	88.5	88.9	87.8	85.8	85.9	88.7	87.1	87.4	88.4
Nonagricultural supplies and materials, excluding fuel and building materials	92.8	92.5	91.9	91.9	92.3	93.1	93.9	94.4	95.5	96.1
Selected building materials	146.2	144.9	143.9	142.9	143.7	147.7	149.0	148.5	149.8	147.9
Capital goods	104.5	104.5	104.7	104.8	104.7	104.6	104.5	104.4	104.3	104.2
Electric and electrical generating equipment	104.5	104.7	104.9	105.2	105.4	105.5	104.8	104.9	105.1	105.3
Nonelectrical machinery	102.7	102.6	102.8	102.8	102.6	102.4	102.3	102.1	101.9	101.7
Automotive vehicles, parts, and engines	105.2	105.5	105.8	105.6	105.7	106.1	105.9	106.4	106.2	106.5
Consumer goods, excluding automotive	107.6	107.6	107.8	107.8	107.6	108.0	108.1	107.8	108.0	108.1
Nondurables, manufactured	109.6	110.0	110.3	110.2	109.5	110.0	110.2	110.0	110.0	110.1
Durables, manufactured	105.4	105.1	105.2	105.3	105.6	105.9	105.8	105.4	106.1	106.1
Nonmanufactured consumer goods	101.3	100.5	100.5	100.8	100.7	100.8	100.8	100.2	100.2	100.2
Agricultural commodities	101.3	100.7	100.5	102.9	105.9	108.6	107.1	107.9	105.6	107.1
Nonagricultural commodities	101.8	101.7	101.7	101.6	101.6	102.0	102.2	102.3	102.6	102.8

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

(1990 = 100)

Category	1993					1994				
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
ALL COMMODITIES	99.9	99.9	100.4	99.9	98.9	99.0	99.3	99.4	100.2	101.3
Foods, feeds, and beverages	103.8	104.6	105.8	104.6	104.8	105.3	104.7	105.7	107.1	108.9
Agricultural foods, feeds, and beverages	101.1	101.8	102.1	100.3	100.5	101.1	99.9	101.0	102.1	103.9
Nonagricultural (fish, beverages) food products	110.4	111.5	114.9	115.5	115.6	115.9	116.6	117.3	119.8	121.3
Industrial supplies and materials	87.7	87.4	87.6	85.9	83.0	82.8	84.2	84.2	85.9	89.1
Fuels and lubricants	75.0	74.6	75.5	71.8	65.1	63.8	66.8	65.6	68.7	75.5
Petroleum and petroleum products	72.8	72.0	73.0	69.3	61.7	60.4	63.7	62.5	65.9	73.2
Paper and paper base stocks	84.6	84.7	84.0	83.2	83.3	83.4	83.0	84.1	84.5	86.0
Materials associated with nondurable supplies and materials	101.6	101.4	101.2	100.9	100.2	100.1	100.7	101.4	102.6	102.7
Selected building materials	121.1	122.6	125.8	127.9	134.6	135.2	129.2	133.0	129.7	128.1
Unfinished metals associated with durable goods	87.4	86.1	84.6	84.0	84.2	86.7	88.3	89.5	91.0	90.8
Nonmetals associated with durable goods	98.3	98.3	98.6	98.0	97.5	97.2	97.1	96.7	96.6	97.0
Capital goods	103.9	104.0	104.4	104.1	103.8	103.9	103.7	103.9	104.1	104.0
Electric and electrical generating equipment	104.5	104.9	105.5	105.1	104.9	104.7	104.4	105.1	105.4	105.8
Nonelectrical machinery	103.4	103.4	103.8	103.4	103.1	103.0	102.8	102.9	103.2	102.9
Transportation equipment, excluding motor vehicles and spacecraft (12/92 = 100)	102.4	101.7	102.6	102.7	102.2	104.1	104.2	104.6	104.3	104.5
Automotive vehicles, parts and engines	107.5	107.8	109.0	109.7	109.7	110.1	109.9	110.2	110.3	110.5
Consumer goods, excluding automobiles	105.0	105.3	105.5	105.4	105.3	105.2	105.4	105.3	105.6	105.8
Nondurables, manufactured	104.7	105.1	105.4	105.1	104.8	104.8	104.7	104.8	105.1	105.3
Durables, manufactured	105.1	105.1	105.4	105.3	105.2	105.2	105.1	105.3	105.4	105.4
Nonmanufactured consumer goods	107.5	107.6	107.3	108.4	109.6	109.4	114.9	110.7	111.0	114.2

Current Labor Statistics: Price and Productivity Data

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

(1990=100 unless otherwise indicated)

Category	1992				1993				1994
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Air freight (inbound)	108.0	104.7	107.3	102.1	100.1	106.4	106.6	106.1	105.9
Air freight (outbound)	-	-	100.0	98.9	97.3	96.6	95.6	96.4	96.5
Air passenger fares (U.S. carriers)	109.0	115.0	118.3	108.1	109.8	117.2	119.0	111.4	113.1
Air passenger fares (foreign carriers)	107.9	114.5	120.5	106.3	108.0	115.7	117.0	107.2	108.1
Ocean liner freight (inbound)	99.8	104.1	104.7	105.3	104.0	103.5	103.3	102.1	103.4

- Data not available.

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

(1982=100)

Item	Quarterly Indexes										
	1991		1992				1993				1994
	III	IV	I	II	III	IV	I	II	III	IV	I
Business:											
Output per hour of all persons	111.8	112.8	114.1	114.8	115.8	116.8	116.2	116.2	117.0	119.0	119.3
Compensation per hour	148.2	150.1	152.2	153.6	155.7	157.3	158.4	159.4	160.7	161.7	163.8
Real compensation per hour	104.6	105.1	105.9	106.0	106.6	106.8	106.8	106.7	107.0	106.9	107.7
Unit labor costs	132.6	133.1	133.4	133.9	134.5	134.7	136.3	137.2	137.4	135.9	137.3
Unit nonlabor payments	144.9	145.7	148.5	149.9	147.4	152.7	152.2	153.2	154.1	158.2	157.0
Implicit price deflator	136.6	137.2	138.3	139.1	138.7	140.6	141.6	142.5	142.8	143.2	143.8
Nonfarm business:											
Output per hour of all persons	110.4	111.3	112.3	113.1	113.9	115.0	114.3	114.2	115.2	116.9	117.3
Compensation per hour	147.1	148.8	150.9	152.5	154.5	156.0	157.0	157.7	158.9	159.9	162.0
Real compensation per hour	103.8	104.2	104.9	105.2	105.8	106.0	105.8	105.5	105.8	105.7	106.5
Unit labor costs	133.2	133.7	134.3	134.9	135.6	135.7	137.3	138.1	137.9	136.8	138.1
Unit nonlabor payments	146.3	147.7	149.8	151.5	148.8	154.5	153.9	155.0	156.5	159.6	158.2
Implicit price deflator	137.5	138.2	139.3	140.2	139.8	141.8	142.7	143.5	143.9	144.1	144.6
Nonfinancial corporations:											
Output per hour of all employees	114.8	116.5	117.3	118.6	120.1	121.3	119.9	121.2	122.1	123.8	123.8
Compensation per hour	144.6	146.4	147.9	149.4	151.3	152.6	153.2	154.2	155.2	156.0	157.5
Real compensation per hour	102.0	102.5	102.8	103.1	103.6	103.6	103.3	103.2	103.4	103.2	103.6
Total unit costs	124.9	124.5	124.7	124.3	124.7	123.7	125.4	125.0	125.0	123.9	125.3
Unit labor costs	125.9	125.7	126.1	126.0	126.0	125.8	127.8	127.3	127.2	126.1	127.2
Unit nonlabor costs	122.5	121.8	121.1	120.0	121.3	118.3	119.6	119.2	119.4	118.3	120.3
Unit profits	150.4	157.2	164.1	175.5	172.4	195.3	182.8	193.9	193.7	212.6	202.6
Unit nonlabor payments	127.8	128.4	129.2	130.4	130.9	132.8	131.5	133.2	133.4	136.0	135.8
Implicit price deflator	126.5	126.6	127.1	127.5	127.6	128.1	129.0	129.3	129.2	129.3	130.1
Manufacturing:											
Output per hour of all persons	125.4	126.2	127.2	128.6	129.1	130.9	132.2	133.8	134.6	137.2	139.5
Compensation per hour	142.5	144.9	145.5	146.7	147.6	149.2	148.1	149.6	150.5	151.9	153.8
Real compensation per hour	100.6	101.4	101.2	101.2	101.0	101.3	99.9	100.1	100.2	100.4	101.1
Unit labor costs	113.6	114.8	114.4	114.1	114.3	114.0	112.1	111.8	111.8	110.7	110.2

43. Annual indexes of multifactor productivity and related measures, selected years

(1982 = 100)

Item	1960	1970	1973	1980	1985	1986	1987	1988	1989	1990	1991	1992
Private business:												
Productivity:												
Output per hour of all persons	53.8	74.9	83.3	89.2	97.1	99.6	100.0	101.0	101.1	101.9	102.8	106.1
Output per unit of capital services	116.3	115.4	120.3	105.9	101.2	99.8	100.0	101.4	101.4	99.8	96.9	98.4
Multifactor productivity	70.9	87.4	95.6	96.2	98.9	99.9	100.0	100.6	100.3	100.0	98.9	100.8
Output	37.8	57.4	68.0	79.9	93.7	96.7	100.0	104.3	107.0	107.9	106.3	109.5
Inputs:												
Hours of all persons	66.3	74.1	78.5	86.6	95.7	96.8	100.0	104.1	107.2	107.7	106.4	107.5
Capital services	32.5	49.7	56.5	75.4	92.5	96.9	100.0	102.8	105.6	108.1	109.8	111.3
Combined units of labor and capital input	53.4	65.7	71.1	83.1	94.7	96.8	100.0	103.7	106.7	107.8	107.5	108.6
Capital per hour of all persons	46.3	64.9	69.2	84.2	95.9	99.8	1.0	99.6	99.7	102.1	106.1	107.9
Private nonfarm business:												
Productivity:												
Output per hour of all persons	57.9	77.3	85.8	90.8	97.3	99.8	1.0	100.9	100.8	101.4	102.4	105.4
Output per unit of capital services	1.3	120.9	125.6	108.4	101.8	100.1	1.0	101.3	100.9	99.1	.6	97.2
Multifactor productivity	75.2	-	98.4	97.9	99.2	100.1	1.0	100.5	1.0	99.4	98.4	99.9
Output	37.4	57.4	68.3	80.3	93.6	96.7	1.0	104.5	107.1	107.8	106.2	109.1
Inputs:												
Hours of all persons	61.1	71.9	76.7	85.6	95.4	96.6	1.0	104.3	107.5	108.2	106.7	107.9
Capital services	30.4	47.5	54.4	74.1	91.9	96.6	1.0	103.1	106.1	108.7	110.6	112.3
Combined units of labor and capital input	49.7	63.8	69.4	.2	94.3	96.6	1.0	103.9	107.1	108.4	107.9	109.2
Capital per hour of all persons	47.1	.4	68.3	83.8	95.6	99.8	1.0	99.6	99.9	102.3	106.6	108.5
Inputs:												
Hours of all persons	88.8	100.6	106.4	103.7	100.8	99.3	1.0	102.9	103.3	1.1	96.9	96.3
Capital services	32.1	.1	56.2	77.1	91.6	97.3	1.0	102.6	105.8	109.3	112.4	115.7
Combined units of labor and capital inputs	68.6	.5	90.8	96.3	98.3	98.8	1.0	102.8	1.4	103.4	101.2	101.6
Capital per hour of all persons	36.2	50.7	52.9	74.3	90.9	.8	1.0	99.7	102.4	108.1	115.9	120.1

- Data not available.

NOTE: Productivity and output in this table have not been revised for

consistency with the December 1991 comprehensive revisions to the National Income and Product Accounts.

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

(1982 = 100)

Item	1960	1970	1973	1982	1984	1986	1987	1988	1989	1990	1991	1992	1993
Business:													
Output per hour of all persons	65.6	87.0	95.1	100.0	104.8	108.5	109.6	110.7	109.9	110.7	111.8	115.3	117.1
Compensation per hour	21.1	36.7	45.1	100.0	108.3	118.9	123.1	128.5	133.0	140.6	147.4	154.7	160.0
Real compensation per hour	68.8	91.3	98.1	100.0	100.6	104.7	104.6	104.8	103.5	103.8	104.5	106.4	106.9
Unit labor costs	32.2	42.2	47.5	100.0	103.4	109.5	112.3	116.0	121.0	127.1	131.9	134.1	136.7
Unit nonlabor payments	33.6	42.7	52.1	100.0	116.5	122.0	125.5	130.6	136.6	139.8	144.7	149.6	154.5
Implicit price deflator	32.6	42.4	49.0	100.0	107.7	113.6	116.6	120.8	126.1	131.2	136.1	139.2	142.5
Nonfarm business:													
Output per hour of all persons	69.9	88.5	96.4	100.0	104.7	107.7	108.6	109.6	108.6	109.1	110.3	113.6	115.2
Compensation per hour	22.2	37.0	45.4	100.0	108.3	118.4	122.5	127.7	132.0	139.2	146.2	153.5	158.4
Real compensation per hour	72.4	92.0	98.7	100.0	100.6	104.3	104.1	104.2	102.7	102.8	103.6	105.6	105.8
Unit labor costs	31.8	41.8	47.1	100.0	103.4	110.0	112.8	116.5	121.5	127.6	132.6	135.1	137.5
Unit nonlabor payments	33.3	43.0	49.6	100.0	116.5	123.2	126.6	131.8	137.1	140.6	146.2	151.2	156.3
Implicit price deflator	32.3	42.2	47.9	100.0	107.6	114.2	117.2	121.4	126.5	131.8	137.0	140.3	143.6
Nonfinancial corporations:													
Output per hour of all employees	75.3	90.3	95.0	100.0	105.4	109.3	111.2	113.3	111.5	112.7	114.7	119.3	121.7
Compensation per hour	23.6	38.4	46.6	100.0	107.6	117.2	120.9	125.9	130.2	137.1	143.8	150.3	154.6
Real compensation per hour	77.0	95.4	101.2	100.0	99.9	103.2	102.7	102.7	101.3	101.2	101.9	103.3	103.3
Total unit costs	29.5	40.5	46.5	100.0	101.1	105.9	107.0	109.8	115.7	120.1	124.4	124.3	124.8
Unit labor costs	31.4	42.5	49.0	100.0	102.0	107.2	108.8	111.1	116.8	121.7	125.4	126.0	127.1
Unit nonlabor costs	24.8	35.5	40.2	100.0	98.8	102.4	102.5	106.4	112.9	116.3	121.9	120.2	119.1
Unit profits	75.1	69.5	87.9	100.0	168.4	150.0	172.1	183.5	168.5	167.5	154.9	177.0	195.9
Unit nonlabor payments	34.2	41.9	49.2	100.0	111.9	111.4	115.6	120.9	123.3	125.9	128.1	130.8	133.6
Implicit price deflator	32.3	42.3	49.1	100.0	105.3	108.6	111.0	114.3	119.0	123.1	126.3	127.6	129.2
Manufacturing:													
Output per hour of all persons	-	-	-	100.0	103.5	109.5	116.6	119.2	119.9	122.1	124.5	129.1	134.5
Compensation per hour	-	-	-	100.0	106.0	115.8	118.4	123.1	127.9	134.7	141.9	147.4	150.1
Real compensation per hour	-	-	-	100.0	98.4	102.0	100.6	100.4	99.5	100.6	101.4	100.2	100.2
Unit labor costs	-	-	-	100.0	102.4	105.8	101.6	103.2	106.7	110.4	114.0	114.2	111.6
Unit nonlabor payments	-	-	-	100.0	122.3	127.4	134.5	147.4	153.3	153.7	154.4	-	-
Implicit price deflator	-	-	-	100.0	107.4	111.2	109.8	114.3	118.4	121.2	124.1	-	-

- Data not available.

45. Annual indexes of output per hour for selected industries

(1987=100)

Industry	SIC	1973	1979	1984	1985	1986	1987	1988	1989	1990	1991	1992
Iron mining, usable ore	1011	50.9	51.0	70.2	76.2	79.4	100.0	103.6	99.5	90.1	86.9	85.8
Copper mining, recoverable metal	1021	42.4	48.5	76.1	93.6	110.0	100.0	109.7	107.8	104.5	103.0	119.4
Coal mining	12	69.2	54.6	83.5	85.2	92.5	100.0	110.7	116.6	118.6	122.2	134.1
Crude petroleum and natural gas	1311	174.1	110.6	82.0	83.4	90.9	100.0	100.8	97.7	96.9	98.0	102.5
Nonmetallic minerals, except fuels	14	85.3	90.1	92.2	93.9	94.5	100.0	102.2	102.0	108.3	103.4	110.9
Meatpacking plants	2011	66.9	79.0	96.7	101.1	99.2	100.0	100.6	91.5	91.1	94.6	97.3
Sausages and other prepared meats	2013	67.9	93.1	97.3	96.3	96.2	100.0	105.7	99.2	93.2	91.0	-
Poultry dressing and processing	2015	56.9	78.1	96.1	98.2	93.9	100.0	95.3	100.1	106.1	112.5	-
Cheese, natural and processed	2022	56.6	79.8	98.9	94.7	101.1	100.0	106.4	104.3	101.1	98.9	-
Fluid milk	2026	53.4	69.7	89.4	92.2	96.4	100.0	104.0	106.8	108.0	110.8	112.5
Canned fruits and vegetables	2033	69.2	74.9	85.7	91.0	98.3	100.0	98.3	91.9	94.3	98.2	-
Frozen fruits and vegetables	2037	80.5	86.8	100.1	96.2	101.9	100.0	97.9	98.2	94.7	98.1	-
Flour and other grain mill products	2041	63.2	76.3	88.4	93.6	95.4	100.0	103.2	102.8	108.5	107.3	-
Cereal breakfast foods	2043	68.7	76.2	93.7	97.6	98.9	100.0	98.6	96.0	102.0	105.3	-
Rice milling	2044	62.0	73.4	70.2	77.1	83.8	100.0	83.8	98.7	106.9	101.1	-
Wet corn milling	2046	24.1	44.7	81.2	84.5	92.8	100.0	95.4	98.7	100.1	96.8	-
Prepared feeds for animals and fowls	2047,48	54.7	67.5	88.2	95.6	93.3	100.0	101.6	100.4	103.6	103.2	-
Bakery products	2051,52	81.4	82.8	93.9	95.5	101.1	100.0	92.7	92.4	93.8	90.5	89.9
Raw and refined cane sugar	2061,62	86.7	94.4	85.1	96.0	95.2	100.0	98.7	95.9	95.9	102.7	101.9
Beet sugar	2063	74.3	77.8	79.9	73.4	80.9	100.0	95.3	87.9	91.0	93.3	102.2
Malt beverages	2082	41.8	62.3	80.2	76.8	90.9	100.0	99.5	99.4	106.0	103.8	105.1
Bottled and canned soft drinks	2086	49.2	64.4	81.6	85.1	91.3	100.0	109.7	119.4	126.6	135.1	143.5
Fresh or frozen fish and seafood	2092	95.0	97.8	91.2	89.5	92.9	100.0	100.2	91.3	87.6	84.8	-
Cigarettes, chewing and smoking tobacco	2111,31	76.8	88.6	90.3	92.9	95.2	100.0	106.8	107.3	112.7	119.2	123.9
Cigars	2121	61.6	69.7	98.9	91.4	94.9	100.0	106.2	108.5	106.1	121.8	-
Cotton and synthetic broadwoven fabrics	2211,21	57.6	75.8	90.7	94.1	101.2	100.0	98.2	101.9	106.1	114.0	120.8
Hosiery	2251,52	64.5	93.3	102.8	101.3	102.8	100.0	107.4	108.2	105.7	111.4	117.6
Yarn spinning mills	2281	54.8	66.9	84.0	87.5	91.9	100.0	98.5	103.5	107.1	106.9	114.8
Men's and boys' suits and coats	2311	78.6	90.4	91.6	100.5	101.5	100.0	103.6	105.0	105.2	95.2	107.3
Sawmills and planing mills, general	2421	68.3	72.4	88.6	92.3	102.1	100.0	102.3	100.1	100.3	102.9	110.5
Millwork	2431	106.0	95.5	98.8	95.5	100.5	100.0	98.7	97.8	98.3	96.2	96.2
Wood kitchen cabinets	2434	80.7	89.2	90.2	85.2	83.0	100.0	98.3	91.4	94.3	92.5	-
Hardwood veneer and plywood	2435	60.7	73.8	78.4	81.7	81.7	100.0	101.7	101.9	95.7	98.4	-
Softwood veneer and plywood	2436	62.6	63.2	87.9	87.3	89.5	100.0	100.1	102.7	108.4	114.6	117.5
Wood containers	244	-	75.6	104.5	101.0	99.9	100.0	103.6	109.6	113.2	115.0	-
Wood household furniture	2511,17	92.3	90.2	93.9	93.1	99.9	100.0	101.1	99.5	98.3	99.8	99.2
Upholstered household furniture	2512	72.2	83.1	90.6	98.7	100.6	100.0	99.8	101.0	98.5	103.4	108.2
Metal household furniture	2514	75.9	72.6	97.3	99.4	102.9	100.0	100.6	99.8	103.7	107.4	116.0
Mattresses and bedsprings	2515	75.3	87.5	88.4	85.3	89.7	100.0	104.5	112.0	114.7	122.1	126.6
Wood office furniture	2521	80.3	113.9	98.8	99.1	96.0	100.0	94.7	94.2	95.8	99.0	-
Office furniture, except wood	2522	74.5	79.5	99.8	98.1	101.5	100.0	95.7	99.0	95.5	92.7	-
Pulp, paper, and paperboard mills	2611,21,31	66.3	76.3	87.6	89.1	96.9	100.0	101.8	102.5	103.2	105.2	112.9
Corrugated and solid fiber boxes	2653	69.9	86.6	96.5	99.3	102.6	100.0	99.6	97.7	100.3	100.0	101.1
Folding paperboard boxes	2657	84.6	95.1	95.5	93.5	96.3	100.0	100.1	101.7	105.2	104.4	104.6
Paper and plastic bags	2673,74	82.7	86.0	94.1	95.9	101.0	100.0	97.7	94.1	92.4	89.6	-
Alkalies and chlorine	2812	49.4	52.2	73.0	75.1	101.6	100.0	101.6	93.4	90.7	82.6	-
Inorganic pigments	2816	76.3	69.9	84.4	87.0	90.7	100.0	101.7	106.2	101.1	95.3	-
Industrial inorganic chemicals, not elsewhere classified	2819 pt.	87.3	101.5	88.6	87.4	88.9	100.0	92.7	85.9	86.5	81.3	-
Synthetic fibers	2823,24	50.5	72.9	79.7	86.2	92.7	100.0	104.6	102.3	99.1	101.9	108.3
Soaps and detergents	2841	87.2	90.5	89.1	91.0	92.6	100.0	102.7	109.9	129.7	129.8	-
Cosmetics and other toiletries	2844	87.9	94.7	86.5	88.9	96.4	100.0	104.3	101.4	100.3	102.5	-
Paints and allied products	2851	64.6	82.4	95.1	98.2	99.3	100.0	103.2	106.6	111.1	110.8	113.8
Industrial organic chemicals, not elsewhere classified	2869	68.8	86.4	86.7	85.7	90.7	100.0	107.8	105.5	98.0	91.8	90.4
Nitrogenous fertilizers	2873	58.5	70.0	96.7	95.2	85.0	100.0	101.6	102.1	107.7	107.4	-
Phosphatic fertilizers	2874	69.7	74.1	94.4	87.7	80.3	100.0	92.2	85.3	105.4	113.1	-
Fertilizers, mixing only	2875	82.6	105.0	97.2	100.6	93.8	100.0	102.6	110.8	108.7	109.3	-
Agricultural chemicals, not elsewhere classified	2879	72.8	87.4	96.9	91.2	91.7	100.0	108.7	107.8	105.0	113.5	-
Petroleum refining	2911	81.2	82.3	78.4	84.3	94.6	100.0	105.9	110.2	109.9	107.4	111.6
Tires and inner tubes	3011	55.0	62.0	87.1	88.1	92.2	100.0	104.3	106.4	108.3	109.8	116.7
Rubber and plastics hose and belting	3052	83.1	85.0	105.3	101.4	102.9	100.0	107.1	96.5	101.4	93.1	-
Miscellaneous plastic products, not elsewhere classified	308	72.6	73.4	86.1	88.0	89.0	100.0	98.3	97.2	100.1	100.8	100.5
Footwear	314	91.9	93.6	98.7	100.3	102.2	100.0	102.3	101.1	92.6	92.8	93.6
Glass containers	3221	75.3	83.4	97.3	93.3	98.4	100.0	101.1	104.8	112.6	114.9	120.7
Cement, hydraulic	3241	71.6	68.8	89.9	92.1	97.2	100.0	103.2	110.0	112.3	106.4	118.2
Clay construction products	3251,53,59	75.5	76.3	92.2	94.1	95.5	100.0	104.1	96.6	100.5	94.9	101.2
Clay refractories	3255	75.4	88.8	92.9	91.9	99.3	100.0	101.3	97.3	102.1	96.2	92.6
Concrete products	3271,72	89.2	89.3	96.0	97.3	102.5	100.0	103.0	106.7	105.8	107.5	109.9
Ready-mixed concrete	3273	99.0	95.6	92.0	93.2	95.9	100.0	100.3	101.0	99.7	96.1	97.9
Steel	331	70.1	70.2	86.1	91.4	93.3	100.0	110.3	107.2	110.4	106.3	116.2
Gray and ductile iron foundries	3321	87.9	90.1	98.6	96.1	98.7	100.0	107.6	103.5	103.7	99.0	104.5
Steel foundries	3324,25	106.1	104.7	102.8	99.5	104.3	100.0	95.9	96.4	95.8	93.3	100.3
Primary copper	3331	32.8	41.1	57.6	73.8	88.7	100.0	103.7	96.8	86.3	84.7	84.7
Primary aluminum	3334	74.5	74.7	100.8	97.8	102.5	100.0	102.3	104.8	106.5	110.6	107.7
Copper rolling and drawing	3351	68.7	72.3	83.9	85.5	92.4	100.0	100.5	94.7	94.3	96.7	103.4
Aluminum rolling and drawing	3353,54,55	75.3	80.4	92.7	92.6	99.4	100.0	99.1	96.8	94.4	92.6	-

See footnotes at end of table.

45. Continued—Annual indexes of output per hour for selected industries

(1987 = 100)

Industry	SIC	1973	1979	1984	1985	1986	1987	1988	1989	1990	1991	1992
Metal cans	3411	63.9	81.2	105.9	102.4	97.4	100.0	107.0	108.5	118.3	124.3	135.8
Hand and edge tools, not elsewhere classified	3423	105.5	107.9	94.0	95.3	95.0	100.0	101.5	102.0	96.4	95.1	-
Heating equipment, except electric	3433	78.0	87.9	93.5	92.9	95.9	100.0	112.5	103.0	110.7	115.3	-
Fabricated structural metal	3441	95.5	86.3	91.1	99.6	99.5	100.0	98.8	94.5	97.2	99.5	-
Metal doors, sash, and trim	3442	88.8	89.5	99.1	102.5	100.3	100.0	102.3	102.2	98.3	96.0	-
Bolts, nuts, rivets, and washers	3452	72.5	77.3	84.3	88.2	91.4	100.0	96.6	93.1	93.2	95.2	-
Automotive stampings	3465	74.5	80.9	100.5	94.5	95.7	100.0	104.5	104.7	100.8	104.2	-
Metal stampings, not elsewhere classified	3469	95.3	97.1	90.7	85.5	90.7	100.0	99.9	97.8	95.2	96.5	-
Valves and pipe fittings	3491,92,94	92.9	94.8	94.7	94.4	94.0	100.0	101.9	101.3	102.1	102.1	-
Fabricated pipe and fittings	3498	147.8	121.0	131.4	121.0	121.9	100.0	99.3	101.7	106.5	113.3	-
Internal combustion engines, not elsewhere classified	3519	82.5	89.0	90.6	93.4	98.9	100.0	105.1	111.1	106.4	99.1	106.2
Farm machinery and equipment	3523	95.6	98.2	104.6	98.6	95.7	100.0	110.4	120.7	126.6	119.4	127.1
Lawn and garden equipment	3524	66.2	83.5	80.0	82.1	92.7	100.0	97.5	94.7	96.0	96.1	-
Construction machinery	3531	85.8	91.6	95.0	96.7	102.7	100.0	107.5	111.1	114.5	99.8	-
Mining machinery	3532	99.2	87.2	90.3	93.0	95.6	100.0	102.0	108.8	100.6	92.5	101.1
Oil and gas field machinery	3533	104.9	100.1	94.4	91.8	94.7	100.0	99.5	104.7	107.6	109.2	-
Metal-cutting machine tools	3541	93.4	91.2	83.8	87.2	89.0	100.0	94.1	100.5	102.0	99.0	94.8
Metal-forming machine tools	3542	108.1	94.1	89.4	92.3	92.8	100.0	116.0	112.4	102.6	95.0	107.7
Machine tool accessories	3545	104.9	100.1	94.4	91.8	94.7	100.0	99.5	104.7	107.6	109.2	-
Pumps and pumping equipment	3561,94	78.0	83.9	88.0	88.4	90.7	100.0	106.0	102.4	104.4	103.1	-
Ball and roller bearings	3562	101.2	104.0	92.6	90.2	93.6	100.0	101.7	96.7	90.7	88.0	98.1
Air and gas compressors	3563	86.9	86.3	89.6	91.7	94.8	100.0	104.4	106.2	109.0	111.7	-
Refrigeration and heating equipment	3585	97.2	95.7	100.0	98.2	96.3	100.0	103.4	106.1	106.0	103.1	-
Carburetors, pistons, rings, and valves	3592	101.3	79.6	92.8	95.9	93.5	100.0	109.9	119.7	113.5	114.9	-
Transformers, except electronic	3612	93.6	104.8	94.6	95.8	97.6	100.0	102.8	104.8	112.2	116.4	125.1
Switchgear and switchboard apparatus	3613	89.1	90.2	93.8	96.5	96.3	100.0	110.0	110.1	111.9	109.0	-
Motors and generators	3621	89.3	88.1	94.4	95.9	96.9	100.0	103.9	103.4	102.6	105.3	104.6
Household cooking equipment	3631	60.0	77.0	87.6	87.2	98.4	100.0	102.2	108.0	103.9	107.1	121.7
Household refrigerators and freezers	3632	73.2	86.0	97.2	104.0	101.2	100.0	102.7	107.1	107.6	112.5	117.5
Household laundry equipment	3633	68.8	84.2	92.2	92.9	97.0	100.0	106.6	100.8	103.8	111.4	132.3
Household appliances, not elsewhere classified	3639	64.8	78.1	85.5	86.8	90.2	100.0	100.7	98.5	91.2	81.6	78.7
Electric lamps	3641	63.5	74.1	91.9	88.7	91.0	100.0	105.6	113.7	119.1	128.7	145.9
Lighting fixtures and equipment	3645,46,47,48	83.9	84.6	91.8	96.4	102.7	100.0	98.1	95.9	94.4	92.4	93.0
Household audio and video equipment	3651	31.0	41.8	85.9	91.8	103.9	100.0	110.9	123.2	134.4	141.8	162.6
Motor vehicles and equipment	371	67.9	77.5	90.9	95.0	94.7	100.0	102.9	102.6	102.0	96.3	104.1
Aircraft	3721	82.2	103.0	83.5	92.4	92.4	100.0	103.0	106.7	106.2	124.5	125.2
Instruments to measure electricity	3825	68.4	75.5	100.6	98.3	92.0	100.0	106.5	109.3	108.0	111.6	-
Photographic equipment and supplies	3861	68.8	91.9	93.0	90.3	97.1	100.0	106.3	113.7	109.5	110.6	-
Railroad transportation, revenue traffic	4011	46.7	50.7	73.9	78.4	86.1	100.0	109.7	116.5	122.4	132.7	140.2
Bus carriers, class 1	4111,13,14 pts.	116.8	108.3	100.1	96.1	95.6	100.0	107.9	104.6	-	-	-
Trucking, except local	4213	69.5	83.9	97.3	93.8	96.8	100.0	105.2	109.4	-	-	-
Air transportation	4512,13,22 pts.	58.6	77.6	90.4	93.6	94.5	100.0	96.5	93.1	89.6	90.9	94.1
Petroleum pipelines	4612,13	92.5	96.1	99.4	99.9	102.0	100.0	104.8	103.2	102.6	99.1	98.3
Telephone communications	481	43.3	64.5	86.0	90.4	97.2	100.0	105.3	110.5	110.7	116.2	122.0
Electric utilities	491,493 pt.	88.0	95.0	94.0	93.0	95.3	100.0	104.9	107.7	110.1	113.4	114.3
Gas utilities	492,493 pt.	145.1	143.6	116.1	114.1	102.9	100.0	105.4	103.4	94.7	93.8	94.8
Scrap and waste materials	5093	-	80.7	89.1	93.4	97.7	100.0	98.2	90.7	106.4	115.5	-
Hardware stores	5251	84.7	98.6	97.0	96.0	101.7	100.0	108.8	115.4	110.5	102.4	109.9
Department stores	5311	62.2	74.8	91.1	93.1	97.7	100.0	99.5	97.3	95.0	98.9	103.2
Variety stores	5331	141.1	119.8	141.7	129.1	106.6	100.0	97.2	113.4	131.8	130.0	117.8
Grocery stores	5411	108.4	106.3	107.4	105.3	103.6	100.0	98.6	95.9	94.6	93.9	94.1
Retail bakeries	546	125.0	111.7	94.9	86.9	93.2	100.0	94.2	87.3	84.9	90.0	82.5
New and used car dealers	5511	85.1	86.3	99.5	99.8	101.6	100.0	102.6	103.8	107.1	105.5	106.2
Auto and home supply stores	5531	71.0	81.2	91.2	95.0	94.6	100.0	106.5	108.9	114.2	114.6	114.0
Gasoline service stations	5541	59.4	74.0	87.1	93.8	102.0	100.0	102.4	104.0	101.1	102.1	106.6
Men's and boys' clothing stores	5611	77.5	81.3	93.7	98.2	100.6	100.0	102.4	102.3	101.5	102.0	104.0
Women's clothing stores	5621	59.5	73.3	98.1	99.9	107.3	100.0	99.4	102.9	106.5	110.3	119.9
Family clothing stores	5651	76.3	75.7	106.4	103.2	103.4	100.0	101.1	103.1	101.4	102.3	112.5
Shoe stores	5661	81.1	91.1	90.8	97.8	105.6	100.0	102.6	107.3	106.3	105.5	109.2
Furniture and home furnishings stores	571	81.6	89.0	97.3	94.3	101.1	100.0	99.5	101.7	103.9	103.6	112.3
Household appliance stores	5722	59.1	72.2	86.9	94.6	106.3	100.0	102.0	108.2	111.2	118.0	139.9
Radio, television, and computer stores	573	48.6	56.0	79.7	89.1	93.9	100.0	120.9	123.1	131.4	144.0	153.2
Eating and drinking places	581	110.4	106.3	98.9	96.2	99.2	100.0	103.0	102.9	104.6	106.1	104.6
Drug and proprietary stores	5912	92.2	98.6	104.8	101.4	101.0	100.0	102.8	104.2	106.6	109.6	108.0
Liquor stores	5921	94.1	90.0	93.2	101.6	93.7	100.0	100.1	104.7	110.6	112.3	126.6
Commercial banks	602	81.2	84.1	89.6	94.3	96.1	100.0	103.5	102.1	108.5	112.3	117.3
Hotels and motels	7011	102.9	109.8	101.6	101.1	98.9	100.0	95.8	91.4	90.6	91.3	97.8
Laundry, cleaning, and garment services	721	114.9	113.8	107.4	103.2	100.7	100.0	97.1	98.6	99.0	96.6	97.1
Beauty shops	7231	88.1	89.4	98.4	96.1	96.9	100.0	93.4	96.0	91.4	87.6	90.5
Automotive repair shops	753	109.7	105.3	91.8	99.4	96.2	100.0	105.6	107.8	106.4	99.9	103.2

- Data not available.

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

Country	Annual average		1992		1993				1994
	1992	1993	III	IV	I	II	III	IV	I
United States ¹	7.4	6.8	7.5	7.3	7.0	7.0	6.7	6.5	6.6
Canada	11.3	11.2	11.5	11.5	11.0	11.4	11.4	11.1	11.0
Australia	10.8	10.9	10.9	11.2	11.0	10.9	10.9	10.9	10.4
Japan	2.2	2.5	2.2	2.3	2.3	2.4	2.6	2.8	2.8
France	10.4	11.8	10.4	10.6	11.3	11.7	12.1	12.3	12.3
Germany	4.6	5.7	4.6	4.9	5.3	5.6	5.9	6.2	6.4
Italy ²	7.3	10.1	7.0	8.4	9.3	10.8	10.6	11.2	-
Sweden ³	4.7	8.1	5.0	5.2	7.2	8.0	9.1	8.2	8.2
United Kingdom	10.0	10.4	10.2	10.5	10.6	10.4	10.5	10.1	10.0

¹ Data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under "Employment and Unemployment Data" in the notes to this section.

² Quarterly rates are for the first month of the quarter. Break in series beginning in 1993.

³ Break in series beginning in 1993. Data for 1993 onward are not seasonally adjusted.

- Data not available.

NOTE: Quarterly figures for France, Germany, and the United Kingdom are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures. See "Notes on the data" for information on breaks in series.

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

(Numbers in thousands)

Employment status and country	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Civilian labor force										
United States	113,544	115,461	117,834	119,865	121,669	123,869	124,787	125,303	126,982	128,040
Canada	12,316	12,532	12,746	13,011	13,275	13,503	13,681	13,757	13,797	13,946
Australia	7,135	7,300	7,588	7,758	7,974	8,237	8,459	8,534	8,627	8,692
Japan	58,480	58,820	59,410	60,050	60,860	61,920	63,050	64,280	65,040	65,470
France	23,560	23,620	23,760	23,890	23,980	24,170	24,300	24,480	24,540	24,620
Germany	27,800	28,020	28,240	28,390	28,610	28,840	29,410	29,780	30,050	29,940
Italy	21,670	21,800	22,290	22,350	22,660	22,530	22,670	22,940	22,910	22,570
Netherlands	6,200	6,250	6,380	6,500	6,530	6,640	6,770	6,870	6,970	7,070
Sweden	4,385	4,418	4,443	4,480	4,540	4,599	4,642	4,626	4,534	4,385
United Kingdom	27,010	27,210	27,380	27,720	28,150	28,420	28,540	28,400	28,230	28,150
Participation rate¹										
United States	64.4	64.8	65.3	65.6	65.9	66.5	66.4	66.0	66.3	66.2
Canada	64.8	65.3	65.7	66.2	66.7	67.0	67.0	66.3	65.5	65.2
Australia	61.5	61.6	62.8	63.0	63.3	64.2	64.7	64.3	64.0	63.6
Japan	62.7	62.3	62.1	61.9	61.9	62.2	62.6	63.2	63.4	63.3
France	57.2	56.9	56.9	56.7	56.4	56.1	55.6	55.6	55.7	55.5
Germany	54.4	54.7	54.9	55.0	55.1	55.2	55.0	55.7	55.4	54.7
Italy	47.3	47.2	47.8	47.6	47.4	47.3	47.2	48.6	48.5	48.8
Netherlands	55.7	55.5	56.0	56.3	56.1	56.5	56.8	57.5	57.9	58.6
Sweden	66.6	66.9	67.0	67.1	67.6	68.0	68.1	67.5	66.0	63.8
United Kingdom	62.1	62.2	62.2	62.6	63.4	63.8	63.9	63.4	62.8	62.6
Employed										
United States	105,005	107,150	109,597	112,440	114,968	117,342	117,914	116,877	117,598	119,306
Canada	10,932	11,221	11,531	11,861	12,245	12,486	12,572	12,340	12,240	12,383
Australia	6,494	6,697	6,974	7,129	7,398	7,728	7,872	7,713	7,694	7,744
Japan	56,870	57,260	57,740	58,320	59,310	60,500	61,710	62,920	63,620	63,810
France	21,200	21,150	21,240	21,320	21,520	21,850	22,100	22,130	21,990	21,710
Germany	25,830	26,010	26,380	26,590	26,800	27,200	27,950	28,500	28,670	28,220
Italy	20,390	20,490	20,610	20,590	20,870	20,770	21,080	21,360	21,230	20,280
Netherlands	5,490	5,650	5,740	5,850	5,920	6,070	6,260	6,380	6,470	6,450
Sweden	4,249	4,293	4,326	4,396	4,467	4,538	4,572	4,504	4,320	4,028
United Kingdom	23,830	24,150	24,300	24,860	25,730	26,350	26,580	25,910	25,410	25,220
Employment-population ratio²										
United States	59.5	60.1	60.7	61.5	62.3	63.0	62.7	61.6	61.4	61.6
Canada	57.5	58.5	59.4	60.4	61.6	62.0	61.5	59.5	58.1	57.9
Australia	56.0	56.5	57.7	57.9	58.7	60.2	60.2	58.1	57.1	57.7
Japan	61.0	60.6	60.4	60.1	60.4	60.8	61.3	61.8	62.0	61.7
France	51.5	51.0	50.8	50.6	50.6	50.7	50.5	50.2	49.9	49.0
Germany	50.5	50.7	51.3	51.5	51.6	52.0	52.2	53.3	52.9	51.5
Italy	44.5	44.4	44.2	43.8	43.7	43.6	43.9	45.3	44.9	43.9
Netherlands	49.3	50.1	50.3	50.7	50.8	51.7	52.5	53.4	53.8	53.4
Sweden	64.5	65.0	65.2	65.8	66.5	67.1	67.0	65.7	62.9	58.6
United Kingdom	54.8	55.2	55.2	56.2	57.9	59.1	59.5	57.8	56.5	56.1
Unemployed										
United States	8,539	8,312	8,237	7,425	6,701	6,528	6,874	8,426	9,384	8,734
Canada	1,384	1,311	1,215	1,150	1,031	1,018	1,109	1,417	1,556	1,562
Australia	641	603	613	629	576	509	587	821	933	948
Japan	1,610	1,560	1,670	1,730	1,550	1,420	1,340	1,360	1,420	1,660
France	2,360	2,470	2,520	2,570	2,460	2,320	2,200	2,350	2,550	2,910
Germany	1,970	2,010	1,860	1,800	1,810	1,640	1,460	1,280	1,380	1,720
Italy	1,280	1,310	1,680	1,760	1,790	1,760	1,590	1,580	1,680	2,290
Netherlands	710	600	640	650	610	570	510	490	500	620
Sweden	136	125	117	84	73	61	70	122	214	357
United Kingdom	3,180	3,060	3,080	2,860	2,420	2,070	1,960	2,490	2,820	2,930
Unemployment rate										
United States	7.5	7.2	7.0	6.2	5.5	5.3	5.5	6.7	7.4	6.8
Canada	11.2	10.5	9.5	8.8	7.8	7.5	8.1	10.3	11.3	11.2
Australia	9.0	8.3	8.1	8.1	7.2	6.2	6.9	9.6	10.8	10.9
Japan	2.8	2.6	2.8	2.9	2.5	2.3	2.1	2.1	2.2	2.5
France	10.0	10.5	10.6	10.8	10.3	9.6	9.1	9.6	10.4	11.8
Germany	7.1	7.2	6.6	6.3	6.3	5.7	5.0	4.3	4.6	5.7
Italy	5.9	6.0	7.5	7.9	7.9	7.8	7.0	6.9	7.3	10.1
Netherlands	11.5	9.6	10.0	10.0	9.3	8.6	7.5	7.1	7.2	8.8
Sweden	3.1	2.8	2.6	1.9	1.6	1.3	1.5	2.6	4.7	8.1
United Kingdom	11.8	11.2	11.2	10.3	8.6	7.3	6.9	8.8	10.0	10.4

¹ Labor force as a percent of the working-age population.

² Employment as a percent of the working-age population.

NOTE: See "Notes on the data" for information on breaks in series for Italy and Sweden.

48. Annual indexes of manufacturing productivity and related measures, 12 countries

(1982=100)

Item and country	1960	1970	1973	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Output per hour													
United States	-	-	-	102.2	103.5	106.8	109.6	116.7	119.3	120.0	122.2	124.5	129.9
Canada	51.6	76.9	91.9	107.3	116.3	119.8	117.9	119.0	119.5	119.0	120.6	121.4	126.4
Japan	18.6	52.0	66.1	101.9	106.1	112.0	110.3	119.5	126.5	135.2	144.5	150.7	143.2
Belgium	24.2	44.3	57.8	110.9	115.8	117.2	118.2	120.1	125.2	131.2	133.9	136.9	142.7
Denmark	32.4	57.2	72.7	104.9	104.3	105.0	98.9	98.4	102.1	105.6	107.5	108.9	110.4
France	31.2	59.6	69.9	102.5	104.2	108.2	110.0	112.1	119.7	125.6	127.2	127.0	130.7
Germany	38.6	67.1	78.4	105.5	109.2	113.4	114.1	112.3	116.4	120.2	125.5	129.2	129.8
Italy	29.1	54.6	65.2	105.2	115.7	122.3	123.7	127.2	130.5	135.1	141.1	145.8	151.2
Netherlands	26.5	52.9	67.3	106.6	115.0	118.7	120.1	120.7	124.4	128.5	130.1	131.3	132.3
Norway	47.8	74.5	86.4	105.2	112.6	116.0	114.6	120.4	119.7	125.9	129.1	130.1	132.4
Sweden	36.2	69.0	81.1	106.9	112.0	113.2	115.2	117.6	119.0	122.8	124.9	126.5	135.5
United Kingdom	49.7	71.3	84.6	107.7	113.2	117.4	122.1	128.8	135.7	142.2	146.3	151.9	159.4
Output													
United States	-	-	-	103.2	111.3	114.0	115.2	123.5	130.0	131.2	130.6	127.8	131.8
Canada	44.1	78.5	100.0	106.5	120.2	127.0	127.9	134.1	140.9	141.2	134.0	125.1	125.7
Japan	15.1	55.1	71.8	104.3	113.2	121.2	117.9	126.5	138.2	149.3	160.6	170.0	159.6
Belgium	37.8	70.9	86.9	105.6	108.4	109.6	108.9	109.0	114.6	121.9	126.4	125.9	126.3
Denmark	45.4	75.7	88.5	106.7	111.7	115.3	115.3	110.6	112.3	113.6	115.0	114.0	114.6
France	35.1	72.7	87.0	99.9	98.7	99.1	99.1	98.9	104.6	110.3	112.4	110.2	110.8
Germany	51.0	87.0	96.4	101.5	104.6	108.4	110.1	108.1	111.5	115.4	121.7	126.0	124.1
Italy	28.0	58.4	70.7	100.8	105.4	108.9	111.5	116.3	125.0	129.7	132.3	131.5	130.9
Netherlands	42.7	80.3	91.2	101.9	107.9	111.1	113.8	115.4	119.7	125.2	129.3	129.4	128.8
Norway	56.0	88.4	101.3	99.3	105.0	108.8	108.8	110.8	105.5	103.8	104.5	102.3	104.2
Sweden	51.8	91.1	98.7	105.8	113.6	115.7	117.1	120.0	123.7	125.1	124.3	117.4	116.5
United Kingdom	82.9	110.5	121.9	102.1	105.9	108.9	110.3	115.5	123.6	129.1	128.9	122.0	121.0
Total hours													
United States	94.0	106.5	112.6	101.0	107.5	106.7	105.1	105.9	109.0	109.3	106.9	102.6	101.5
Canada	85.5	102.1	108.8	99.2	103.3	106.0	108.5	112.7	117.9	118.6	111.1	103.1	99.4
Japan	81.2	105.9	108.6	102.4	106.6	108.2	106.9	105.8	109.3	110.4	111.2	112.8	111.5
Belgium	156.2	159.9	150.3	95.2	93.6	93.5	92.2	90.7	91.5	93.0	94.4	92.0	88.5
Denmark	140.0	132.3	121.8	101.7	107.1	109.8	116.6	112.4	110.0	107.6	106.9	104.7	103.8
France	112.6	122.0	124.5	97.4	94.7	91.6	90.0	88.3	87.4	87.8	88.4	86.8	84.7
Germany	131.9	129.7	122.9	96.2	95.8	95.6	96.5	96.2	95.8	95.9	97.0	97.5	95.6
Italy	96.2	107.0	108.3	95.8	91.1	89.0	90.1	91.4	95.8	96.0	93.7	90.2	86.6
Netherlands	160.9	152.0	135.6	95.6	93.8	93.6	94.8	95.6	96.2	97.4	99.4	98.5	97.4
Norway	117.3	118.6	117.3	94.3	93.2	93.8	94.9	92.1	88.1	82.5	80.9	78.6	78.7
Sweden	143.3	131.9	121.8	99.0	101.4	102.2	101.7	102.1	103.9	101.8	99.5	92.8	85.9
United Kingdom	166.6	154.9	144.1	94.8	93.6	92.7	90.3	89.7	91.0	90.8	88.1	80.3	75.9
Compensation per hour													
United States	-	-	-	102.7	105.9	111.2	115.8	118.4	123.0	127.9	134.7	141.9	148.2
Canada	16.4	28.7	35.9	106.1	111.1	116.8	121.3	125.0	130.5	137.4	146.9	155.8	162.2
Japan	6.6	25.0	40.7	102.7	105.8	110.1	115.8	118.6	120.6	128.2	138.3	146.3	153.0
Belgium	9.1	23.2	35.5	106.0	114.8	122.0	127.0	130.0	132.7	139.6	147.8	157.2	164.6
Denmark	7.7	22.3	34.5	106.9	113.0	120.6	123.1	134.6	139.4	147.3	155.1	161.9	166.3
France	7.5	18.1	25.9	110.3	119.7	129.7	135.1	140.2	145.5	153.3	159.3	166.1	171.7
Germany	13.5	34.5	48.2	105.0	110.0	116.3	121.2	126.9	131.8	138.2	148.0	157.8	167.3
Italy	3.9	11.6	17.7	117.0	134.3	150.9	157.1	166.0	173.1	191.1	213.3	236.1	252.2
Netherlands	8.9	27.8	43.4	104.5	106.6	111.5	115.4	118.8	119.5	120.1	123.3	129.7	136.7
Norway	9.9	24.6	35.3	110.3	120.9	132.2	145.0	165.6	175.7	183.4	193.7	202.8	208.4
Sweden	9.3	24.4	34.3	110.2	119.6	131.8	142.4	151.9	161.8	179.0	197.5	215.1	222.3
United Kingdom	7.0	14.5	22.1	107.5	116.2	127.5	135.5	148.1	155.6	178.5	187.5	208.5	226.0
Unit labor costs: National currency basis													
United States	-	-	-	100.4	102.4	104.2	105.7	101.5	103.2	106.6	110.3	114.0	114.0
Canada	31.9	37.3	39.1	98.9	95.5	97.6	102.9	105.0	109.2	115.4	121.8	128.4	128.3
Japan	35.3	48.0	61.6	100.8	99.7	98.4	104.9	99.2	95.4	94.8	95.7	97.1	106.9
Belgium	37.7	52.2	61.3	95.6	99.1	104.1	107.5	108.2	106.0	106.5	110.4	114.9	115.3
Denmark	23.8	39.0	47.4	101.9	108.3	114.9	124.5	136.8	136.5	139.5	144.2	148.7	150.6
France	24.0	30.4	37.1	107.6	114.9	119.9	122.8	125.1	121.6	122.0	125.3	130.7	131.4
Germany	34.9	51.4	61.6	99.5	100.8	102.6	106.3	113.0	113.3	114.9	117.9	122.1	128.8
Italy	13.5	21.3	27.1	111.2	116.1	123.4	127.1	130.5	132.6	141.4	151.2	161.9	166.8
Netherlands	33.4	52.7	64.5	98.1	92.7	93.9	96.1	98.4	96.0	93.5	94.7	98.8	103.3
Norway	20.6	33.0	40.9	104.8	107.4	114.0	126.5	137.6	146.7	145.6	150.0	155.8	157.4
Sweden	25.7	35.3	42.3	103.1	106.8	116.4	123.7	129.2	136.0	145.7	158.1	170.1	164.1
United Kingdom	14.1	20.3	26.1	99.9	102.6	108.6	110.9	115.0	114.7	125.5	128.2	137.2	141.8
Unit labor costs: U.S. dollar basis													
United States	-	-	-	100.4	102.4	104.2	105.7	101.5	103.2	106.6	110.3	114.0	114.0
Canada	40.6	44.1	48.2	99.0	91.0	88.2	91.4	97.8	109.5	120.3	128.9	138.3	131.1
Japan	24.4	33.4	56.6	105.7	104.6	102.7	155.2	170.8	185.3	171.1	164.4	179.7	210.0
Belgium	34.6	48.2	72.3	85.6	78.6	80.3	110.2	132.6	131.9	123.7	151.2	153.8	164.2
Denmark	28.8	43.4	65.7	92.9	87.3	90.4	128.3	166.7	169.0	159.0	194.4	193.8	208.2
France	32.2	36.2	55.0	92.9	86.5	87.8	116.7	136.9	134.2	125.8	151.3	152.3	163.3
Germany	20.3	34.2	56.4	94.6	86.0	84.6	118.9	152.6	156.5	148.3	177.1	178.5	200.3
Italy	29.5	46.0	63.1	99.1	89.5	87.5	115.4	136.3	137.9	139.5	170.8	176.6	183.3
Netherlands	23.7	38.9	62.0	91.8	77.2	75.6	104.8	129.8	129.8	117.7	138.9	141.0	157.0
Norway	18.7	29.8	46.0	92.7	85.0	85.7	110.4	131.8	145.2	136.0	154.9	155.0	163.5
Sweden	31.3	42.8	61.0	84.4	81.1	85.0	109.0	127.9	139.2	141.9	167.7	176.6	176.9
United Kingdom	22.7	27.9	36.6	86.6	78.5	80.6	93.1	107.9	116.8	117.6	130.8	138.7	143.3

- Data not available.

49. Occupational injury and illness incidence rates by industry,¹ United States

Industry and type of case ²	Incidence rates per 100 full-time workers ³							
	1984	1985	1986	1987	1988	1989 ¹	1990	1991
PRIVATE SECTOR⁴								
Total cases	8.0	7.9	7.9	8.3	8.6	8.6	8.8	8.4
Lost workday cases	3.7	3.6	3.6	3.8	4.0	4.0	4.1	3.9
Lost workdays	63.4	64.9	65.8	69.9	76.1	78.7	84.0	86.5
Agriculture, forestry, and fishing⁴								
Total cases	12.0	11.4	11.2	11.2	10.9	10.9	11.6	10.8
Lost workday cases	6.1	5.7	5.6	5.7	5.6	5.7	5.9	5.4
Lost workdays	90.7	91.3	93.6	94.1	101.8	100.9	112.2	108.3
Mining								
Total cases	9.7	8.4	7.4	8.5	8.8	8.5	8.3	7.4
Lost workday cases	5.3	4.8	4.1	4.9	5.1	4.8	5.0	4.5
Lost workdays	160.2	145.3	125.9	144.0	152.1	137.2	119.5	129.6
Construction								
Total cases	15.5	15.2	15.2	14.7	14.6	14.3	14.2	13.0
Lost workday cases	6.9	6.8	6.9	6.8	6.8	6.8	6.7	6.1
Lost workdays	128.1	128.9	134.5	135.8	142.2	143.3	147.9	148.1
General building contractors:								
Total cases	15.4	15.2	14.9	14.2	14.0	13.9	13.4	12.0
Lost workday cases	6.9	6.8	6.6	6.5	6.4	6.5	6.4	5.5
Lost workdays	121.3	120.4	122.7	134.0	132.2	137.3	137.6	132.0
Heavy construction, except building:								
Total cases	14.9	14.5	14.7	14.5	15.1	13.8	13.8	12.8
Lost workday cases	6.4	6.3	6.3	6.4	7.0	6.5	6.3	6.0
Lost workdays	131.7	127.3	132.9	139.1	162.3	147.1	144.6	160.1
Special trade contractors:								
Total cases	15.8	15.4	15.6	15.0	14.7	14.6	14.7	13.5
Lost workday cases	7.1	7.0	7.2	7.1	7.0	6.9	6.9	6.3
Lost workdays	130.1	133.3	140.4	135.7	141.1	144.9	153.1	151.3
Manufacturing								
Total cases	10.6	10.4	10.6	11.9	13.1	13.1	13.2	12.7
Lost workday cases	4.7	4.6	4.7	5.3	5.7	5.8	5.8	5.6
Lost workdays	77.9	80.2	85.2	95.5	107.4	113.0	120.7	121.5
Durable goods:								
Total cases	11.1	10.9	11.0	12.5	14.2	14.1	14.2	13.6
Lost workday cases	4.8	4.7	4.8	5.4	5.9	6.0	6.0	5.7
Lost workdays	79.9	82.0	87.1	96.8	111.1	116.5	123.3	122.9
Lumber and wood products:								
Total cases	19.6	18.5	18.9	18.9	19.5	18.4	18.1	16.8
Lost workday cases	9.9	9.3	9.7	9.6	10.0	9.4	8.8	8.3
Lost workdays	172.0	171.4	177.2	176.5	189.1	177.5	172.5	172.0
Furniture and fixtures:								
Total cases	15.3	15.0	15.2	15.4	16.6	16.1	16.9	15.9
Lost workday cases	6.4	6.3	6.3	6.7	7.3	7.2	7.8	7.2
Lost workdays	101.5	100.4	103.0	103.6	115.7	124.9	139.2	131.2
Stone, clay, and glass products:								
Total cases	13.6	13.9	13.6	14.9	16.0	15.5	15.4	14.8
Lost workday cases	6.6	6.7	6.5	7.1	7.5	7.4	7.3	6.8
Lost workdays	120.8	127.8	126.0	135.8	141.0	149.8	160.5	156.0
Primary metal industries:								
Total cases	13.3	12.6	13.6	17.0	19.4	18.7	19.0	17.7
Lost workday cases	6.1	5.7	6.1	7.4	8.2	8.1	8.1	7.4
Lost workdays	115.3	113.8	125.5	145.8	161.3	168.3	180.2	169.1
Fabricated metal products:								
Total cases	16.1	16.3	16.0	17.0	18.8	18.5	18.7	17.4
Lost workday cases	6.7	6.9	6.8	7.2	8.0	7.9	7.9	7.1
Lost workdays	104.9	110.1	115.5	121.9	138.8	147.6	155.7	146.6
Industrial machinery and equipment:								
Total cases	10.7	10.8	10.7	11.3	12.1	12.1	12.0	11.2
Lost workday cases	4.1	4.2	4.2	4.4	4.7	4.8	4.7	4.4
Lost workdays	65.8	69.3	72.0	72.7	82.8	86.8	88.9	86.6
Electronic and other electrical equipment:								
Total cases	6.8	6.4	6.4	7.2	8.0	9.1	9.1	8.6
Lost workday cases	2.8	2.7	2.7	3.1	3.3	3.9	3.8	3.7
Lost workdays	45.0	45.7	49.8	55.9	64.6	77.5	79.4	83.0
Transportation equipment:								
Total cases	9.3	9.0	9.6	13.5	17.7	17.7	17.8	18.3
Lost workday cases	4.2	3.9	4.1	5.7	6.6	6.8	6.9	7.0
Lost workdays	68.8	71.6	79.1	105.7	134.2	138.6	153.7	166.1
Instruments and related products:								
Total cases	5.4	5.2	5.3	5.8	6.1	5.6	5.9	6.0
Lost workday cases	2.2	2.2	2.3	2.4	2.6	2.5	2.7	2.7
Lost workdays	37.5	37.9	42.2	43.9	51.5	55.4	57.8	64.4
Miscellaneous manufacturing industries:								
Total cases	10.5	9.7	10.2	10.7	11.3	11.1	11.3	11.3
Lost workday cases	4.3	4.2	4.3	4.6	5.1	5.1	5.1	5.1
Lost workdays	70.2	73.2	70.9	81.5	91.0	97.6	113.1	104.0
Nondurable goods:								
Total cases	9.8	9.6	10.0	11.1	11.4	11.6	11.7	11.5

See footnotes at end of table.

49. Continued— Occupational injury and illness incidence rates by industry,¹ United States

Industry and type of case ²	Incidence rates per 100 full-time workers ³							
	1984	1985	1986	1987	1988	1989 ¹	1990	1991
Lost workday cases	4.4	4.4	4.6	5.1	5.4	5.5	5.6	5.5
Lost workdays	74.9	77.6	82.3	93.5	101.7	107.8	116.9	119.7
Food and kindred products:								
Total cases	16.7	16.7	16.5	17.7	18.5	18.5	20.0	19.5
Lost workday cases	8.1	8.1	8.0	8.6	9.2	9.3	9.9	9.9
Lost workdays	131.6	138.0	137.8	153.7	169.7	174.7	202.6	207.2
Tobacco products:								
Total cases	7.7	7.3	6.7	8.6	9.3	8.7	7.7	6.4
Lost workday cases	3.2	3.0	2.5	2.5	2.9	3.4	3.2	2.8
Lost workdays	51.7	51.7	45.6	46.4	53.0	64.2	62.3	52.0
Textile mill products:								
Total cases	8.0	7.5	7.8	9.0	9.6	10.3	9.6	10.0
Lost workday cases	3.0	3.0	3.1	3.6	4.0	4.2	4.0	4.4
Lost workdays	54.0	57.4	59.3	65.9	78.8	81.4	85.1	88.3
Apparel and other textile products:								
Total cases	6.7	6.7	6.7	7.4	8.1	8.6	8.8	9.2
Lost workday cases	2.5	2.6	2.7	3.1	3.5	3.8	3.9	4.2
Lost workdays	40.9	44.1	49.4	59.5	68.2	80.5	92.1	99.9
Paper and allied products:								
Total cases	10.4	10.2	10.5	12.8	13.1	12.7	12.1	11.2
Lost workday cases	4.7	4.7	4.7	5.8	5.9	5.8	5.5	5.0
Lost workdays	93.8	94.6	99.5	122.3	124.3	132.9	124.8	122.7
Printing and publishing:								
Total cases	6.5	6.3	6.5	6.7	6.6	6.9	6.9	6.7
Lost workday cases	2.9	2.9	2.9	3.1	3.2	3.3	3.3	3.2
Lost workdays	46.0	49.2	50.8	55.1	59.8	63.8	69.8	74.5
Chemicals and allied products:								
Total cases	5.3	5.1	6.3	7.0	7.0	7.0	6.5	6.4
Lost workday cases	2.4	2.3	2.7	3.1	3.3	3.2	3.1	3.1
Lost workdays	40.8	38.8	49.4	58.8	59.0	63.4	61.6	62.4
Petroleum and coal products:								
Total cases	5.1	5.1	7.1	7.3	7.0	6.6	6.6	6.2
Lost workday cases	2.4	2.4	3.2	3.1	3.2	3.3	3.1	2.9
Lost workdays	53.5	49.9	67.5	65.9	68.4	68.1	77.3	68.2
Rubber and miscellaneous plastics products:								
Total cases	13.6	13.4	14.0	15.9	16.3	16.2	16.2	15.1
Lost workday cases	6.4	6.3	6.6	7.6	8.1	8.0	7.8	7.2
Lost workdays	104.3	107.4	118.2	130.8	142.9	147.2	151.3	150.9
Leather and leather products:								
Total cases	10.5	10.3	10.5	12.4	11.4	13.6	12.1	12.5
Lost workday cases	4.7	4.6	4.8	5.8	5.6	6.5	5.9	5.9
Lost workdays	94.4	88.3	83.4	114.5	128.2	130.4	152.3	140.8
Transportation and public utilities								
Total cases	8.8	8.6	8.2	8.4	8.9	9.2	9.6	9.3
Lost workday cases	5.2	5.0	4.8	4.9	5.1	5.3	5.5	5.4
Lost workdays	105.1	107.1	102.1	108.1	118.6	121.5	134.1	140.0
Wholesale and retail trade								
Total cases	7.4	7.4	7.7	7.7	7.8	8.0	7.9	7.6
Lost workday cases	3.3	3.2	3.3	3.4	3.5	3.6	3.5	3.4
Lost workdays	50.5	50.7	54.0	56.1	60.9	63.5	65.6	72.0
Wholesale trade:								
Total cases	7.2	7.2	7.2	7.4	7.6	7.7	7.4	7.2
Lost workday cases	3.5	3.5	3.6	3.7	3.8	4.0	3.7	3.7
Lost workdays	55.5	59.8	62.5	64.0	69.2	71.9	71.5	79.2
Retail trade:								
Total cases	7.5	7.5	7.8	7.8	7.9	8.1	8.1	7.7
Lost workday cases	3.2	3.1	3.2	3.3	3.4	3.4	3.4	3.3
Lost workdays	48.4	47.0	50.5	52.9	57.6	60.0	63.2	69.1
Finance, insurance, and real estate								
Total cases	1.9	2.0	2.0	2.0	2.0	2.0	2.4	2.4
Lost workday cases .....	.9	.9	.9	.9	.9	.9	1.1	1.1
Lost workdays	13.6	15.4	17.1	14.3	17.2	17.6	27.3	24.1
Services								
Total cases	5.2	5.4	5.3	5.5	5.4	5.5	6.0	6.2
Lost workday cases	2.5	2.6	2.5	2.7	2.6	2.7	2.8	2.8
Lost workdays	41.1	45.4	43.0	45.8	47.7	51.2	56.4	60.0

¹ Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual*, 1987 Edition. For this reason, they are not strictly comparable with data for the years 1982-88, which were based on the *Standard Industrial Classification Manual*, 1972 Edition, 1977 Supplement.

² Total cases include fatalities.

³ The incidence rates represent the number of injuries and illnesses

or lost workdays per 100 full-time workers and were calculated as: (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays.

EH = total hours worked by all employees during calendar year.

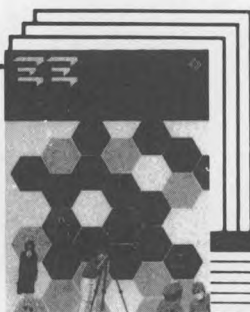
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

⁴ Excludes farms with fewer than 11 employees since 1976.

Where to Find Information on Employment and Unemployment

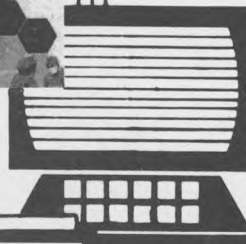
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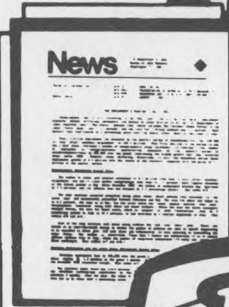
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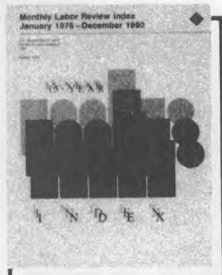
Machine-Readable Form:

Labor force data from the household survey and employment, hours, and earnings data from the establishment survey are available on both computer tape and diskette. For information, write to the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics, Room 4675, 2 Massachusetts Ave. NE., Washington D.C. 20212-0001 or call (202) 606-6373.



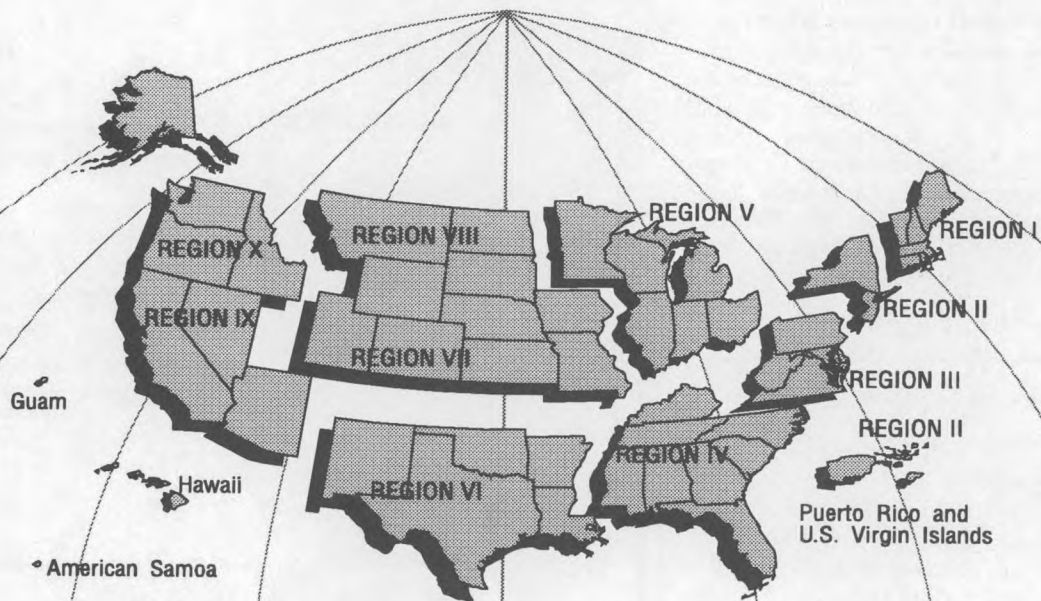
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Productivity and costs:							
Nonfarm business and manufacturing	August 9	2nd quarter					2; 42-45
Nonfinancial corporations			September 7	2nd quarter			2; 42-45
Producer Price Indexes	August 11	July	September 9	August	October 13	September	2; 34-36
Consumer Price Indexes	August 12	July	September 13	August	October 14	September	2; 31-33
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