

The NLSY97: an introduction

*The National Longitudinal Survey of Youth 1997
follows the lives of 12- to 16-year-olds
as they make pivotal decisions
regarding education and employment*

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and
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This issue of the *Monthly Labor Review* introduces readers to the newest addition to the family of surveys sponsored by the National Longitudinal Surveys (NLS) Program of the Bureau of Labor Statistics (BLS). Termed the NLSY97, the respondents to this survey are individuals who were aged 12 to 16 on December 31, 1996. The first set of interviews began January 1997 (hence, the NLSY97), and members of this longitudinal cohort have been interviewed on an annual basis ever since. This survey is conducted as an in-person interview, with the field interviewer entering the respondent's answers into a laptop computer—sometimes called a Computer Assisted Personal Interview (CAPI).

Designed as a longitudinal survey, the NLSY97 follows the lives of these young men and women as they make pivotal decisions as to whether they should continue their education after high school or choose an occupation and enter the world of work. We follow the progression of their lives as they become independent adults, settle into careers, form relationships, and make decisions about cohabitation, marriage, and the formation of families.

A key difference between cross-sectional surveys (such as the Current Population Survey) and longitudinal surveys (such as the NLSY97) is that annual interviews with the same individuals enable researchers to chronicle important events

that individuals experience over the course of their lifetimes. For example, the collection of data on jobs held by sample members allows the construction of a week-by-week history of every job held (and the characteristics of those jobs) since the age of 14. Knowledge of the employment history of individuals, coupled with the rich array of the socioeconomic and demographic information collected in each interview, gives researchers the ability to investigate and isolate how the choices individuals make at younger ages can affect outcomes later in life. For example, does working during the school year while in high school have a net positive or negative impact on labor market success as adults?

This issue of the *Monthly Labor Review* contains five articles that use data from the first round of interviews with the NLSY97 cohort. These articles, which are described briefly below, investigate important aspects of the early labor market experiences of these youths. The NLSY97 questionnaires, however, collect information on a much wider set of topical areas, reflecting the complexity of the lives of our respondents. The diversity of questions also reflects the interest and mission of our partners in the Federal Government. A number of Federal Government agencies have and continue to provide funding support for various questionnaire

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modules in the NLS family of surveys, including the NLSY97.

In the first round of interviews, information was collected about the youths' relationships with their parents, contact with absent parents, marital and fertility histories to date, and sexual activity. Funding support was received from the National Institute for Child Health and Human Development for these question modules. With support from the Office of Juvenile Justice and Delinquency Prevention, modules were constructed that asked respondents about criminal behavior, contact with the criminal justice system, and alcohol and drug use. Areas of the youth survey that are potentially sensitive, such as sexual activity and criminal behavior, are asked in a self-administered portion of the survey in which the respondent listens to the questions on earphones and types his or her answers directly into the laptop computer.

In addition, just prior to the first round of interviews with the NLSY97 cohort, BLS conducted a survey of schools to determine the nature and extent of school-to-work programs. This survey of schools (and a follow up survey conducted in 2001) provides a valuable complement to the data on these programs reported by the NLSY97 respondents. Funding from the Departments of Education and Labor's National School-to-Work Office provided support for both the surveys of schools and for the development of a questionnaire module on School-to-Work programs that have been included in the NLSY97 first round interview.

Funding was also received from the Department of Defense to identify a sample of 18- to 23-year-olds and a separate sample of youth entering 10th–12th grades for the purpose of administering the Armed Services Vocational Aptitude Battery (ASVAB) examination. This test is designed to serve as the basis for constructing civilian test norms against which the scores of enlistees to the Armed Services can be compared. The ASVAB examination also was administered to the NLSY97 cohort, thereby providing an important measure of skill level at a point in time.

Finally, in this first round of the NLSY97, BLS also decided to conduct an interview with a parent or parent figure for each youth respondent. These interviews provide a tremendous amount of context for understanding the lives of our youth respondents. During the parent interview, retrospective (lifetime) information was collected from the parent about the youth respondent's health while growing up, the schools the youth attended, and the history of the youth's living arrangements. Also, the parent being interviewed was asked to report his or her own lifetime history of employment, education, training, marriages, and fertility, as well as provide the same information for his or her spouse. Question modules on family income and assets and participation in government assistance programs also were administered. Finally, many of the same "attitude" questions asked of the

youths about their parents were also asked of the parents about their children.

To begin exploring the richness of these data, the NLS program cosponsored a conference on November 18–19, 1999, with the Joint Center for Poverty Research (Northwestern University and the University of Chicago) to present findings from the first round of NLSY97 interviews. Selected papers from this conference are being published in three venues: the *Journal of Human Resources (JHR)*; a special volume of papers being published by the Russell Sage Foundation entitled *Social Awakenings: Adolescent Behavior as Adulthood Approaches*, edited by Robert T. Michael (New York, Russell Sage Press, 2001); and the articles contained in this issue of the *Review*. A listing of titles from both the *JHR* and the Russell Sage volumes gives an idea of the breadth of research that has already resulted using data from the NLSY97.¹

The NLSY97-based articles being published in this issue of the *Review* emphasize more traditional labor market topics. Mary Joyce and David Neumark, in their article, "School-to-work programs: information from two surveys," examines the degree to which youths participate in "school-to-work" programs. Based on the 1994 School to Work Opportunity Act, a variety of programs have been set up in our Nation's schools designed to help youth make the transition from school to the world of work. Although the NLSY97 cohort is still too young to investigate the impact of participation in the programs on subsequent labor market outcomes, Joyce and Neumark have been able to determine which youths were most likely to have participated in these programs.

The other articles in this issue closely examine the nature and extent of youth employment. The article by Lynn Huang, Michael Pergamit, and Jamie Shkolnik, "Youth initiation into the labor market," examines the employment experiences of 12 and 13 year olds. The NLSY97 questionnaire makes a concerted effort to collect information on work experiences of respondents when they were very young.

Donna Rothstein's article, "Youth employment in the United States," examines the prevalence of working while aged 14–16. She examines traditional employee jobs in which youths have an ongoing relationship with a particular employer, such as a restaurant or supermarket, and "freelance" jobs, where the youth is doing one or a few tasks for several people but has no "boss." Examples of freelance jobs are babysitting and yard work.

Rothstein's other article, "Youth employment during school: results from two longitudinal surveys," examines employment patterns during the school year for both the NLSY79 cohort (aged 14–21 on December 31, 1978) and the NLSY97 cohort. She also presents findings in the literature as to how the youth's working while in high school impacts his

or her life as an adult.

Rosella Gardecki's article, "Racial differences in youth employment," looks at the differences by racial group in their decisions to work while young. Part of her focus is on examining how working while young (age 14) affects the likelihood that an individual will choose to work as an older teen (age 16). She examines patterns of employment behavior on the basis of racial differences, and, at the same time, accounts for differences among youth on the basis of certain other individual characteristics (highest grade in school, participation in criminal activity, for example), family characteristics (employment status of parent(s), type of family, for example), and neighborhood and geographic factors (such as, the local unemployment rate or county poverty rate).

FUTURE DIRECTIONS OF THE SURVEY will be to continue collecting core labor market information and introduce age-appropriate specialized questionnaire modules. As of this writing, the NLSY97 has just completed the fourth round of interviews, and public-use data from the third round of interviews have recently become available. The NLSY97 is constantly intro-

ducing new questionnaire modules that reflect the changing nature of the lives of our respondents as they enter their early twenties. For example, one question module will explore whether these young adults decide to attend college, and if so, how the youth respondents arrived at their particular choice of college. As our youth respondents become parents, they will be asked questions on how they handle childcare responsibilities. We also plan a series of questions on the various relationships our respondents enter into as young adults, with an emphasis on dating, cohabitation, and the decision to marry. As we introduce these specialized modules, we will continue to ask a core set of questions on labor market experiences, education, and training. The NLSY97 is an exciting new source of longitudinal information that will provide social science researchers with a rich database to use in studying the impact of public policies. It also will provide valuable insights into the dynamic processes that influence the pathways that are taken through life. We do hope you enjoy the articles in this issue, and we look forward to seeing a new generation of research articles using this valuable source of longitudinal data. □

Notes

¹ The titles are as follows. In the *Journal of Human Resources*, volume 36, issue 4: "Measuring Poverty in the NLSY97," by Carolyn J. Hill and Robert T. Michael; "Evaluating School-to-Work Programs Using the New NLSY," by David Neumark and Mary Joyce; "The Role of Parental Allowances in Determining Youth Employment," by Sabrina Wulff Pabilonia; "Rising College Expectations Among Youth in the U.S.: A Comparison of 15 and 16 Year Olds in the 1979 and 1997 NLSY," by John Reynolds and Jennifer Pemberton; "Savings of Young Parents," by Annamaria Lusardi, Ricardo Cossa, and Erin L. Kleindorfer; "Does Head Start Yield Long-Term Benefits?" by Alison Aughinbaugh.

In *Social Awakenings: Adolescent Behavior as Adulthood Approaches*, the titles are: "A Lens on Adolescence: The 1997 National Longitudinal Survey of Youth," by Robert T. Michael; "The Effect of Family Structure on Youth Outcomes in the NLSY97," by Charles R. Pierret; "Patterns of Nonresident-Father Involvement," by Laura M. Argus and H. Elizabeth Peters; "Parental Regulation and Adolescent Discretionary Time-

Use Decisions: Findings from the NLSY97," by Robin L. Tepper; "Family Environment and Adolescent Sexual Debut in Alternative Household Structures," by Mignon R. Moore; "Exploring Determinants of Adolescents' Early Sexual Behavior," by Robert T. Michael and Courtney Bickert; "Body Weight and the Dating and Sexual Behaviors of Young Adolescents," by John Cawley; "Adolescents' Expectations Regarding Birth Outcomes: A Comparison of the NLSY79 and NLSY97 Cohorts," by James R. Walker; "Who are Youth 'At Risk'? Expectations Evidence in the NLSY97," by Jeff Domnitz, Charles F. Manski, and Baruch Fischhoff; "Food Stamp Program Participation and Health: Estimates from the NLSY97," by Diane Gibson; "What Determines Adolescent Demand for Alcohol and Marijuana? A Comparison of Findings from the NLSY79 and the NLSY97," by Pinka Chatterji; "Changes in Gender and Racial Gaps in Adolescent Antisocial Behavior: The NLSY79 versus the NLSY97," by Yasuyo Abe; and "City Kids and Country Cousins: Rural and Urban Youths, Deviance, and Labor Market Ties," by L. Susan Williams.

Youth employment in the United States

Data from the National Longitudinal Survey of Youth 1997 show substantial work activity among 14- and 15-year-olds

Donna S. Rothstein

Today's youths commonly gain employment experience through working for a particular employer, such as a fast-food restaurant, or through a less formal arrangement, such as babysitting for a neighbor. The purpose of this article is to provide a detailed profile of the employment of today's youths using round-1 data from a new survey of youth: the National Longitudinal Survey of Youth 1997 (NLSY97). The article reports the incidence, intensity, and timing of youth employment (school vs. summer), shows the industries and occupations in which youths commonly work, and examines employment differences across gender, race, ethnic group, household income, and family structure.

Data and definitions

The data presented are from the first interview of the NLSY97, a nationally representative sample of about 9,000 young men and women who were born between January 1, 1980, and December 31, 1984.¹ The first interview took place in 1997, when these youths were aged 12 to 17 years. The NLSY97 collects extensive information on youths' labor market experiences, in addition to information on a wide array of other topics, such as schooling and family background. Members of the sample are interviewed annually.²

Early work experience can include "employee" jobs, wherein a youth has an ongoing relationship with a particular employer, such as a job working in a supermarket or restaurant, and "freelance" jobs, in which the youth does one or a few tasks without

a specific "boss," such as babysitting, mowing lawns, or working for oneself. The NLSY97 seeks to gather a longitudinal record of youths' employment experiences, rather than taking a snapshot of their labor market status at a particular point in time.³ In order to accomplish this, survey respondents aged 14 and older are asked to list all employee jobs they held from the age of 14 to the date of the interview. A calendar is filled out by the interviewer and is shown to the respondent to confirm all beginning and ending dates of employee jobs, as well as any gaps between those dates within which the respondent did not work. Respondents also provide other information about each employee job held, such as the industry and occupation into which the job was classified. Next, respondents 14 and older are asked to list all freelance jobs they held from the age of 14 to the date of the interview. Again, a calendar is used to confirm all beginning and ending dates of freelance jobs. Due to the sporadic nature of freelance jobs, however, data on periods of nonwork between those dates are not collected. Respondents also provide information on the characteristics of each freelance job they held.

Tables in the sections that follow describe youth employment in employee jobs and freelance jobs at some time during a specific period, including "at age 14" and "at age 15." When a youth is said to have worked "at age 14," for example, the reference is to the youth having worked at some time *during the entire 52-week period* between the youth's 14th and 15th birthdays.⁴ Because the NLSY97 collects data on all employ-

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Table 1. Percent of youths employed at ages 14 and 15 in 1994–97, by type of job, sex, race or Hispanic origin, household income, and family structure¹

Age in 1994–97 and characteristic	Percent employed at—					
	Any job	Any employee job	Any freelance job	Employee jobs only	Freelance jobs only	Both employee and freelance jobs
Total working at age 14	57.2	23.8	42.8	14.4	33.3	9.4
Sex:						
Male	55.2	28.1	36.8	18.5	27.1	9.7
Female	59.2	19.3	49.1	10.1	39.9	9.2
Race or ethnicity:						
White	64.3	27.5	48.3	16.1	36.8	11.4
Black	43.3	16.0	33.1	10.2	27.3	5.8
Hispanic origin	41.3	16.7	30.1	11.3	24.6	5.4
Household annual income:						
Less than \$25,000	48.6	20.5	34.7	13.9	28.1	6.6
\$25,000 to \$44,999	62.7	25.5	46.4	16.3	37.3	9.1
\$45,000 to \$69,999	63.0	26.5	49.3	13.6	36.5	12.9
\$70,000 or more	63.5	25.0	49.5	13.9	38.5	11.0
Family structure:						
Two-biological-parent family	61.5	26.0	46.4	15.0	35.4	11.0
Two-parent family	59.2	23.8	44.4	14.7	35.4	9.1
Female-parent family	53.9	21.4	40.3	13.6	32.6	7.8
Not living with parents	39.4	10.9	31.4	8.0	28.5	2.9
Total working at age 15	63.7	37.6	39.8	23.9	26.1	13.7
Sex:						
Male	63.4	41.5	34.1	29.3	21.9	12.2
Female	64.1	33.5	45.8	18.2	30.6	15.3
Race or ethnicity:						
White	71.8	44.0	44.8	27.0	27.9	17.0
Black	43.6	22.2	28.7	14.9	21.4	7.3
Hispanic origin	47.9	26.5	28.1	19.8	21.4	6.7
Household annual income:						
Less than \$25,000	52.3	32.3	30.9	21.4	20.0	10.9
\$25,000 to \$44,999	70.9	40.8	44.7	26.1	30.1	14.7
\$45,000 to \$69,999	69.4	39.8	46.9	22.5	29.6	17.3
\$70,000 or more	75.6	42.2	49.4	26.2	33.4	16.0
Family structure:						
Two-biological-parent family	68.0	38.6	44.1	23.8	29.3	14.8
Two-parent family	64.8	38.3	39.3	25.4	26.5	12.8
Female-parent family	63.6	38.2	40.2	23.4	25.4	14.8
Not living with parents	43.3	25.9	22.5	20.8	17.3	5.1

¹ When a youth is said to have worked “at age 14,” for example, the reference is to the youth having worked at some time during the entire 52-week period between the youth’s 14th and 15th birthdays.

NOTE: The National Longitudinal Survey of Youth 1997 surveyed male and

female youths who were aged 12 to 16 on December 31, 1996. Rows of the table referring to youths working at age 14 exclude individuals who were not yet 15 years of age when they were interviewed. Rows referring to youths working at age 15 exclude individuals who were not yet 16 years of age when they were interviewed.

ment spells in employee jobs, it is possible to determine whether a youth did any work at all while he or she was a particular age and also to determine how many weeks the youth worked at that age. The method the analysis that follows uses to determine whether an individual worked at a freelance job at a particular age is less precise than that used for employee jobs, because only data on beginning and ending employment dates are collected. If a period between any freelance job’s beginning and ending date spans any of the

weeks the respondent was 14 (for example), the respondent is defined as having worked in a freelance job at age 14. This approach may overstate youths’ incidence of employment in freelance jobs: the data do not allow one to calculate the number of weeks a respondent worked at such a job.

Over the years, policymakers have been concerned about youth employment during the school term.⁵ The nature of the NLSY97 data on employee jobs allows one to calculate the percentage of youths working during the school year or dur-

ing the summer (or both). One can also calculate the percentage of school and summer weeks that youths work in employee jobs. It is convenient to depict the timing of youth employment (especially graphically) during a calendar year, rather than at a particular age. Tables and charts on the timing of youth employment are shown for calendar year 1996, for one birth year: 1981. These youths were 15 as of December 31, 1996, and thus ranged from 14 to 15 years old in 1996.

Unlike most data sets, the NLSY97 captures employment of the very young. The survey asks all youths aged 12 or 13 at the interview date about all of their work activities since the age of 12. The survey does not distinguish between employment in freelance and employee jobs for this age group, but the structure of the questions is similar to that of questions asked of older youths in the freelance section. In this article, the incidence of employment of the very young is measured over the year youths are age 12.⁶

Past research suggests that youth employment behavior varies by factors such as sex, race, ethnicity, household income, and family structure.⁷ Accordingly, the tables that follow tabulate youth employment by these factors. Household income is measured for calendar year 1996 and is broken down into four mutually exclusive categories. Family structure is decomposed into five mutually exclusive categories and is measured for the same period as are the youth employment variables (for example, at age 14 or during calendar year 1996).⁸

Incidence of youth employment

This profile of youth employment in the NLSY97 begins with an examination of the incidence of employment among 14- and 15-year-olds. When calculating employment experience, researchers often use age 16 as a starting point. However, as table 1 shows, a significant percentage of youths engage in employment activities at ages 14 and 15.⁹ More than half (57 percent) of all youths held a job at least sometime at age 14. The majority of working youths held only freelance jobs at that age. Almost two-thirds (64 percent) of youths had worked at least sometime at age 15. Accompanying this increase in youth employment was a shift away from freelance work and into employee jobs.

Overall, 55 percent of male youths and 59 percent of female youths worked at least sometime at age 14. At age 15, about equal percentages of male and female youths worked (63 percent and 64 percent, respectively). However, the mix between freelance and employee jobs differed considerably by gender: at both ages, female youths were much more likely to hold freelance jobs and less likely to hold employee jobs than were male youths.

Past research has consistently found substantial differences by race or ethnicity in the incidence of youth employ-

Table 2. Percent of individuals aged 14 to 15 in 1994–97 and aged 14 to 16 on December 31, 1996, who worked at an employee job, and average number of weeks worked, by sex, race or Hispanic origin, household income, and family structure¹

Age in 1994–97 and characteristic	Percent with an employee job	Average number of weeks worked
Total working at age 14	23.8	24.6
Sex:		
Male	28.1	24.6
Female	19.3	24.6
Race or ethnicity:		
White	27.5	26.3
Black	16.0	17.0
Hispanic origin	16.7	17.9
Household annual income:		
Less than \$25,000	20.5	21.0
\$25,000 to \$44,999	25.5	23.9
\$45,000 to \$69,999	26.5	27.6
\$70,000 or more	25.0	24.0
Family structure:		
Two-biological-parent family	26.0	26.2
Two-parent family	23.8	24.4
Female-parent family	21.4	21.1
Not living with parents	10.9	14.2
Total working at age 15	37.6	25.9
Sex:		
Male	41.5	27.2
Female	33.5	24.1
Race or ethnicity:		
White	44.0	27.1
Black	22.2	20.6
Hispanic origin	26.5	20.5
Household annual income:		
Less than \$25,000	32.3	23.8
\$25,000 to \$44,999	40.8	26.5
\$45,000 to \$69,999	39.8	30.1
\$70,000 or more	42.2	24.8
Family structure:		
Two-biological-parent family	38.6	28.2
Two-parent family	38.3	25.8
Female-parent family	38.2	24.1
Not living with parents	25.9	17.0

¹ When a youth is said to have worked "at age 14," for example, the reference is to the youth having worked at some time during the entire 52-week period between the youth's 14th and 15th birthdays.

NOTE: The National Longitudinal Survey of Youth 1997 surveyed male and female youths who were aged 12 to 16 on December 31, 1996. Rows of the table referring to youths working at age 14 exclude individuals who were not yet 15 years of age when they were interviewed. Rows referring to youths working at age 15 exclude individuals who were not yet 16 years of age when they were interviewed.

ment, and the NLSY97 data show this difference as well. Employment is much higher among whites at these ages than among blacks or Hispanics. At age 14, 64 percent of whites, 43 percent of blacks, and 41 percent of Hispanics had worked sometime.¹⁰ By age 15, 72 percent of whites and 48 percent of Hispanics had worked sometime, significantly higher percent-

Table 3. Top 10 industries of longest-held employee job of youths at ages 14 and 15 in 1994-97¹

Industry	Percent of youths
Age 14	
Eating and drinking places	17.4
Miscellaneous entertainment and recreation services	8.7
Construction	8.4
Newspaper publishing and printing	4.9
Agricultural production, crops	4.4
Private households (personal services)	4.1
Landscape and horticultural services	3.6
Agricultural production, livestock	2.9
Elementary and secondary schools	1.9
Services to dwellings and other buildings	1.9
Age 15	
Eating and drinking places	28.8
Miscellaneous entertainment and recreation services	9.0
Construction	5.3
Grocery stores	4.5
Newspaper publishing and printing	2.9
Landscape and horticultural services	2.3
Agricultural production, crops	2.0
Agricultural production, livestock	1.8
Automotive repair and related services	1.6
Private households (personal services)	1.5

¹ When a youth is said to have worked "at age 14," for example, the reference is to the youth having worked at some time during the entire 52-week period between the youth's 14th and 15th birthdays.

NOTE: The National Longitudinal Survey of Youth 1997 surveyed male and female youths who were aged 12 to 16 on December 31, 1996. Rows of the table referring to 14-year-olds exclude individuals who were not yet 15 years of age when they were interviewed. Rows referring to 15-year-olds exclude individuals who were not yet 16 years of age when they were interviewed.

ages than those at age 14. Black employment, however, remained nearly constant, at 44 percent.

Youths in households with low income were less likely to work. One possible explanation for this finding is that they may have lived in areas with less economic opportunity and, consequently, may have had less access to transportation, which could have decreased their likelihood of working. At age 14, 49 percent of youths whose households had annual incomes of less than \$25,000 worked in an employee or freelance job or both. In contrast, about 63 percent of youths in households with higher levels of income worked at age 14. Similar differences are observed for youths aged 15: 52 percent of those in households with annual incomes of less than \$25,000 worked, compared with at least 69 percent in households with higher income.

Youths in two-biological-parent and other two-parent families were more likely to work at age 14 (62 percent and 59 percent, respectively) than those in female-parent families (54 percent). Youths in female-parent families may have faced relatively more obstacles to working due to issues related to their having a lower income or to having fewer adults in the household to provide them with transportation to a job. However,

employment differences between youths in these types of family structure were *not* significant for 15-year-olds.¹¹

With regard to the incidence and intensity (in terms of weeks) of youth employment in employee jobs, the percentage of youths working at such jobs increased substantially, from 24 percent at age 14 to 38 percent at age 15. In addition, at both of these ages, employed youths worked a significant portion of the year (about one-half of it; see table 2.)

Male youths were more likely than female youths to work at an employee job at age 14 or 15. However, of those who held an employee job at age 14, both sexes worked about half the year. At age 15, male youths with jobs worked slightly more weeks than did female youths (27 and 24 weeks, respectively).

At ages 14 and 15, whites were considerably more likely to work at employee jobs than were blacks or Hispanics. At age 14, whites worked 26 weeks, while blacks worked 17 weeks and Hispanics worked 18 weeks. At age 15, whites worked 27 weeks, and blacks and Hispanics worked about 21 weeks.

Youths in households with annual incomes of less than \$25,000 were less likely to work in employee jobs at ages 14 and 15 than were youths in households with higher incomes.

Table 4. Top 10 industries of longest-held employee job of youths at age 14 in 1994-97, by sex¹

Industry	Percent of youths
Male youths	
Eating and drinking places	15.8
Construction	11.4
Miscellaneous entertainment and recreation services	8.8
Newspaper publishing and printing	6.1
Agricultural production, crops	5.9
Landscape and horticultural services	5.4
Agricultural production, livestock	3.7
Elementary and secondary schools	2.4
Automotive repair and related services	2.3
Grocery stores	1.8
Female youths	
Eating and drinking places	19.8
Private households (personal services)	8.6
Miscellaneous entertainment and recreation services	8.5
Construction	3.8
Child day care services	3.5
Newspaper publishing and printing	3.1
Religious organizations	2.8
Services to dwellings and other buildings	2.1
Social services, N.E.C.	1.9
Agricultural production, crops	1.9

¹ When a youth is said to have worked "at age 14," for example, the reference is to the youth having worked at some time during the entire 52-week period between the youth's 14th and 15th birthdays.

NOTE: The National Longitudinal Survey of Youth 1997 surveyed male and female youths who were aged 12 to 16 on December 31, 1996. All rows of the table exclude individuals who were not yet 15 years of age when they were interviewed. N.E.C. = not elsewhere classified.

Table 5. Top 10 industries of longest-held employee job of youths at age 15 in 1995–97, by sex¹

Industry	Percent of youths
Male youths	
Eating and drinking places	27.3
Construction	8.3
Miscellaneous entertainment and recreation services	7.6
Grocery stores	4.7
Newspaper publishing and printing	4.2
Landscape and horticultural services	4.0
Agricultural production, crops	2.6
Agricultural production, livestock	2.5
Automotive repair and related services	2.0
Miscellaneous retail stores	1.5
Female youths	
Eating and drinking places	30.8
Miscellaneous entertainment and recreation services	10.9
Grocery stores	4.2
Private households (personal services)	3.0
Religious organizations	2.3
Child day care services	2.3
Services to dwellings and other buildings	1.7
Apparel and accessory stores, except shoe	1.6
Food stores, N.E.C.	1.5
Hotels and motels	1.4

¹ When a youth is said to have worked “at age 14,” for example, the reference is to the youth having worked at some time during the entire 52-week period between the youth’s 14th and 15th birthdays.

NOTE: The National Longitudinal Survey of Youth 1997 surveyed male and female youths who were aged 12 to 16 on December 31, 1996. All rows of the table exclude individuals who were not yet 16 years of age when they were interviewed. N.E.C. = not elsewhere classified.

However, only 14- and 15-year-old youths in households with annual incomes in the \$45,000–\$69,999 range worked a significantly greater number of weeks than did youths in households with an income of less than \$25,000 per year.

Youth industries and occupations

Fourteen- and 15-year-olds’ employee jobs were concentrated in a small number of industries. Table 3 lists the top 10 detailed three-digit Census industries of employee jobs youths held at ages 14 and 15.¹² Nearly 60 percent of employed youths worked in one of these industries sometime at age 14 or 15. At both of these ages, eating and drinking places constituted the most common industry in which youths were employed, with 17-percent representation among 14-year-olds and a significantly higher 29-percent showing among 15-year-olds.

Male and female 14-year-olds shared 5 of the top 10 industries, while their 15-year-old counterparts shared only 3. (See Tables 4 and 5.) Not surprisingly, eating and drinking establishments were the most common employers of male and female youths at both ages 14 and 15. At age 14, male youths in employee jobs were nearly 3 times as likely to work in the construction industry as were female youths. Construction

continued to be a prominent employer of male youths at age 15, although it did not appear in the top-10 list for 15-year-old female youths. By contrast, work in private households was significant for 14- and 15-year-old young women, but did not appear in the top-10 industry list for male youths.

Youth employment also appears to be concentrated in a small number of occupations. Table 6 lists the top 10 detailed three-digit Census occupations of employee jobs youths held at ages 14 and 15;¹³ at each age, about 50 percent of employed youths worked in one of those occupations. The most likely detailed occupation for employed youths is janitors and cleaners at age 14 (9 percent) and cashiers at age 15 (10 percent). The latter is the third most likely occupation for 14-year-olds.

Male and female youths exhibit significant differences in occupations at the two ages studied. Male and female 14-year-olds shared only two common occupations in their top-10 lists, while their 15-year-old counterparts shared five. (See tables 7 and 8.) Cashier was the most common occupation of employed female youths: 11 percent worked as cashiers at age 14 and 16 percent at age 15. By contrast, the occupation of cashier did not even reach the top-10 list of employed male 14-year-olds and was the fifth most common occupation of employed male 15-year-olds. Male youths were most likely to

Table 6. Top 10 occupations of longest-held employee job of youths at ages 14 and 15 in 1994–97¹

Occupation	Percent of youths
Total at age 14	
Janitors and cleaners	8.7
Farm workers	5.9
Cashiers	5.5
News vendors	5.3
Groundskeepers and gardeners, except farm	4.5
Laborers, except construction	4.1
Construction laborers	3.9
Cooks	3.8
Waiters' and waitresses' assistants	3.5
General office clerks	2.9
Total at age 15	
Cashiers	10.0
Cooks	5.9
Miscellaneous food preparation occupations	5.7
Janitors and cleaners	5.5
Waiters' and waitresses' assistants	4.7
Stock handlers and baggers	4.5
Laborers, except construction	4.2
Sales workers, other commodities	4.1
Construction laborers	3.1
News vendors	3.0

¹ When a youth is said to have worked “at age 14,” for example, the reference is to the youth having worked at some time during the entire 52-week period between the youth’s 14th and 15th birthdays.

NOTE: The National Longitudinal Survey of Youth 1997 surveyed male and female youths who were aged 12 to 16 on December 31, 1996. Rows of the table referring to 14-year-olds exclude individuals who were not yet 15 years of age when they were interviewed. Rows referring to 15-year-olds exclude individuals who were not yet 16 years of age when they were interviewed.

Table 7. Top 10 occupations of longest-held employee job of youths at age 14 in 1994-97, by sex¹

Occupation	Percent of youths
Male youths	
Janitors and cleaners	9.4
Farm workers	7.1
Groundskeepers and gardeners, except farm	6.9
News vendors	6.7
Construction laborers	4.7
Laborers, except construction	5.9
Cooks	4.2
Waiters' and waitresses' assistants	4.1
Miscellaneous food preparation occupations	3.4
Attendants, amusement and recreational facilities	2.8
Female youths	
Cashiers	10.9
Janitors and cleaners	7.5
Child care workers, private household	5.9
General office clerks	5.8
Child care workers, N.E.C.	5.2
Waiters and waitresses	4.7
Receptionists	4.3
Teachers, N.E.C.	3.9
Farm workers	3.9
Secretaries	3.5

¹ When a youth is said to have worked "at age 14," for example, the reference is to the youth having worked at some time during the entire 52-week period between the youth's 14th and 15th birthdays.

NOTE: The National Longitudinal Survey of Youth 1997 surveyed male and female youths who were aged 12 to 16 on December 31, 1996. All rows of the table exclude individuals who were not yet 15 years of age when they were interviewed. N.E.C. = not elsewhere classified.

be employed as janitors and cleaners at age 14 (9 percent) and as cooks (8 percent) at age 15. Female 15-year-olds were about half as likely to be employed as cooks. Another interesting gender difference is that 14- and 15-year-old female youths were likely to be employed as waitresses, whereas male youths were likely to be employed as waiters' and waitresses' assistants.

Babysitting and yard work were by far the most common freelance jobs youths reported having worked at at ages 14 and 15. Table 9 shows that 43 percent of youths engaged in freelance jobs at age 14. Of these, 62 percent worked as babysitters and 38 percent did yard work.¹⁴ At age 15, 40 percent of youths worked in freelance jobs, of whom 60 percent worked as babysitters and 37 percent did yard work.

There are dramatic differences in freelance occupations by sex. At age 14, more than 91 percent of female youths who held freelance jobs worked as babysitters, compared with less than 25 percent of male youths. In contrast, almost 73 percent of male youths in freelance jobs did yard work, compared with less than 11 percent of female youths in freelance jobs. The pattern continues for youths who worked at age 15, with, again, about 91 percent of female youths in freelance

jobs having worked as babysitters, but only 20 percent of male youths having done so. At age 15, male youths who held freelance jobs were far more likely to do yard work (73 percent) than were female youths who held freelance jobs (9 percent).

Whites were more likely to hold freelance jobs at ages 14 and 15 than were blacks or Hispanics. At age 14, whites holding a freelance job were more likely to work as babysitters than were blacks.

Employment while in school

This section examines the timing of youth employment during school and during summer weeks. The analysis focuses on the employment during the year 1996 of youths aged 15 years as of December 31, 1996. Thus, the data are for one birth year, 1981, so that the youths in question were aged 14 to 15 during 1996.

Chart 1 depicts the percent of enrolled youths working at employee jobs over each week of the 1996 calendar year; shading marks summer weeks.¹⁵ The chart shows a general upward trend in the percent of youths aged 14 to 15 working

Table 8. Top 10 occupations of longest-held employee job of youths at age 14 in 1995-97, by sex¹

Occupation	Percent of youths
Male youths	
Cooks	7.7
Janitors and cleaners	6.9
Miscellaneous food preparation occupations	6.4
Waiters' and waitresses' assistants	6.0
Cashiers	5.8
Construction laborers	5.5
Stock handlers and baggers	5.5
Groundskeepers and gardeners, except farm	5.1
Laborers, except construction	4.8
News vendors	4.5
Female youths	
Cashiers	15.7
Waiters and waitresses	5.7
General office clerks	5.6
Sales workers, other commodities	4.7
Miscellaneous food preparation occupations	4.7
Receptionists	4.1
Cooks	3.6
Janitors and cleaners	3.6
Laborers, except construction	3.4
Teachers, N.E.C.	3.3

¹ When a youth is said to have worked "at age 14," for example, the reference is to the youth having worked at some time during the entire 52-week period between the youth's 14th and 15th birthdays.

NOTE: The National Longitudinal Survey of Youth 1997 surveyed male and female youths who were aged 12 to 16 on December 31, 1996. All rows of the table exclude individuals who were not yet 16 years of age when they were interviewed. N.E.C. = not elsewhere classified.

Table 9. Percent of youths engaged in freelance jobs at ages 14 and 15 in 1994-97, by type of job, sex, race or Hispanic origin, and household income¹

Age in 1994-97 and characteristic	Percent with a freelance job	Percent of those with a freelance job engaged in—	
		Babysitting	Yard work
Total working at age 14	42.8	62.0	37.9
Sex:			
Male	36.8	24.6	72.8
Female	49.1	91.4	10.6
Race or ethnicity:			
White	48.3	63.3	37.4
Black	33.1	55.2	41.1
Hispanic origin	30.1	59.9	40.2
Household annual income:			
Less than \$25,000	34.7	58.7	35.1
\$25,000 to \$44,999	46.4	63.2	39.1
\$45,000 to \$69,999	49.3	61.5	41.1
\$70,000 or more	49.5	67.8	35.0
Family structure:			
Two-biological-parent family	46.4	62.5	38.5
Two-parent family	44.4	67.0	35.8
Female-parent family	40.3	60.6	32.0
Not living with parent	31.4	66.2	40.4
Total working at age 15	39.8	59.8	37.2
Sex:			
Male	34.1	19.6	72.8
Female	45.8	91.4	9.3
Race or ethnicity:			
White	44.8	61.0	37.2
Black	28.7	52.9	41.2
Hispanic origin	28.1	59.7	34.1
Household annual income:			
Less than \$25,000	30.9	52.3	33.0
\$25,000 to \$44,999	44.7	64.3	33.6
\$45,000 to \$69,999	46.9	61.1	42.8
\$70,000 or more	49.4	62.3	39.5
Family structure:			
Two-biological-parent family	44.1	61.2	38.7
Two-parent family	39.3	64.4	35.5
Female-parent family	40.2	59.6	30.8
Not living with parent	22.5	66.8	39.8

¹ When a youth is said to have worked "at age 14," for example, the reference is to the youth having worked at some time during the entire 52-week period between the youth's 14th and 15th birthdays.

NOTE: The National Longitudinal Survey of Youth 1997 surveyed male and female youths who were aged 12 to 16 on December 31, 1996. Rows of the table referring to youths working at age 14 exclude individuals who were not yet 15 years of age when they were interviewed.

at employee jobs during the weeks leading up to the summer. A peak in youth employment occurred during the middle of the summer. The trend line then became fairly flat during the fall school term, but still lay above its spring-term level.

This general employment pattern also held for male and female youths separately. (See Chart 2.) However, over the summer months, male youths experienced a steeper increase and subsequent decrease in employment than did female youths. Throughout the 1996 calendar year, male employ-

ment was higher than female employment.

Chart 3 shows the week-by-week incidence of employment separately by race and ethnicity. White, black, and Hispanic youths all exhibited a peak in employment during the summer weeks. However, while white youths experienced an upward trend in employment during the spring semester of 1996, the trend line of black and Hispanic youths remained fairly flat. Over the weeks of 1996, white youth employment was consistently much higher than employment for black and

Table 10. Percent of youths aged 15 as of December 31, 1996, with an employee job during 1996, by timing of employment, sex, race or Hispanic origin, household income, family structure, and grade attending school¹

Characteristic	Percent with an employee job	Worked during school-year weeks			
		Total	Worked during school-year weeks only	Worked during both school-year and summer weeks	Worked during summer weeks only
Total	31.9	24.9	5.8	19.1	7.0
Sex:					
Male	37.0	29.0	6.6	22.4	7.9
Female	26.6	20.6	5.0	15.6	6.0
Race or ethnicity:					
White	36.6	30.4	6.3	24.1	6.2
Black	22.9	14.1	6.3	7.8	8.8
Hispanic origin	20.1	12.4	4.0	8.4	7.6
Household annual income:					
Less than \$25,000	24.1	18.1	6.6	11.5	6.1
\$25,000 to \$44,999	33.4	25.0	7.5	17.6	8.4
\$45,000 to \$69,999	38.6	33.4	5.8	27.5	5.3
\$70,000 or more	38.9	30.3	5.9	24.4	8.6
Family structure:					
Two-biological-parent family	34.6	28.3	5.1	23.3	6.3
Two-parent family	38.5	29.5	9.7	19.9	8.9
Female-parent family	26.4	19.4	6.3	13.1	7.0
Not living with parent	24.5	21.1	3.8	17.3	3.3
Grade attending school, fall 1996:					
6th, 7th, or 8th	18.4	12.4	5.4	7.0	6.1
9th	28.9	21.6	4.8	16.8	7.3
10th	35.3	28.1	6.7	21.4	7.2
11th or 12th	35.0	32.9	4.2	28.7	2.1

¹ When a youth is said to have worked "at age 14," for example, the reference is to the youth having worked at some time during the entire 52-week period between the youth's 14th and 15th birthdays.

NOTE: The National Longitudinal Survey of Youth 1997 surveyed male and female youths aged 12 to 16 on December 31, 1996.

Table 11. Percent of youths aged 13 engaged in work activities at age 12 sometime during 1995-97, by type of job, sex, race or Hispanic origin, and household income¹

Age in 1995-97 and characteristic	Percent with a work activity	Percent of those with a work activity engaged in—	
		Babysitting	Yard work
Total	49.6	55.6	39.7
Sex:			
Male	48.3	26.3	65.8
Female	51.0	84.9	13.6
Race or ethnicity:			
White	56.5	54.6	40.1
Black	36.2	46.9	41.7
Hispanic origin	36.0	61.3	37.0
Household annual income:			
Less than \$25,000	48.7	50.1	45.9
\$25,000 to \$44,999	52.2	51.2	41.5
\$45,000 to \$69,999	53.8	55.6	39.1
\$70,000 or more	53.9	61.5	39.1
Family structure:			
Two-biological-parent family	52.2	55.2	41.3
Two-parent family	50.9	53.7	39.8
Female-parent family	51.6	56.4	38.8
Not living with parent	41.2	49.5	32.0

¹ When a youth is said to have worked "at age 14," for example, the reference is to the youth having worked at some time during the entire 52-week period between the youth's 14th and 15th birthdays.

NOTE: The National Longitudinal Survey of Youth 1997 surveyed male and female youths who were aged 12 to 16 on December 31, 1996. All rows of the table exclude individuals who were not yet 13 years of age when interviewed.

Hispanic youths. Black and Hispanic youths experienced fairly similar rates of employment during the spring and summer of 1996. However, during the fall semester, the trend line for Hispanic youth employment was above that of black youth employment.

Most youths who worked at employee jobs did so during both the summer and the school term. More specifically, 19 percent of enrolled youths aged 14 to 15 worked at an employee job at some point during both the summer and the school term in 1996. (See table 10.) Six percent of youths worked in an employee job only during the school year in 1996. Thus, 25 percent of youths aged 14 to 15 worked at an employee job at some point while school was in session during the 1996 calendar year. An additional 7 percent worked in an employee job only during the summer, but not the school term, of 1996.

The 19 percent of enrolled youths who worked during both the summer and the school year worked much more intensively, in terms of percent of weeks worked, than students employed only during the school months or only during the summer (numbers not shown in table). That is, this group of youths worked in employee jobs about 61 percent of school weeks and 80 percent of summer weeks; in con-

trast, those who worked only during the school year worked under 20 percent of the school weeks, and youths who worked only during the summer worked slightly under half of the summer weeks.

A higher percentage of male youths than female youths worked in employee jobs at some point during the school term (29 percent and 21 percent, respectively). However, among youths who worked, there was little difference by gender in the percent of weeks worked (numbers not shown in table).

Whites were much more likely to work in employee jobs at some point while school was in session (30 percent) than were blacks (14 percent) or Hispanics (12 percent). Almost a quarter of whites worked in employee jobs during both the summer and the school year, compared with about 8 percent of blacks and Hispanics. Employed whites in this group worked significantly more school and summer weeks than did blacks—about 62 percent of school weeks and 81 percent of summer weeks, compared with 46 percent of school weeks and 67 percent of summer weeks (numbers not shown in table).

The timing of youth employment also varies by household income and family structure. Youths in households with

Chart 1. Percent of school-enrolled youths aged 15 on December 31, 1996, who worked in employee jobs during 1996, week by week

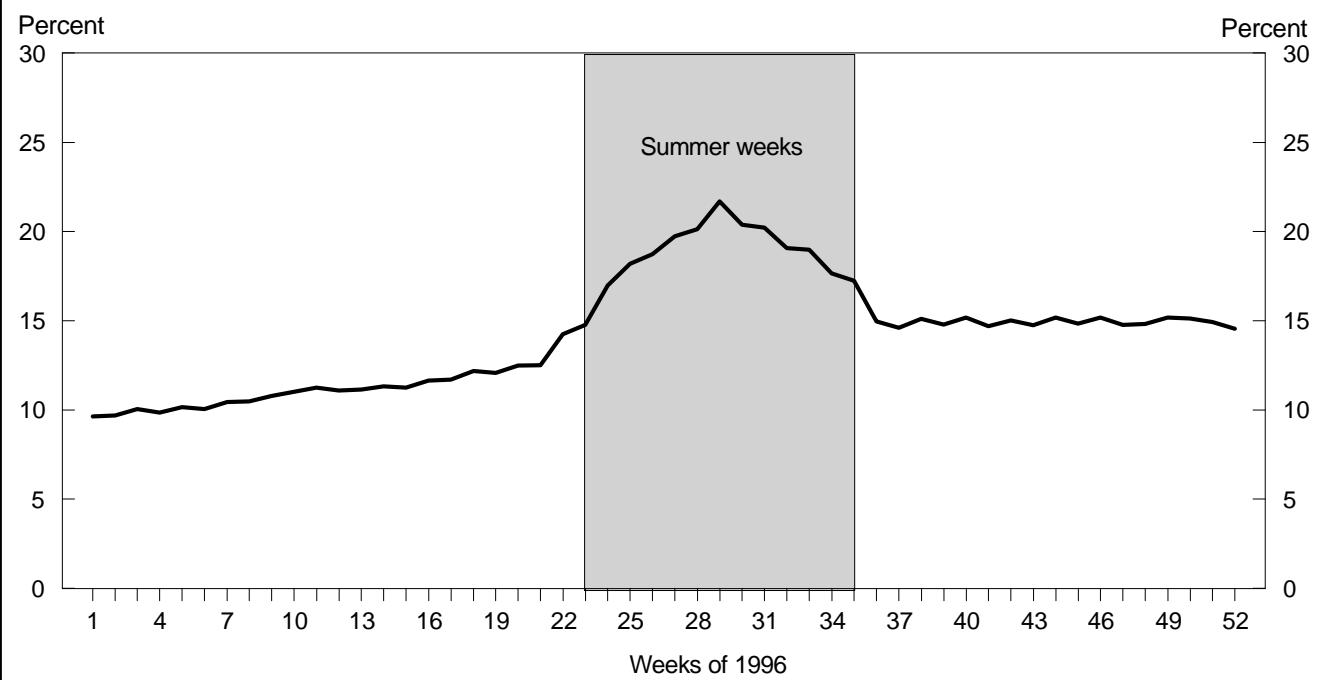


Chart 2. Percent of school-enrolled youths aged 15 on December 31, 1996, who worked in employee jobs during 1996, week by week, by sex

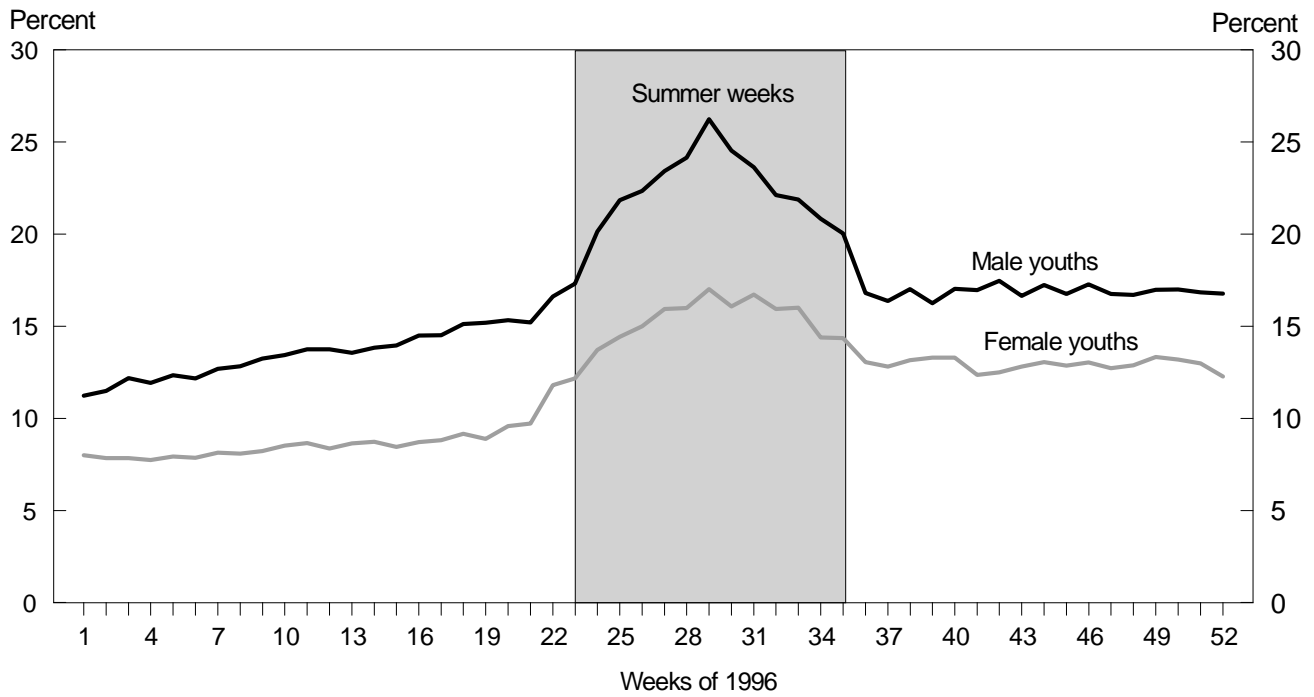
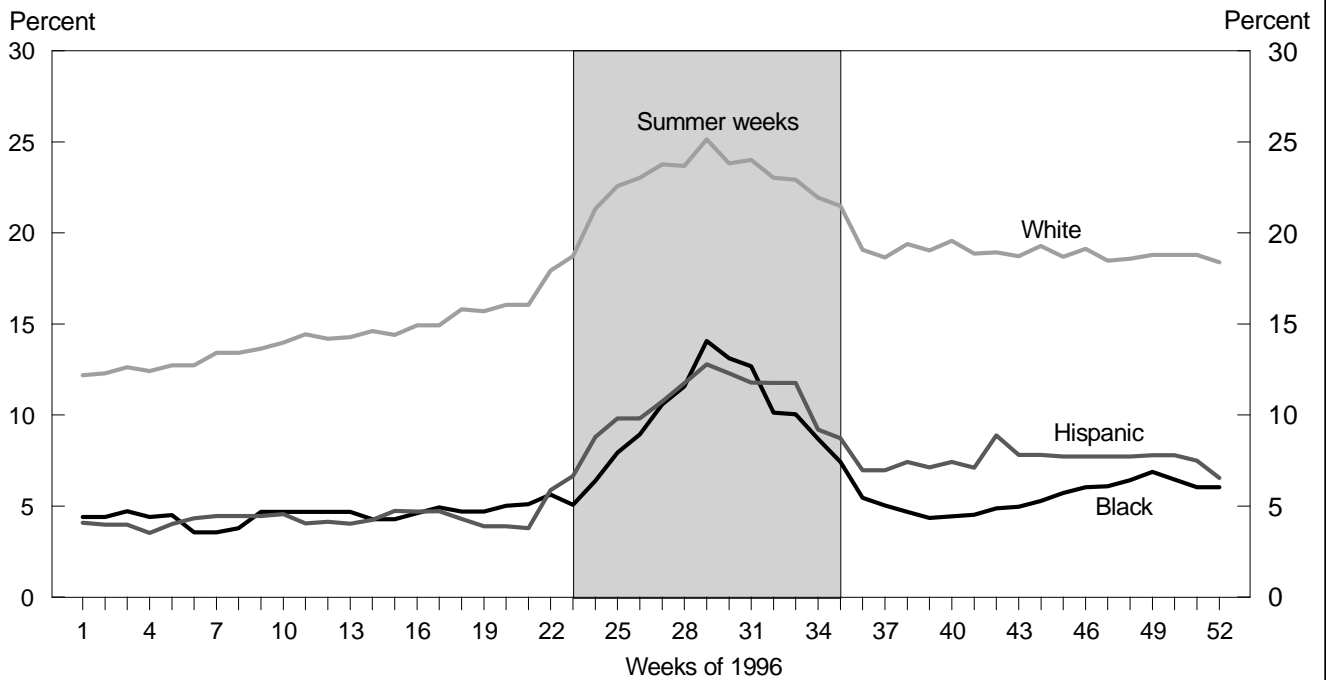


Chart 3. Percent of school-enrolled youths aged 15 on December 31, 1996, who worked in employee jobs during 1996, week by week, by race and Hispanic origin



yearly incomes of less than \$25,000 were less likely to hold employee jobs during the school year (18 percent) than were youths in households in higher income categories (from 25 percent to 33 percent). Youths in two-biological-parent families and other two-parent families were more likely to work while school was in session than were youths in female-parent families.

Being in a higher grade in school was also associated with a higher incidence of youth employment. In the fall of 1996, the cohort born in 1981 was mostly in the 9th and 10th grades. Youths in 10th grade were more likely to work during the school term than were youths in lower grades. Tenth graders were also significantly more likely to work both during the school year and during the summer than were youths in lower grades.

Employment of the very young

The NLSY97 also provides data on the work activities of youths who have not reached their teenage years. Nearly half of all youths aged 13 years at the time of the survey were engaged in work activities at some point while they were age 12. (See table 11.) Of these, 56 percent worked as babysitters and 40 percent did yard work.¹⁶ Female youths were about equally as likely as male youths to engage in work activities at age 12. However, gender differences in the types of work activities youths participated in at that age were substantial, with 85 percent of working female youths engaged in babysitting,

compared with 26 percent of male youths. Conversely, about two-thirds of working male youths performed yard work at age 12, compared with only 14 percent of working female youths. Whites are much more likely to engage in work activities at age 12 (57 percent) than are blacks (36 percent) or Hispanics (36 percent). There is little difference by household income level.

YOUTHS ENGAGE IN SUBSTANTIAL WORK ACTIVITY across the various measures of youth employment examined in this article. From age 14 to 15, youths appear to shift more toward working in employee jobs and less in freelance jobs. At both of those ages, gender and racial differences in employment are significant. At both ages, female youths are more likely to hold freelance jobs than male youths, but less likely to hold employee jobs. In addition, significant gender differences exist in the types of employee and freelance jobs held by youths. Finally, whites are more likely to engage in work activities than are blacks or Hispanics.

An examination of the timing of youth employment indicates that youths who hold employee jobs at ages 14 to 15 are likely to work during school weeks. Youths who hold employee jobs during both summer and school weeks tend to work a higher percentage of weeks in each of those periods than those who work only during the summer or only during the school year. □

Footnotes

¹ Data include oversamples of black and Hispanic youths. Subsequent to the release of round-1 NLSY97 data, some duplicate observations were discovered, and the sample size for that round then fell from 9,022 to 8,984. Sample weights at the time this article was begun were based on all 9,022 observations, and the tables that are presented use the full round-1 sample, as well as round-1 sample weights to adjust for differing sample rates; this approach ensures that the data are nationally representative of U.S. youths born in the years 1980–84.

² A number of the tables in this article also appear in *Press Release USDL 99-110* and *Report on the Youth Labor Force* (Bureau of Labor Statistics, November 2000).

³ However, the round-1 survey also contains a “cps Section” containing questions from the Current Population Survey that can be used to determine a youth’s labor force status in the week prior to the interview. The article “Youth employment: results from two longitudinal surveys school” (this issue, pp. 25–37) uses data from the “cps Section.”

⁴ Youths are aged 12–16 as of December 31, 1996. The round-1 interview occurred in 1997, when most youths had not yet turned 17. Because the number of youths for whom data were collected for the entire year they were 16 is small, the article does not show tabulations for 16-year-olds.

⁵ See, for example, National Research Council, *Protecting Youth at Work* (Washington, DC, National Academy Press, 1998).

⁶ As just stated, only youths aged 12 or 13 at the date of the interview report employment at these young ages. Thus, it is not possible to use round-1 NLSY97 data to calculate youth employment for the entire year that youths are age 13.

⁷ Mark Schoenhals, Marta Tienda, and Barbara Schneider, “The Educational and Personal Consequences of Adolescent Employment,” *Social Forces*, December 1998, pp. 723–62, provide a brief summary of this research.

⁸ The categories are (1) families with two biological parents or two adoptive parents (called, for simplicity, two-biological-parent families), (2) families with one biological parent and one step- or adoptive parent (called simply two-parent families), (3) families with one female biological parent and no other parent (female-parent families), (4) families with one male biological parent and no other parent (male-parent families), and (5) families consisting of children living with foster parents, grandparents and no parents, or other relatives and no parents; families of children living in group quarters; and other family arrangements (all lumped together as children not living with parents). Due to the small sample size of male-parent families, the tables that follow exclude that category.

⁹ Robert T. Michael and Nancy B. Tuma, “Youth Employment: Does Life Begin at 16?” *Journal of Labor Economics*, October 1984, pp. 464–76, point out that significant percentages of youths in the NLSY79 work before age 16.

¹⁰ In all tables and charts in this article, the racial and Hispanic groups are mutually exclusive. Totals include American Indians, Alaskan natives, and Asians and Pacific Islanders, not shown separately.

¹¹ At ages 14 and 15, youths who do not live with a parent work less than youths who live in the other family structures listed in table 1. Youths who do not live with a parent live in varied arrangements, including living with foster parents, grandparents, and other relatives, as well as living in group quarters.

¹² The industry shown in this table and in tables 4 and 5 is for the employee job the youth held for the most weeks at a particular age.

¹³ The occupation shown in this table and in tables 7 and 8 is for the

employee job the youth held for the most weeks at a particular age.

¹⁴ Yard work includes mowing lawns, shoveling snow, landscaping, and gardening. In explaining the concept of freelance jobs to youth respondents, NLSY97 interviewers used babysitting and mowing lawns as examples. Youths who have more than one freelance job at the age of 14 or 15 may appear in both the babysitting and yard-work columns of table 9.

¹⁵ Summer is defined as the 13-week period from June 2 through August 31, 1996.

¹⁶ Youths who had more than one work activity at age 12 may appear in both the babysitting and yard-work columns of table 11.

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Youth initiation into the labor market

About half of 12- and 13-year-olds surveyed engage in some sort of work; such work is more likely among youths from higher socio-economic backgrounds or who have engaged in 'delinquent' behaviors

Lynn Huang,
Michael Pergamit,
and
Jamie Shkolnik

Young people acquire substantial work experience before age 16, the age at which official statistics begin counting employment. Using the National Longitudinal Survey of Youth—1979 cohort (NLSY79), R.T. Michael and N.B. Tuma examined the amount of work performed by 14- and 15-year-olds using definitions from the Current Population Survey (CPS).¹ Importantly, they found significant differences between black and white youths, and also found that youths who worked at ages 14 and 15 were more likely to be working 2 years later. They concluded that social scientists should include such early work experience in their models. Their findings were influential in the design considerations for the National Longitudinal Survey of Youth—1997 cohort (NLSY97).

Other surveys that capture information about youths as young as 12 do not typically include information on their work activities, and data that focus on work have not sampled those below age 14.² The Fair Labor Standards Act prohibits employment of those younger than age 14, and restricts the hours and jobs allowed for those younger than 16. However, many youths have “jobs” before these ages. These jobs, while not always like those of adults, frequently involve learning work behavior (for example, showing up at a particular time every week), personal responsibility (for example, caring for someone’s child), remuneration, and other characteristics that teach

young adolescents the basic nature of working for someone else.

The NLSY97 provides a unique opportunity to study the very early work experiences of youths and relate these experiences to future labor market behavior. For 12- and 13-year-olds, information was collected about jobs they had held since age 12.

This article examines exclusively 12- and 13-year-olds, focusing on who holds jobs and the nature of those jobs. Is early initiation into the labor market (age at obtaining first job) associated with youths from upper income, more educated families, or does it occur among those who most likely will not pursue advanced schooling? Does work serve to supplement household income in lower-income, single-parent families? These and related questions are examined in relation to race/ethnicity; parental income, education, and marital status; and the presence of siblings.

Schooling achievement—as measured by the Peabody Individual Achievement Test (PIAT) Mathematics score—and time use are compared for youths who have jobs with those who do not. Measuring time use can determine if homework, outside classes, and so forth are substitutes for, or complements to, work. We also observe whether youths in early-age jobs also engaged in or had early initiation into risky behaviors (such as drug and alcohol use, or other delinquency). Finally, we can observe how youths

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found jobs (that is, did they have help from their parents, other help, or no help at all).

Study methodology

Data for this article are from the first wave of the National Longitudinal Survey of Youth, 1997 Cohort, sponsored by the Bureau of Labor Statistics, U.S. Department of Labor. The survey's main goal is to document the transition from school to work for the U.S. population born during the 1980–84 period. The first wave of the survey includes 9,022 youths aged 12–18 when interviewed.³

Work experience. The NLSY97 has a unique set of questions on employment that permits investigation of youth initiation into the labor market. The 12- and 13-year-old respondents were asked about any job experiences since their 12th birthday. This experience could include working for a particular employer (for example, delivering newspapers) or doing tasks for several people—freelance jobs (for example, baby-sitting or mowing lawns). Most jobs reported at these ages were freelance jobs. Respondents aged 14 and older were also asked about their experience in freelance jobs since their 14th birthday. However, information on initial entrance into the labor market is incomplete for those respondents, as freelance jobs that ended before age 14 are not included. For this reason, respondents aged 14 and older were excluded from this study.

Youths were asked first to list the *kinds* of jobs they have had since their 12th birthday. Then they were asked whether they got help in finding this kind of work; who helped them; when they started doing this kind of work; whether they are currently doing this kind of work, and if not, when was the last time they did. In addition, for the beginning and end of each kind of job, youths were asked the usual number of hours worked per week, the usual amount of money earned per week, and the number of days and hours worked on week-days and weekends.

A main purpose of this study was to identify youths who work and the number of hours they worked. Therefore, the analysis focuses on two measures of youth employment: A discrete variable measures whether the respondent reported any jobs; a count variable measures the number of hours the respondent worked per week. The information on the number of work hours per week was collected for each kind of work performed—when it was initiated and when it was last (or is currently) performed. However, we do not know the sequential order of jobs performed or whether jobs were (are) performed at the same time. Given this, we use the hours when jobs were last (or are currently) performed, and among those, we use the hours per week on the job with most hours.⁴

Associated factors. Which youths are more likely to enter the labor market in the early adolescent years? Which youths work more hours than others? It is of particular interest to examine labor market initiation with other factors that affect

Chart 1. Cumulative age initiation for 12- and 13-year-olds who have worked by the time they were interviewed, NLSY97

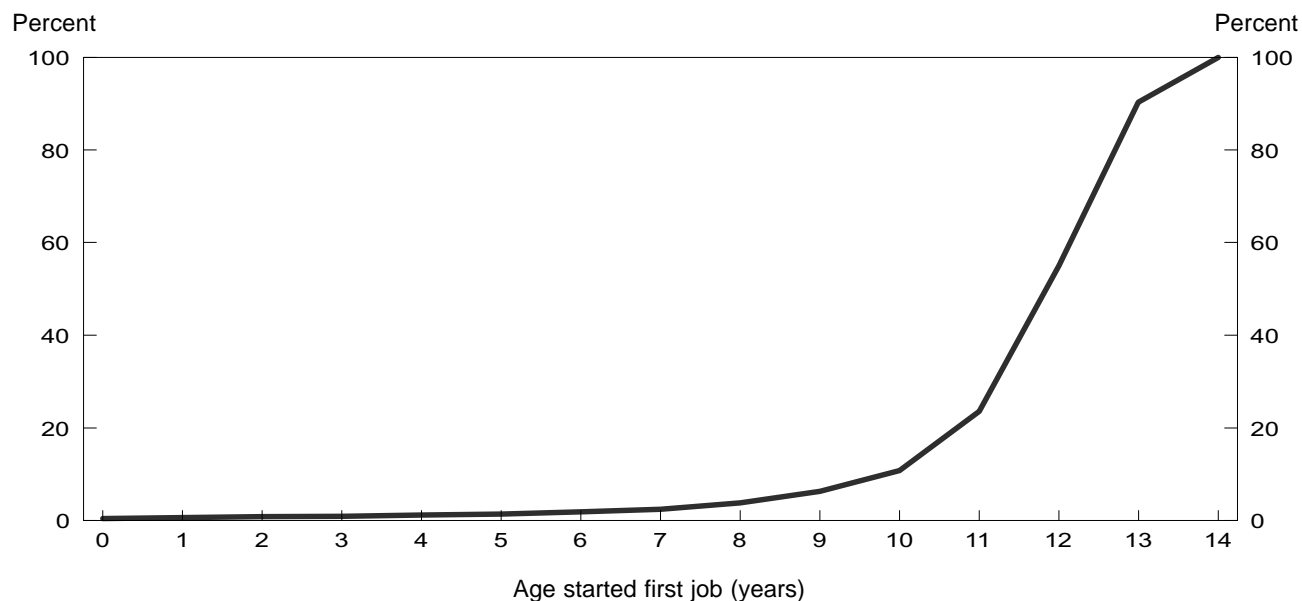


Table 1. Characteristics of 12- and 13-year-old youths, NLSY97

[In percent unless noted otherwise]

Variable	Weighted mean			Variable	Weighted mean		
	Total	Male	Female		Total	Male	Female
Job characteristic				Mother's educational attainment:			
Percent who reported jobs	52.5	51.2	53.9	High school dropout	17.0	16.9	17.1
Conditional on having a job:				High school graduate	32.6	32.4	32.7
Number of jobs	1.6	1.7	1.5	Some college	23.9	22.7	25.3
Age started job (years)	11.6	11.5	11.7	College and up	20.3	21.5	19.1
Percent who got help in finding jobs	61.8	64.2	59.4	Missing	6.2	6.5	5.8
Hours per week on job with most hours	7.1	6.6	7.5	Father's educational attainment:			
Hours per week for those finding a job with help of:				High school dropout	14.5	13.9	15.1
Parents	7.9	7.2	8.7	High school graduate	30.4	30.7	30.1
Someone other than parents	7.4	7.5	7.3	Some college	17.0	17.0	17.1
No one	5.9	5.4	6.4	College and up	20.8	21.9	19.8
Earnings per week on job with highest earnings	\$22.93	\$26.87	\$18.94	Missing	17.2	16.5	18.0
Top 10 job types from the first job listed:				School performance and time use			
Baby-sitting	49.3	17.0	81.8	Ever suspended from school	18.4	25.5	10.9
Mowing / other yard work	22.8	42.7	3.5	PIAT-Math percentile score	54.8	55.5	54.5
Paper route	3.5	4.7	2.3	Spent time doing homework	91.2	90.8	91.7
Snow shoveling	2.9	5.7	.2	Hours on homework per week	6.4	5.6	7.2
Chores, odd jobs	2.1	2.5	1.7	Spent time on extra classes	30.4	26.4	34.6
Farm work	2.0	3.5	.5	Hours on extra classes per week	3.7	3.4	3.9
House cleaning	1.8	2.0	1.7	Spent time watching TV	96.6	97.1	96.2
Pet care	1.5	1.0	2.1	Hours watching TV per week	19.8	20.8	18.8
Selling	1.1	1.7	0.6	Spent time reading for pleasure	65.6	60.7	70.9
Carpentry, building, painting, construction	1.1	2.1	0	Hours reading for pleasure per week	3.4	5.0	13.5
Demographic characteristics				Substance use and delinquency			
Sex	100.0	51.5	48.5	Ever smoked	25.3	25.4	25.3
White, non-Hispanic	62.6	66.5	65.8	Ever drank alcohol	24.3	27.0	21.5
Black, non-Hispanic	15.6	15.4	15.8	Ever used marijuana	6.9	7.9	5.9
Hispanic	12.5	12.9	12.1	Ever ran away	6.0	6.5	5.4
Other race/ethnicity	5.7	5.2	6.4	Ever carried a handgun	7.7	13.5	1.5
Northeast	17.8	17.6	18.1	Ever purposely destroyed property	25.3	32.1	18.2
North Central	25.1	26.1	24.1	Ever attacked another person	14.6	19.3	9.7
West	33.7	33.6	33.8	Ever been arrested for illegal or delinquency offenses	3.2	4.5	2.0
South	23.3	22.7	24.0				
Metropolitan Statistical Area	80.0	81.7	78.2				
Lived with two parents/guardians	69.3	70.7	67.8				
Lived with siblings	84.5	84.5	84.4				
Parents' earnings:							
\$0-9,999	17.9	17.4	18.4				
10,000-19,999	10.3	9.9	10.8				
20,000-39,999	20.7	21.6	19.7				
40,000-79,999	29.7	29.9	29.5				
80,000 and more	9.9	10.5	9.2				
Missing	11.5	10.7	12.5				

Table 2. Percent of 12- to 13-year-old youths who report jobs and hours per week on job with most hours, by demographic characteristics, NLSY97

Demographic categories	Percentage who report jobs	Hours/week on job with most hours
Gender:		
Boy	51.2	6.6
Girl	53.9	7.5
Race/ethnicity:		
White, non-Hispanic	58.9	6.7
Black, non-Hispanic	40.6	7.5
Hispanic	39.3	9.1
Others	38.5	6.8
Region:		
Northeast	55.8	6.4
North Central	58.8	7.1
South	46.9	7.2
West	51.4	7.4
Metropolitan Statistical Areas:		
Not in MSA	57.5	8.1
In MSA	51.3	6.8
Number of parents/guardians:		
Living with two parents	53.3	6.6
Other	50.7	8.1
Siblings in the household:		
Yes	53.1	7.1
No	48.6	6.9
Parents' earnings:		
\$0–\$9,999	49.1	8.0
10,000–19,999	49.8	7.2
20,000–39,999	51.9	8.5
40,000–79,999	57.2	8.6
80,000 and more	59.3	5.0
Missing	43.2	7.1
Mother's educational attainment:		
High school dropout	43.8	8.4
High school graduate	53.8	7.1
Some college	56.4	7.3
College and up	57.9	5.2
Missing	36.6	10.2
Father's educational attainment:		
High school dropout	46.7	7.2
High school graduate	53.3	7.6
Some college	57.2	7.1
College and up	57.8	5.0
Missing	45.1	8.8

the overall well-being of youths' lives and their future adult lives. This issue is examined from different aspects: demographic background, family background, school performance, time use, and risky behaviors.

The two job measures, "ever held a job" and "hours per week on the job with the most hours," are examined first by demographic and family backgrounds—age, race/ethnicity, region, and metropolitan/nonmetropolitan area residence; the number of parents/guardians and siblings in the household; mother's highest grade completed; father's highest grade completed; and parents' earnings.

Then we examined the two job measures with school performance and time use. There are two measures for school

performance: ever being suspended from school and Peabody Individual Achievement Test-Math percentile score. The PIAT-Math score is categorized into quartiles: 0–25, 26–50, 51–75, and 76–100. For time use, respondents were asked about four typical youth activities: doing homework, taking extra classes, watching TV, and reading for pleasure. They were asked if they ever spent time on each activity, then the hours per day spent on each activity on weekdays and weekends. We created discrete variables measuring whether respondents ever spent time in each activity, and variables measuring hours per week spent on each activity.

The next issue examined was whether youths who work were more likely to be associated with risky behaviors. Discrete variables for substance use include cigarette smoking, drinking alcohol, and marijuana use. Discrete variables for delinquent behaviors include running away from home, handgun possession, purposely destroying property, attacking another person, and being arrested last year.

Results

Job characteristics. Of the almost 3,000 12- and 13-year-olds surveyed, 52.5 percent had held a job. (See table 1, page 5). Of those who had worked, the average number of jobs held was 1.6, and the average age of initiation was 11.6 years (the median age of initiation was 12.0). Chart 1 on page 4 shows the cumulative distribution of age initiation for those who have worked by the time they were interviewed. It is easy to see a major upturn in initiation around age 12. While recalling that nearly half the youths had not yet been initiated into the labor force, it is clear that age 12 is a time when many adolescents first get exposure to the working world.

These respondents are too young to work legally at restaurants, stores, and similar businesses. The types of jobs held by 12- and 13-year-olds include primarily "freelance" jobs, mainly baby-sitting, lawn mowing, and other yard work. These three jobs make up nearly 75 percent of the jobs listed. On average, these youths spend approximately 7 hours per week on the job with the most hours (although the median is only 4 hours per week),⁵ and their earnings average about \$23 a week. Of the youths sampled, 62 percent had received some kind of help in finding jobs.

Demographic characteristics. Girls seem somewhat more likely than boys to hold jobs and spend more hours on the job. (See table 2.) In fact, 54 percent of girls held a job, compared with 51 percent of boys; 59 percent of white youths held jobs, compared with about 40 percent of blacks, Hispanics, and others. Similarly, the higher the parents' earnings, the higher the likelihood that their child will have a job. This is not surprising, as most of these jobs will be performed for neighbors and friends who probably have similar income lev-

els; lower income neighbors may be less likely to pay someone to do these jobs. Comparable results are found for mother's and father's education level—the higher the parents' educational attainment, the more likely the child is to have a job. Note, however, that working youths who are minority, poorer, and have less-educated parents seem to work longer hours.

School performance and time use. A similar pattern emerges when examining the percentile score of the PIAT-Math achievement test. The higher the youth's score, the more likely he or she is to have a job. (See table 3.) This is consistent with the previous relationships because minorities and lower socio-economic status youths, on average, are likely to have lower test scores. Number of hours worked is lowest for the top quartile of students, but students in the quartile with the second highest scores work the most hours per week. Those who have at some time been suspended from school are as likely to work as those never suspended; but when they work, they work more hours.

One argument that has been raised against permitting 12- and 13-year-old children to work is that it takes time away from other important activities, such as schoolwork and reading. Conversely, working could have positive effects through the responsibility it teaches and by reducing time spent in unproductive activities. Respondents were asked whether they spend time on the following activities: homework, extra classes, watching television, and reading for pleasure. Surprisingly, in each case, those who responded yes were more likely to hold a job. The most dramatic difference is in those who report spending time on homework; of them, 53.5 percent reported holding a job. Of those who reported not doing any homework (9 percent of the sample), only 44.6 percent held jobs. Student workers who spend no time on homework work an average of 9.4 hours per week, while those who do spend time on homework spend only 6.9 hours per week on the job. Similarly, student workers who do not take extra classes work more hours than do student workers who take extra classes (7.3 hours compared with 6.5).

It is possible that work is complementary with these four activities. However, it is impossible to determine, as there is no complete description of the youths' time use. A bigger caveat is that the time-use measure is essentially contemporaneous with the interview date, whereas the work hours measure could be from any time period. And given the probable over-representation of summer jobs, it is doubtful that these data represent either time substitution or complementarity.

Substance use and delinquency. Youths who exhibit risky or dangerous behaviors are consistently more likely to have jobs and tend to work longer hours than their more cautious counterparts. Respondents were asked questions about smoking,

Table 3. Percent of 12- to 13-year-old youths who report jobs and hours per week on job with most hours, by school performance, PIAT-Math score, and time use, NLSY97

Categories	Percentage who report jobs	Hours/week on job with most hours
School performance:		
Ever suspended from school	53.4	8.6
Never suspended from school	52.4	6.7
PIAT-Math percentile score:		
0–25	45.3	7.0
26–50	53.9	7.6
51–75	56.6	7.8
76–100	58.1	6.3
Time use:		
Spent time on homework	53.5	6.9
Did not spend time on homework	44.6	9.4
Spent time on extra classes ...	57.4	6.5
Did not spend time on extra classes	50.5	7.3
Spent time watching TV	52.9	7.1
Did not spend time watching TV	44.8	5.9
Spent time reading for pleasure	53.2	7.2
Did not spend time reading for pleasure	51.4	6.8

Table 4. Percent of 12- to 13-year-old youths who report jobs and hours per week on job with most hours, by substance use or delinquent behavior, NLSY97

Categories	Percentage who report jobs	Hours/wk. on job with most hours
Substance use		
Ever smoked cigarettes	63.1	8.6
Never smoked cigarettes	49.0	6.4
Ever drank alcohol	59.2	7.8
Never drank alcohol	50.4	6.8
Ever used marijuana	63.0	9.0
Never used marijuana	51.8	6.9
Delinquency		
Ever run away from home	59.1	8.2
Never run away from home	52.1	7.0
Ever carried a hand gun	53.4	8.4
Never carried a hand gun	52.5	6.9
Ever purposely destroyed property	58.3	7.0
Never purposely destroyed property	50.6	7.1
Ever attacked another person	56.0	7.9
Never attacked another person	52.0	6.9
Arrested past year	63.8	8.2
Not arrested past year	52.2	7.0

drinking, smoking marijuana, running away from home, carrying handguns, destroying property, fighting, and getting arrested. In every category, youths who answered yes to the dangerous behavior are more likely to hold jobs. (See table 4.)

Also, they work at least as many hours as those who answered that they had not participated in the drug use or delinquency activities. There could be several explanations. For example, these youths may engage in work to support the cost of the dangerous or risky activities. However, the causality could be in the other direction. With more disposable income, the youths have more choices about the types of activities in which they can participate. Of course, it could be an unobserved factor that influences both early initiation into work and risky behaviors. Regardless of the explanation, this is interesting in light of the earlier results indicating that youths who were white, had higher socio-economic status, and were higher-achieving students were more likely to hold jobs.

Regression analysis. The previous analysis measures the differences in the likelihood of employment (and hours worked) for various characteristics of youths. However, the analysis considers each variable separately, not all at once. A regression model is used to examine the impact of all of these variables on whether or not a youth has ever been employed.⁶ Specifically, a probit regression model is used to measure the impact of each variable on the probability of having ever been employed.⁷

Table 5 shows the results of a probit regression of the probability of having a job as related to demographic, school performance and time use, and substance use and delinquency variables. The impact of the non-demographic variables can vary by sex. The model confirms earlier results that being white and of higher socio-economic status (higher parental earnings and education levels) increases the probability that an individual will hold a job. However, the “number of parents” variable indicates that children in two-parent families are less likely to hold a job than those in one-parent families. Also, unlike the simpler tabulations, boys are more likely to work than girls.

All six of the schooling and time-use variables have statistically significant effects for both sexes; however, not all are numerically significant. Youths with higher PIAT-Math test scores are more likely to hold jobs, though the effect is not large. Most time-use variables have quite small effects, although females who take extra classes are more likely to hold jobs. Interestingly, the one strong effect is that students who had been suspended from school are more likely to hold jobs.

As shown earlier, having smoked or been arrested in the past year have positive associations with the likelihood of having a job for both sexes. Males who had smoked marijuana, run away from home, or fought also had positive associations, as did females who drank alcohol or purposely destroyed property. Some rates are small, but having smoked cigarettes is strongly associated with having worked. Inter-

Table 5. Estimated marginal effects from probit regression modeling the probability of 12- to 13-year-old youths having a job, NLSY97

Variable	Estimated marginal effect
Intercept	-1.11 (0.001)
Age .....	.10 (0.0001)
Male .....	.03 (0.0003)
Black, non-Hispanic	-.12 (0.0002)
Hispanic	-.14 (0.0002)
Other race/ethnicity	-.20 (0.0002)
Northeast .....	.02 (0.0002)
North Central .....	.03 (0.0002)
West	-.05 (0.0002)
Metropolitan Statistical Area	-.03 (0.0001)
Number of parents/guardians	-.05 (0.0001)
Number of siblings .....	.004(0.00005)
Parents' earnings, with greater than or equal to \$80,000 as the reference group:	
\$0-\$9,999	-.04 (0.0003)
10,000-19,999	-.04 (0.0003)
20,000-39,999	-.03 (0.0002)
40,000-79,999	-.02 (0.0002)
Missing	-.12 (0.0003)
Mother's education, with college graduate as the reference group:	
High school dropout	-.02 (0.0002)
High school graduate .....	.01 (0.0002)
Some college .....	.01 (0.0002)
Missing	-.15 (0.0003)
Father's education, with college graduate as the reference group:	
High school dropout	-.05 (0.0002)
High school graduate	-.02 (0.0002)
Some college .....	.01 (0.0002)
Missing	-.08 (0.0002)
Boys:	
Ever suspended from school .....	.04 (0.0002)
PIAT-Math percentile score .....	.0002 (0.000003)
Hours/week on homework .....	.004 (0.00001)
Hours/week on extra classes	-.001 (0.00002)
Hours/week watching TV	-.002 (0.00001)
Hours/week reading for pleasure	-.001 (0.00001)
Ever smoked cigarettes .....	.09 (0.0002)
Ever drank alcohol	-.002 (0.0002)
Ever used marijuana .....	.07 (0.0003)
Ever run away from home .....	.10 (0.0003)
Ever carried a hand gun	-.07 (0.0002)
Ever purposely destroyed property	-.01 (0.0002)
Ever attacked another person .....	.09 (0.0002)
Arrested past year .....	.16 (0.0004)
Girls:	
Ever suspended from school .....	.09 (0.0003)
PIAT-Math percentile score .....	.001 (0.000003)
Hours/week on homework	-.0002 (0.00001)
Hours/week on extra classes .....	.006 (0.00002)
Hours/week watching TV	-.002 (0.00001)
Hours/week reading for pleasure	-.001 (0.00001)
Ever smoked cigarettes .....	.15 (0.0002)
Ever drank alcohol .....	.03 (0.0002)
Ever used marijuana	-.07 (0.0004)
Ever run away from home	-.01 (0.0004)
Ever carried a hand gun	-.11 (0.0006)
Ever purposely destroyed property .....	.09 (0.0002)
Ever attacked another person	-.09 (0.0003)
Arrested past year .....	.02 (0.0005)
LR test (Chi-Square)	737025153
P-value .....	.0000

estingly, having carried a handgun is negatively associated with having worked for both sexes, but having fought and smoked marijuana are negative for females only.

To summarize, youths from families of higher socio-economic status, with better school performance (higher PIAT-Math scores), and who engage in positive time-use activities such as reading and homework are more likely to be employed. At the same time, youths who engage in risky behaviors or have been suspended from school also have increased likelihood of early employment. It is difficult to speculate why these various relationships exist. It could be that some youths are “go-getters” who initiate early into many activities, good and bad. Or there could be two different types of youth that engage in early work activity. As additional data are released, it will be possible to estimate longitudinal models that are better suited to control for unobserved heterogeneity. In the future, the relationship between various adolescent behaviors, good and bad, with employment might be better understood.

More research needed

This article used a rich new data source, the NLSY97, to look at youths’ initiation into the labor market. Unlike any previous data set, the NLSY97 collects information on employment

from adolescents as young as 12 years. The NLSY97 provides detailed information about the responding youths, their parents, and other family members, allowing a study of the antecedents to labor market participation and labor supply. The data also allow a better understanding of factors that influence entry into the labor market.

Much concern exists over the impact of youths working while in school, and the evidence is unclear.⁸ Models that can capture earlier experiences will be richer in controlling for the types of unobserved heterogeneity that confound the work-school relationship. This article seeks to lay the groundwork for later research. We find that youths who are white and come from higher socio-economic families are more likely to initiate work earlier. These results are consistent with studies of older adolescents. However, a number of contrasting results suggest there is more to the story. For example, youths who have been suspended from school at some time and youths who smoke (as well as engage in other deviant activities) are also more likely to work at early ages.

The long-term effects of early initiation into the labor market will become apparent as more years of data are collected and as these 12- and 13-year-olds complete their schooling and fully enter the labor market. The cumulative years of data will allow a much better job of modeling work development and the pathways to successful adult outcomes. □

Notes

ACKNOWLEDGMENT: An earlier version of this article was presented at the Conference of Early Results for the National Longitudinal Survey of Youth, 1997 Cohort, November 18–19, 1999, Washington, DC. This project was funded by the U.S. Department of Labor. However, views or opinions stated in this article are the authors and do not necessarily represent the official position or policy of the Department of Labor.

¹R.T. Michael and N.B. Tuma, “Youth Employment: Does Life Begin at 16?,” *Journal of Labor Economics*, 1984, vol. 2, no. 4, pp. 465–476.

²See for example, the National Educational Longitudinal Survey–1988 or the Youth Risk Behavior Survey.

³Analysis of the interview data revealed the final sample size to be 8,984.

⁴The measure we’ve chosen will most likely over-represent summer

jobs that have a greater number of hours. This over-representation may affect the relationships we estimate with some of the variables.

⁵The distribution has a very long right tail. We considered truncating the distribution to eliminate some very high values, but could not establish clearly that these were errors.

⁶Because youths aged 12–13 are not officially in the labor force and no information is available on whether or not a respondent is looking for employment, we do not distinguish between the concept of being in the labor force and the concept of being employed.

⁷A probit model is indicated because the outcome variable, whether a respondent ever worked, is discrete. See D.R. Cox, *Analysis of Binary Data* (London, Cambridge University Press, 1970).

⁸See for example C.J. Ruhm, “Is High School Employment Consumption or Investment?,” *Journal of Labor Economics*, 1997, vol. 15, no. 4, pp. 735–776.

Youth employment during school: results from two longitudinal surveys

Students who worked 20 or fewer hours per week during the school year were more likely to attend college; youths who worked a greater percentage of weeks during the school year worked more consistently when they reached ages 18 to 30

Donna S. Rothstein

According to a popular perception, youths work more today than in the past and their employment may not always lead to desirable consequences. The concern is that a young person's employment, particularly when the individual works many hours, may reduce study time, increase school lateness and absenteeism rates, and adversely affect grades. However, a youth's employment also may provide some positive benefits, teaching about workplace norms and responsibilities and helping to ease the person's subsequent transition from school to work full time. In addition, these costs and benefits associated with a person's working while young could have an impact on the individual's long-term educational and labor market outcomes.

The first part of this article compares the employment of today's youth with that of a youth cohort from nearly 20 years ago. It asks whether 15- and 16-year-olds are, in fact, more likely to work today and examines whether the likelihood of a young person's being employed while attending school varies across youths with different demographic characteristics. Also examined in this part is how the distribution of hours of work of 16-year-olds varies across the two cohorts. Data come from the first round of a new survey of youth—the National Longitudinal Survey of Youth 1997 (NLSY97)—and from the National Longitudinal Survey of Youth 1979 (NLSY79). In the first round of each survey, 15- and 16-year-olds answered similar questions about their current em-

ployment status and hours of work. In addition, many demographic measures that may be associated with youths' decisions to work are similar across the two surveys.

The second part of the article looks at the relationship between the employment of 16- and 17-year-old youths attending school and their future academic and labor market outcomes—specifically, college attendance, weeks of work from ages 18 through 30, and number of jobs held from ages 18 through 30. Data are from the NLSY79, which has followed the lives of survey respondents for more than 20 years. As the NLSY97 cohort ages, researchers will be able to use that survey to study how today's school-enrolled youths' employment affects their long-term educational and labor market experiences.

Background

Youths may choose to work while they are enrolled in school for a variety of reasons. They may want to earn income to support their family, pay for personal expenses (for example, a car), or save for college. Parents may encourage youths to work because they believe that working will teach them responsibility and punctuality. In addition, youths (particularly those who are not bound for college) may want to obtain job experience that will assist them in their subsequent transition from school to work. A goal of the 1994 School-to-Work Opportunities Act is to strengthen the relation-

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ship between schooling and work. However, youths' employment may, in fact, decrease their time for completing homework, cause them to come to school tired and less focused on schoolwork, and, thus, adversely affect their academic achievement.

Many earlier studies that examined the impact of youth employment failed to take into account that the choice to work while attending school and the consequences of working are intertwined. Youths who choose to work may be systematically different from youths who do not work. In addition, youths who work a high number of hours may be different (even before they begin to work) from those who work a moderate number of hours. The differences may be related to observable characteristics, such as one's family background, or to unobservable characteristics, such as one's motivation. Thus, in itself, working while attending school may not be the cause of particular positive or negative consequences; rather, youths who choose to work may have some preexisting differences and would have had those outcomes anyway. This factor complicates any evaluation of the impact of youth employment.¹

A few recent studies by economists have attempted to account for potential underlying differences between youths who work and youths who do not work in analyzing the effects of employment on high school youths. Three studies in particular used the NLSY79. Gerald S. Oettinger found that intensive employment (in terms of either weeks or hours) during the school year has a negative impact on minority students' grade point averages.² Audrey Light, using a sample of male terminal high school graduates, examined the impact of high school employment on subsequent wages over a 9-year period and concluded that such employment has a positive effect on wages only for the first 6 years after graduation from high school.³ In contrast, Christopher J. Ruhm found that employment during high school has a positive impact on earnings 6 to 9 years after the student's senior year.⁴ Although both Ruhm and Light used NLSY79 data, they did so on different samples: Ruhm did not restrict his sample to those with no postsecondary education and included both male and female youths in his sample.

The article begins by looking at differences in characteristics of youths who worked while they were in school in 1979 and in 1997. It then examines the relationship between NLSY79 youths' employment and their long-term educational and labor market outcomes. As noted earlier, this relationship does not necessarily imply cause and effect.

Youth employment in 1979 and 1997

Data and variables. This section compares the employment of two groups of 15- and 16-year-olds born nearly 20 years apart. It uses two data sets that focus specifically on youth:

the NLSY79 and the new NLSY97. The NLSY79 consists of data on more than 12,000 youths aged 14 through 21 as of December 31, 1978. The NLSY97 data set has information on 9,000 youths aged 12 through 16 as of December 31, 1996. The discussion that follows uses information on the employment of 15- and 16-year-olds from the first interview year of each of the two surveys.⁵

In comparing youth employment over time, it is important to have a measure that is based on similar questions with the same reference period. This is possible with the NLSY79 and the NLSY97, because both cohorts received a section that consists of questions from the Current Population Survey (CPS) on their employment status and hours of work in the week prior to the interview. Only NLSY97 respondents who were aged 15 and older received these questions, while all NLSY79 youths received them. Thus, this measure can be constructed for 15- and 16-year-olds across both surveys.⁶ Because the focus in this article is on the employment of youths during the school term, only enrolled youths who were interviewed during the months of January through May are included in tabulations.

Studies have found that gender, race, ethnicity, family income, family structure, and maternal employment are predictors of the likelihood of a person's working while young.⁷ Similar measures of these factors were constructed across the two surveys, and the tables that follow tabulate youth employment by the various factors. For example, past studies have found that white males are more likely to work than other groups. Comparable measures of gender, race, and ethnicity can be formed for both cohorts. Grade might also be a factor. Holding age constant (at 15 or 16), being in a higher grade, perhaps with peers who are older and thus more likely to work, could increase the likelihood of a youth's working while he or she is in school.

Household income can have an ambiguous effect on the likelihood of working. On the one hand, those in households with lower income may be more likely to work because they need to help support their families. On the other hand, youths in low-income households may live in areas with less economic opportunity and have less access to transportation, decreasing the likelihood of their working. The NLSY79 contains a measure of family income in the year prior to the survey, and the NLSY97 has a measure of household income in the previous year. The two measures are fairly similar and are categorized into four income levels in the analysis that follows.

Maternal employment and family structure may affect the likelihood of youths' employment. Families in which the mother is employed may place a stronger emphasis on work among all household members. Both the NLSY79 and the NLSY97 have measures of whether the mother worked during the previous year. Measures of family structure are con-

structed as of the date of the interview for both cohorts.⁸

Youths who have engaged in certain behaviors may be more likely to work. For example, youths who have smoked cigarettes or used marijuana may be more anxious to enter the adult world, which includes working. Round 1 of the NLSY97 asked youths whether they had ever used marijuana or ever smoked a cigarette. The 1984 interview of the NLSY79 asked the age when the youth first smoked a cigarette and the year the youth first used marijuana. These questions are used to construct a measure of whether those who ever engaged in the behavior at issue did so by the date of their 1979 interview.⁹

The effect of having ever been suspended from school on the likelihood of working is ambiguous. On the one hand, youths who have received suspensions may enjoy school less than others and be more likely to want to enter the world of work. On the other hand, if potential employers check with the school as a reference, youths who have received suspensions may be less likely to be offered a job. The NLSY97 round-1 interview asked whether the youth had ever been suspended. In the 1980 interview, the NLSY79 asked for the number of times the youth had ever been suspended and the date of the most recent suspension. The questions are used to determine whether the youth had ever been suspended by the date of the 1979 interview.¹⁰

Employment of 15- and 16-year-olds. Are youths working more now than in the past? NLSY79 and NLSY97 data suggest that the answer is no. About equal percentages (25 percent to 26 percent) of 15-year-olds who were enrolled in school worked during the reference week—that is, the week prior to the NLSY79 and NLSY97 survey interviews. (See table 1.) The percentage of school-enrolled 16-year-olds who worked during the reference week was also nearly the same in the two survey years (36 percent and 38 percent; see table 2.)¹¹ There is a clear step up of more than 10 percentage points in the percent of youths working at age 15 to the percent working at age 16. In part, this may be due to legal restrictions on the types of work that 15-year-olds can perform. In addition, most youths may obtain a driver's license at age 16, which can increase their access to jobs and also motivate them to work to pay for the expenses of having a car.¹² The actual number of hours worked in the week prior to the interview among youths who did work were also fairly similar across the two cohorts (numbers not shown in table). The average was 10.6 for 15-year-olds in 1979 and 8.4 for 15-year-olds in 1997, a small decrease over time. Average hours of work per week were higher for 16-year-olds: 15.2 in 1979 and 14.6 in 1997.

Turning first to 15-year-olds, table 1 shows that the likelihood of a youth's working while in school varies by many background characteristics. The direction of many of the effects is similar across the two cohorts. For example, whites

were more likely to work than were blacks or Hispanics.¹³ Also, blacks were more than 40 percent more likely to work while in school in 1997 than in 1979. In both cohorts, youths in eighth grade or lower were less likely to work than youths in higher grades. Youths who had ever smoked were more likely to work than other youths. Youths in households with lower income were generally less likely to work, possibly because, as mentioned earlier, they may have lived in more depressed areas and have had less access to public transportation. The table also shows that youths in both types of two-parent families were more likely to work than those in female-parent families. Only in the NLSY97 sample were youths who had ever been suspended substantially less likely to work. In the NLSY79, 15-year-old female youths were less likely to work than their male counterparts, but the gender difference between the percent of youths working was not significant in the NLSY97.

Sixteen-year-old female youths were also significantly less likely to work than males were in the NLSY79, but not the NLSY97. (See table 2.) In both cohorts, whites were more likely to work than were blacks or Hispanics. Black 16-year-olds in 1997 were almost 40 percent more likely to work than in 1979. The school grade appears to matter for both cohorts: youths in the 11th grade were more likely to work than youths in the 10th grade. In the NLSY79 cohort only, youths who had ever smoked or used marijuana were significantly more likely to work. In both survey cohorts, youths in households with less than \$25,000 income were less likely to work, and in both cohorts, youths in households where the mother worked were more likely to work themselves.

The information in tables 1 and 2 suggests that young workers in 1979 and 1997 shared many characteristics. Particularly interesting are the hours of work among 16-year-olds in both cohorts.

Hours of work of 16-year-olds. In 1998, a National Research Council panel recommended that the number of hours of work for 16-year-olds during the school term be limited.¹⁴ The Fair Labor Standards Act imposes a maximum of 18 hours of work in a school week for 14- and 15-year-olds engaged in nonagricultural jobs.¹⁵ Although the National Research Council does not recommend a particular maximum number of hours for 16-year-olds, it does note that research indicates that working more than 20 hours per school week can have a negative impact on youths' academic outcomes. Table 3 shows that similar percentages of youths enrolled in school in the two cohorts worked more than 20 hours during the week prior to the survey (8.4 percent in the NLSY79 and 10.5 percent in the NLSY97).

As with the employment of 15- and 16-year-olds, gender differences are seen in hours of work in the NLSY79 cohort only. Male 16-year-olds in the NLSY79 were more likely to work more than 20 hours per week than were their female

Table 1. Percent of school-enrolled 15-year-olds who worked during the week prior to the interview,¹ National Longitudinal Survey of Youth (NLSY), 1979 and 1997, by sex, race or Hispanic origin, grade in school, delinquent behavior, household income, family structure, and mother's work status

Characteristic	NLSY79	NLSY97
Total	25.2	25.8
Sex:		
Male	27.8	27.9
Female	22.4	23.7
Race or ethnicity:		
White	28.7	30.3
Black	10.6	15.3
Hispanic origin	15.0	17.1
Grade in school:		
Less than 9	20.1	15.0
9	21.5	25.8
10	29.2	29.5
Delinquent behavior:		
Ever suspended?		
Yes	24.4	18.5
No	25.4	28.7
Ever smoked a cigarette?		
Yes	28.9	28.3
No	21.0	23.2
Ever used marijuana?		
Yes	28.5	29.5
No	24.2	24.4
Household income (in 1996 dollars):		
Less than \$25,000	18.7	23.3
\$25,000–\$44,999	19.9	18.7
\$45,000–\$69,999	30.1	34.6
\$70,000 or more	28.4	30.1
Family structure and mother's work status:		
Two-biological-parent family	26.4	30.2
Two-parent family	34.4	26.5
Female-parent family	19.0	18.7
Not living with parent	12.9	18.3
Mother worked in previous calendar year?		
Yes	27.9	28.8
No	21.9	20.2

¹ The interview took place in any of the months from January through May, in 1979 or 1997.

NOTE: The National Longitudinal Survey of Youth 1979 (NLSY79) surveyed male and female youths who were aged 14 to 21 years on December 31, 1978. The National Longitudinal Survey of Youth 1997 (NLSY97) surveyed male and female youths who were aged 12 to 16 on December 31, 1996.

Table 2. Percent of school-enrolled 16-year-olds who worked during the week prior to the interview,¹ National Longitudinal Survey of Youth (NLSY), 1979 and 1997, by sex, race or Hispanic origin, grade in school, delinquent behavior, household income, family structure, and mother's work status

Characteristic	NLSY79	NLSY97
Total	36.4	38.4
Sex:		
Male	39.3	39.7
Female	33.6	36.9
Race or ethnicity:		
White	40.4	45.0
Black	17.8	24.5
Hispanic origin	26.1	29.7
Grade in school:		
Less than 10	23.8	19.1
10	29.5	37.1
11	43.3	48.0
Delinquent behavior:		
Ever suspended?		
Yes	40.7	37.4
No	35.7	38.8
Ever smoked a cigarette?		
Yes	39.8	40.8
No	31.9	35.2
Ever used marijuana?		
Yes	44.5	39.8
No	32.1	37.7
Household income (in 1996 dollars):		
Less than \$25,000	23.3	26.4
\$25,000–\$44,999	34.7	45.7
\$45,000–\$69,999	47.7	42.6
\$70,000 or more	42.8	40.9
Family structure and mother's work status:		
Two-biological-parent family	37.6	41.3
Two-parent family	42.8	42.3
Female-parent family	33.3	31.4
Not living with parent	16.6	24.4
Mother worked in previous calendar year?		
Yes	40.7	42.7
No	31.5	27.1

¹ The interview took place in any of the months from January through May, in 1979 or 1997.

NOTE: The National Longitudinal Survey of Youth 1979 (NLSY79) surveyed male and female youths who were aged 14 to 21 years on December 31, 1978. The National Longitudinal Survey of Youth 1997 (NLSY97) surveyed male and female youths who were aged 12 to 16 on December 31, 1996.

counterparts. Female youths in the NLSY97 cohort were about 70 percent more likely to work more than 20 hours per week than female youths in the NLSY79 cohort. Racial differences in employment are found in both cohorts, with whites more likely than blacks to work more than 20 hours per week as well as between 1 and 20 hours per week.

In both cohorts, youths in the 11th grade were nearly twice

as likely to work more than 20 hours per week than youths in the 10th grade. With respect to delinquent behavior, youths in both cohorts who had ever been suspended were more likely to work 21 or more hours per week. In the NLSY79 cohort only, 16-year-olds who had ever smoked a cigarette were significantly more likely to work more than 20 hours per week, and those who had ever used marijuana were much more

Table 3. Hours worked per week by school-enrolled 16-year-olds in the week prior to the interview,¹ National Longitudinal Survey of Youth (NLSY), 1979 and 1997, by sex, race or Hispanic origin, grade in school, delinquent behavior, household income, family structure, and mother's work status

Characteristic	NLSY79			NLSY97		
	0 hours	20 or fewer hours	21 or more hours	0 hours	20 or fewer hours	21 or more hours
Total	63.6	28.0	8.4	61.6	27.9	10.5
Sex:						
Male	60.7	28.4	10.9	60.3	29.1	10.7
Female	66.4	27.7	6.0	63.1	26.7	10.2
Race or ethnicity:						
White	59.6	31.1	9.3	55.0	32.7	12.3
Black	82.2	13.8	4.0	75.5	18.3	6.2
Hispanic origin	73.9	18.2	8.0	70.3	21.7	8.0
Grade in school:						
Less than 10	76.2	18.3	5.5	80.9	13.5	5.6
10	70.5	23.9	5.7	62.9	28.8	8.3
11	56.7	32.4	10.9	52.0	31.8	16.1
Delinquent behavior:						
Ever suspended?						
Yes	59.3	29.2	11.5	62.6	23.1	14.4
No	64.3	28.1	7.6	61.2	29.9	8.9
Ever smoked a cigarette?						
Yes	60.2	29.9	9.8	59.2	29.3	11.6
No	68.1	26.1	5.7	64.8	26.2	9.0
Ever used marijuana?						
Yes	55.5	34.4	10.1	60.2	27.8	12.0
No	67.9	24.9	7.3	62.3	28.0	9.6
Household income (in 1996 dollars)						
Less than \$25,000	76.7	20.5	2.8	73.6	18.7	7.7
\$25,000–\$44,999	65.3	25.7	9.0	54.3	35.1	10.6
\$45,000–\$69,999	52.3	35.8	11.9	57.4	29.0	13.5
\$70,000 or more	57.2	32.5	10.3	59.1	33.2	7.7
Family structure and mother's work status:						
Two-biological-parent family	62.4	28.6	9.0	58.7	31.4	9.9
Two-parent family	57.2	29.4	13.4	57.7	28.8	13.5
Female-parent family	66.7	27.2	6.0	68.6	21.7	9.6
Not living with parent	83.4	14.6	2.1	75.6	23.3	1.1
Mother worked in previous calendar year?						
Yes	59.3	32.0	8.7	57.3	31.5	11.3
No	68.5	22.4	9.1	72.9	20.1	6.9

¹ The interview took place in any of the months from January through May, in 1979 or 1997.

NOTE: The National Longitudinal Survey of Youth 1979 (NLSY79) sur-

veyed male and female youths who were aged 14 to 21 years on December 31, 1978. The National Longitudinal Survey of Youth 1997 (NLSY97) surveyed male and female youths who were aged 12 to 16 on December 31, 1996.

likely to work between 1 and 20 hours per week. Also in the NLSY79 cohort only, youths in households with an annual income of less than \$25,000 were much less likely to work more than 20 hours per week than were youths in households with higher incomes. However, youths in households in the lower income category in both cohorts were generally less likely than youths in households with higher incomes to work between 1 and 20 hours per week. These results suggest that 16-year-olds in lower income households are not shouldering a larger burden of work hours than are 16-year-olds in households with higher incomes.

In sum, 15- and 16-year-olds were as likely to work while attending school in 1997 as they were nearly 20 years earlier,

according to information from the first interviews of the two surveys of youths. Youths also worked about the same average number of hours in 1997 as they did in 1979. In both cohorts, from age 15 to age 16, there is a significant increase in the percentage of youths working and the average number of hours they worked.

In both cohorts, the likelihood of working while young varies across numerous background characteristics. Many patterns of youth employment are similar for 15- and 16-year olds across both cohorts. In general, whites tend to be more likely to work than blacks or Hispanics. Also, youths in higher grade levels are more likely to be employed, as are youths who have participated in delinquent activities. Further,

youths in households with low income are less likely to work. Gender differences are found in the NLSY79 cohort only: male youths are more likely to be employed and to work more hours than female youths. An interesting result is also found with respect to race: blacks in the NLSY97 are more likely to work than blacks in the NLSY79 cohort.

Youth employment and long-term outcomes

Data. This section examines the relationship between the number of hours and weeks a 16- or 17-year-old works during school weeks and later outcomes in terms of college attendance, weeks worked each year, and the number of jobs held from ages 18 through 30. Data are from the NLSY79, a sample of more than 12,000 men and women born in the years 1957 through 1964. These individuals were first interviewed in 1979, when they were ages 14 to 22; they were interviewed annually through 1994 and are now surveyed biennially. The analysis that follows uses data for members of the sample who were born in 1962–64, for whom a week-by-week employment history is available from age 16 on.

In contrast to the previous section, in which youth work experience is defined for the week prior to the interview date, work experience in this section exploits the longitudinal nature of the NLSY79 data and is measured over school weeks while youths were ages 16 and 17.¹⁶ To differentiate between effects of the number of weeks worked and effects of the number of hours worked per week, youths' work behavior at ages 16 and 17 is divided into five mutually exclusive categories of intensity:

1. did not work during school weeks at age 16 or 17;
2. worked less than 50 percent of school weeks and averaged 20 or fewer hours of work per week;
3. worked less than 50 percent of school weeks and averaged more than 20 hours of work per week;
4. worked more than 50 percent of school weeks and averaged 20 or fewer hours of work per week;
5. worked more than 50 percent of school weeks and averaged more than 20 hours of work per week.¹⁷

The analysis that follows explores the association between youths' early work behavior and longer term educational and labor market experiences.¹⁸ The education outcome is whether the individual received some college education by age 30. Detailed work history data are used to create two employment outcome measures: percent of weeks of work from ages 18 through 30 and number of jobs held from ages 18 through 30.¹⁹ Note that this analysis of youth employment and longer term labor market and educational experiences cannot imply causality. Indeed, youths within each of the foregoing five categories may be systematically different from one another even before they begin working. However, the unique longitudinal NLSY79 data can provide valuable insights into the possible relationship between individuals' working while they are young and the outcomes they attain as adults.

Youth employment at ages 16 and 17. Eighty percent of youths worked at ages 16 and 17 at some point while school was in session. (See table 4.) About 41 percent of youths worked

Table 4. Work status during the school year of youths aged 16 to 17 years in 1978–82,¹ by sex, race or Hispanic origin, and family income

Age in 1978–82 and characteristic	Did not work	Worked 50 percent or less of school weeks		Worked more than 50 percent of school weeks	
		Averaged 20 or fewer hours per week	Averaged 21 or more hours per week	Averaged 20 or fewer hours per week	Averaged 21 or more hours per week
Total	20.0	19.6	18.0	22.0	18.8
Sex:					
Male	17.5	17.9	20.3	20.7	21.7
Female	22.5	21.3	15.6	23.4	15.9
Race or ethnicity:					
White	15.3	20.1	17.0	24.8	21.1
Black	40.8	19.2	20.4	10.3	8.4
Hispanic origin	26.0	17.8	24.6	14.4	16.5
Family income in 1979 (in 1996 dollars):					
Less than \$25,000	31.6	18.8	22.3	12.4	13.7
\$25,000 to \$44,999	23.6	19.3	17.0	19.7	18.8
\$45,000 to \$69,999	11.2	22.3	16.8	24.7	23.4
\$70,000 or more	11.4	21.2	14.8	33.8	17.9

¹Individuals aged 14 to 16 on December 31, 1978.

NOTE: The National Longitudinal Survey of Youth 1979 (NLSY79) surveyed male and female youths who were aged 14 to 21 years on December

31, 1978. The table excludes individuals who turned 16 before 1978. Rows do not add to 100, due to the nonreporting of information on hours and weeks of work for a small number of working respondents.

more than half of all school weeks. These youths were fairly evenly split between averaging 20 or fewer hours per week and averaging more than 20 hours per week. The same was true of those who worked a relatively low percentage of school weeks (50 percent or less). Note that the work undertaken at ages 16 and 17 for this group born in 1962–64 occurred during 1978–82, a period that included the last 2 years of a business cycle expansion and both the 1980 and 1981–82 recessions.

Male youths were more likely than female youths to have worked during school weeks at ages 16 and 17 (83 percent and 78 percent, respectively). In addition, working male youths were more likely than female youths to average 21 or more hours per week.

White and Hispanic 16- and 17-year-olds were much more likely to have worked during school weeks (85 percent and 74 percent, respectively) than were blacks (59 percent). Hispanics were more likely to work a high average number of hours and a relatively low percentage of weeks, compared with whites and blacks. Whites were more likely to average a high number of hours per week and to work a relatively high percentage of weeks, compared with blacks and Hispanics.

Differences in 16- and 17-year-olds' work behavior while they were in school were also found with respect to family income categories. Youths in families with incomes of less than \$25,000 were less likely to work than youths in families in higher income categories. Youths in families with incomes of \$70,000 or more were more likely both to average a low number of hours per week and to work a high percentage of school weeks, compared with youths in lower family income categories.

Educational attainment at age 30. More than half of those who averaged 20 or fewer hours of work per school week at ages 16 and 17 had at least some college education by age 30. (See chart 1.) By contrast, by age 30, less than half of those who did not work at all or who worked more than 20 hours a week at ages 16 and 17 had attained at least some college education. These findings hold regardless of whether one worked more or less than 50 percent of school weeks, and the same pattern is also generally found for 30-year-old men and women separately. (See chart 2.)

The findings apply to whites as well (see chart 3), but the educational attainment of blacks and Hispanics is not as clearly related to the hours they worked at 16 and 17. With one exception, blacks who did not work at all at those ages were significantly less likely than blacks who did work to have at least some college education by age 30. The lone exception is the group that worked 50 percent or less of school weeks and averaged 21 or more hours per week. More than 60 percent of Hispanics who worked more than 50 percent of school weeks, but fewer than 20 hours a week, had some college education

by age 30, whereas much less than half of Hispanics in each of the other weeks-and-hours-of-work categories had any college education.

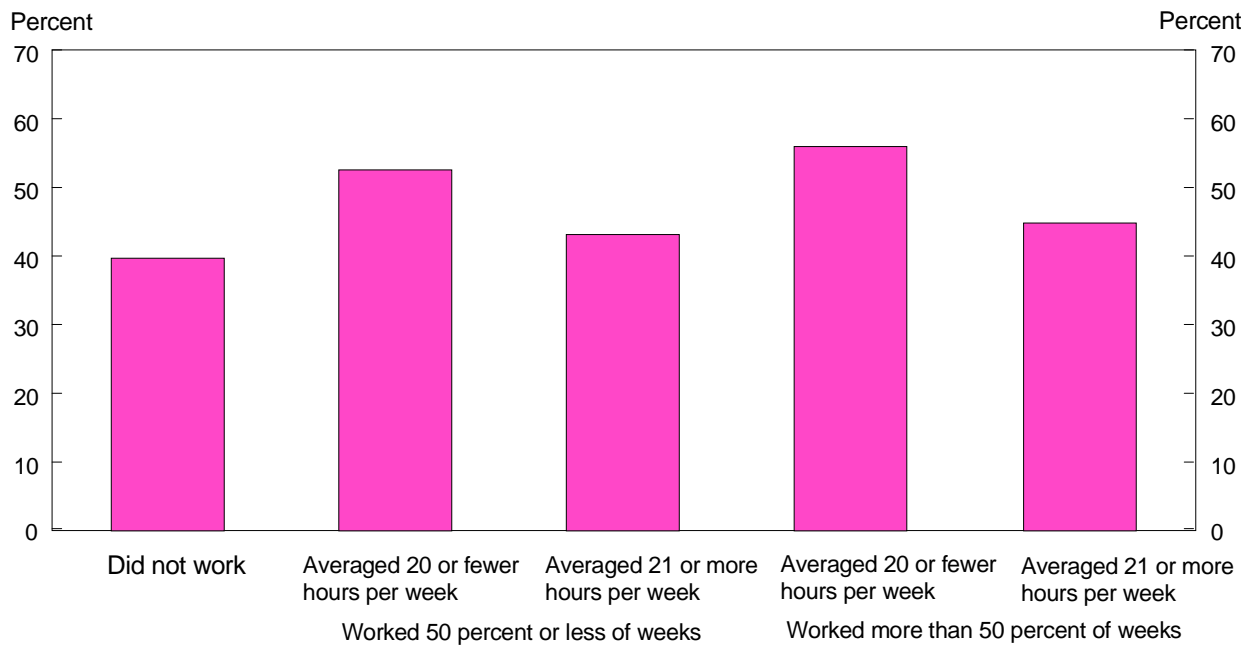
Work experience, ages 18 through 30. The NLSY79 collects extensive employment data from respondents. The analysis that follows uses this detailed work history information to examine the percentage of weeks worked by individuals over the years when they are aged 18 through 30. The analysis continues to focus on groups divided by hours and weeks of work undertaken by those attending school at ages 16 and 17.

The data show a general pattern: each step up in the percentage of school weeks worked at the aforementioned ages is associated with a step up in the percentage of weeks worked during the next 13 years, regardless of the category of hours worked per week. More specifically, individuals who did not work during school weeks at ages 16 and 17 worked 64 percent of weeks from ages 18 through 30 (see table 5), and those who worked 50 percent or less of school weeks at ages 16 and 17 worked an average of 74 percent of weeks from ages 18 to 30. The percentage was even higher (between 82 percent and 84 percent, depending on the category of hours worked per week) for youths who worked more than 50 percent of school weeks at those ages. This overall step-up pattern also holds over ages 18 through 30 for both men and women and regardless of race or ethnicity. Furthermore, the pattern essentially holds for the narrower age ranges of 18 to 22, 23 to 26, and 27 to 30. In general, the percentage of weeks worked rises from ages 18 to 22 to ages 23 to 26 and then remains steady at ages 27 to 30.

Tables in this article indicate that white youths tend to work more than black youths. Whites also typically work more weeks from ages 18 to 30 than do blacks, regardless of the number of hours or weeks they work while they are in school. The sole exception is that, for those individuals who worked more than 50 percent of school weeks and averaged 21 or more hours per week while they were young, there was no significant difference between the percentage of weeks worked by blacks and whites from ages 18 through 30.

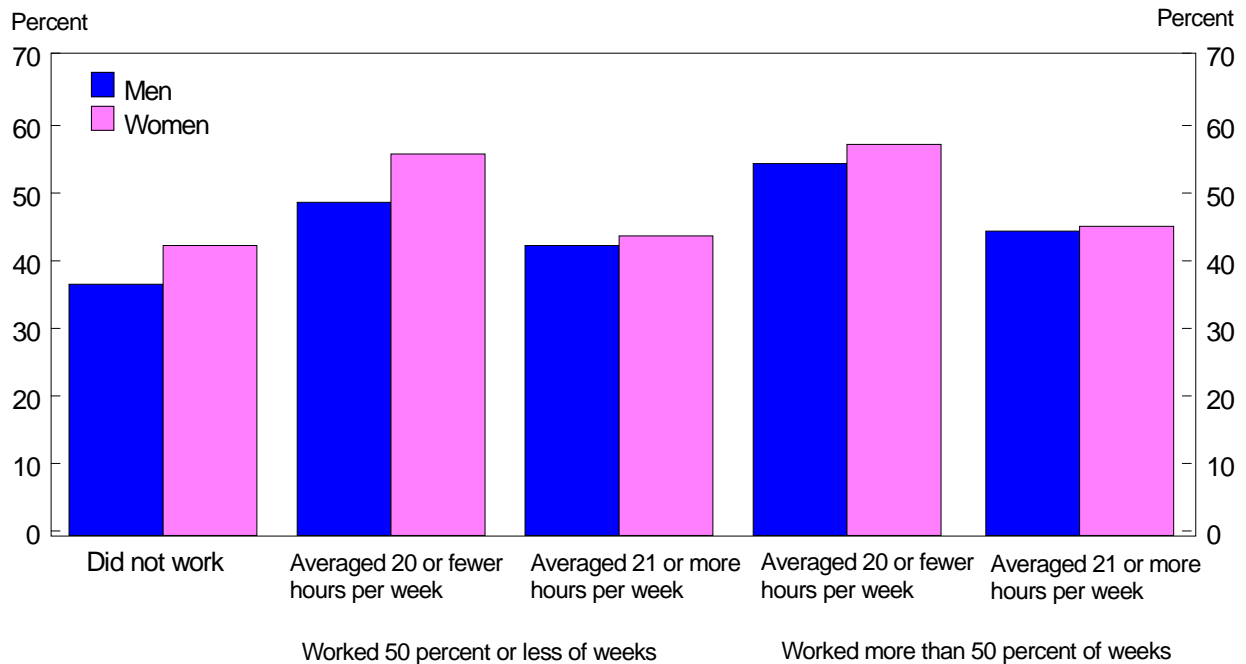
From ages 23 through 30, individuals who attained some college education by age 30 worked a higher percentage of weeks than did individuals with no college education. For those 18 through 22, however, the pattern was reversed, probably because individuals with some college education pursued their college careers during those years. The overall pattern that each step up in the number of school weeks a person worked at ages 16 and 17 is associated with a step up in the number of weeks that person worked when he or she was older generally holds for those in both the higher and lower educational groups. For individuals with some college, however, the percentage of weeks worked at ages 27 through 30

Chart 1. Percent of individuals with at least some college education at age 30, by average hours worked during school weeks at ages 16 and 17 in 1978–82



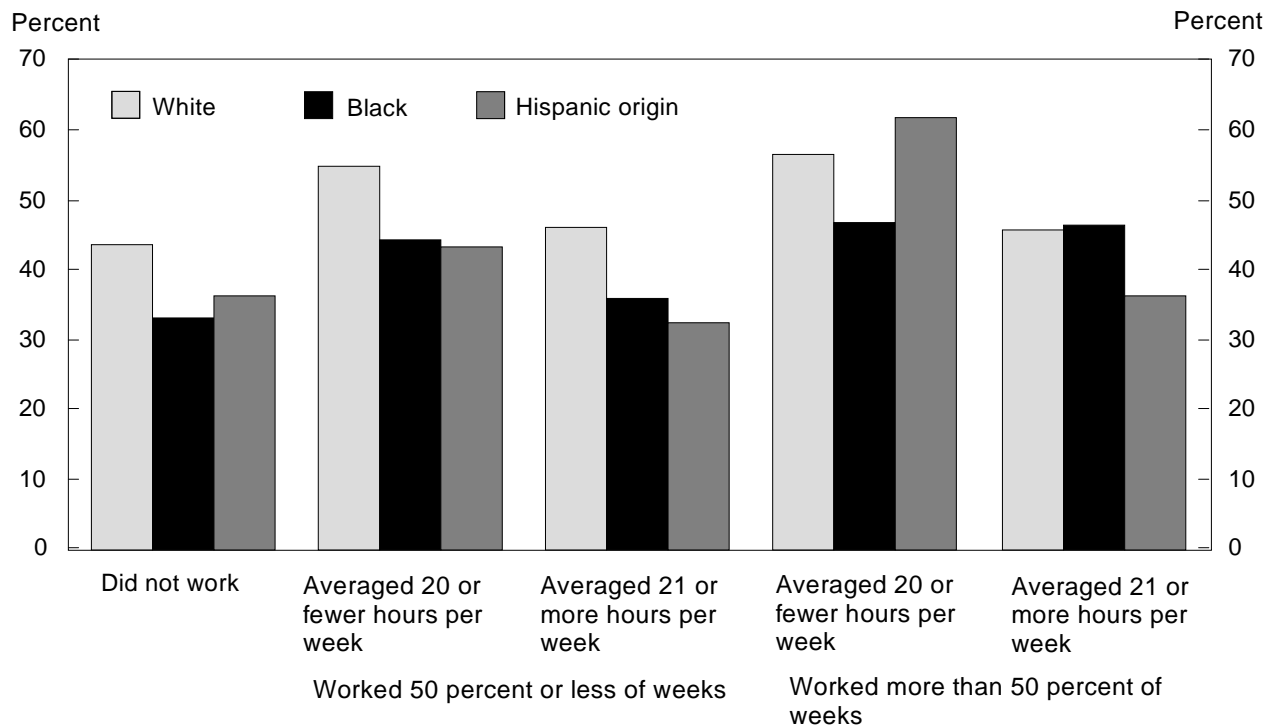
SOURCE: National Longitudinal Survey of Youth 1979.

Chart 2. Percent of individuals with at least some college education at age 30, by average hours worked during school weeks at ages 16 and 17 in 1978–82, by sex



SOURCE: National Longitudinal Survey of Youth 1979.

Chart 3. Percent of individuals with at least some college education at age 30, by average hours worked during school weeks at ages 16 and 17 in 1978–82, by race and Hispanic origin



SOURCE: National Longitudinal Survey of Youth 1979.

differs little among those who had different work experiences while they were young.

Number of jobs held, ages 18 through 30. The analysis concludes with an examination of the number of jobs individuals held during various periods when they were aged 18 through 30. Again, individuals are grouped by hours and percent of school weeks worked at ages 16 and 17. Young workers tend to have a high level of job mobility during their early years in the labor market and thus hold a relatively high number of jobs. Early job mobility may represent job shopping and may be beneficial for a variety of reasons. For example, it can allow young workers to learn about different work environments. However, as workers age, they often have less job mobility, which may represent better matching between workers and their jobs.²⁰

From ages 18 through 30, individuals who did not work while they were 16 and 17 held a lower average number of jobs than persons who worked at those ages. (See table 6.) Although this relationship also held for the narrower range from age 18 to age 22, across the older age ranges, the number of

jobs was fairly similar across all categories of hours and weeks worked while the individual was young.

Men held an average of 8.9 jobs, and women held an average of 8.4 jobs, from ages 18 through 30. At ages 18 through 22, men and women held about the same number of jobs within all categories of hours and weeks of work while they were 16 and 17. From ages 27 to 30, however, men held a significantly higher number of jobs than women did within most of the categories.

Whites held more jobs (8.7) than did blacks or Hispanics (8.3 and 8.2, respectively) from ages 18 through 30. Whites also held more jobs from ages 18 to 22 than did blacks across the aforementioned work categories. However, from ages 27 to 30, whites generally held either the same or fewer jobs than blacks did within each category.

Individuals with at least some college education held 9.1 jobs from ages 18 through 30, in contrast to 8.2 jobs held by those with a high school or lower education level. Over those ages, within both education categories, individuals who did not work at ages 16 and 17 generally held a lower average number of jobs than those who worked during the school term at those ages.

Table 5. Percent of weeks employed by individuals aged 18 to 30 years in 1980–95, by age, education, sex, race or Hispanic origin, and percent of school weeks and number of hours worked at ages 16 and 17

Age in 1980–95 and characteristic	Total	Did not work	Worked 50 percent or less of school weeks		Worked more than 50 percent of school weeks	
			Averaged 20 or fewer hours per week	Averaged 21 or more hours per week	Averaged 20 or fewer hours per week	Averaged 21 or more hours per week
Total, 18 to 30 years in 1980–95	75.7	63.8	74.3	74.3	81.8	83.9
Sex:						
Men	81.3	70.1	79.6	78.1	87.1	89.0
Women	70.0	58.7	69.8	69.2	77.0	76.6
Race or ethnicity:						
White	78.1	67.7	75.7	76.5	82.5	83.9
Black	64.6	56.2	66.7	68.0	72.1	82.5
Hispanic origin	72.7	62.7	72.9	70.7	79.9	84.8
Education:						
High school or less	73.3	59.5	71.8	72.0	82.5	83.0
Some college or more	78.3	70.0	76.6	77.3	81.2	85.0
Total, 18 to 22 years in 1980–87	65.9	48.0	63.5	63.0	75.5	78.8
Sex:						
Men	69.2	52.8	64.6	65.0	76.7	83.0
Women	62.5	44.1	62.5	60.2	74.5	73.1
Race or ethnicity:						
White	68.9	52.0	65.6	64.7	76.6	78.8
Black	51.3	40.0	51.4	58.9	60.3	75.7
Hispanic origin	62.8	47.9	63.5	58.6	74.4	82.0
Education:						
High school or less	67.4	48.4	65.3	65.2	80.7	81.2
Some college or more	64.2	47.2	61.9	60.1	71.5	76.0
Total, 23 to 26 years in 1985–91	80.5	70.5	79.8	80.1	85.0	87.1
Sex:						
Men	86.5	78.0	85.7	84.0	90.3	92.8
Women	74.5	64.6	74.8	74.9	80.4	79.3
Race or ethnicity:						
White	82.8	74.7	81.1	82.4	85.7	87.2
Black	70.6	62.2	74.6	74.2	77.1	85.9
Hispanic origin	76.5	69.1	74.2	76.7	79.9	87.5
Education:						
High school or less	76.2	64.4	75.3	75.9	82.8	84.8
Some college or more	85.2	79.8	83.7	85.6	86.7	89.9
Total, 27 to 30 years in 1989–95	80.8	73.2	79.7	80.1	85.0	85.8
Sex:						
Men	88.2	80.4	88.7	85.3	93.5	91.5
Women	73.4	67.6	72.0	73.1	77.3	77.8
Race or ethnicity:						
White	82.8	76.8	80.7	82.7	85.5	86.0
Black	71.7	66.2	74.1	71.0	78.2	86.2
Hispanic origin	78.2	71.7	79.8	76.7	82.5	84.8
Education:						
High school or less	76.4	66.3	74.8	75.1	83.7	83.5
Some college or more	85.7	83.4	84.0	86.8	85.9	88.7

NOTE: The National Longitudinal Survey of Youth 1979 (NLSY79) surveyed male and female youths who were aged 14 to 21 years on December 31, 1978.

The table excludes individuals who turned 16 before 1978.

Table 6. Number of jobs held by individuals aged 18 to 30 years in 1980–95, by age, education, sex, race or Hispanic origin, and percent of school weeks and number of hours worked at ages 16 and 17

Age in 1980–95 and characteristic	Total	Did not work	Worked 50 percent or less of school weeks		Worked more than 50 percent of school weeks	
			Averaged 20 or fewer hours per week	Averaged 21 or more hours per week	Averaged 20 or fewer hours per week	Averaged 21 or more hours per week
Total, 18 to 30 years in 1980–95	8.6	7.7	9.0	9.2	8.8	8.4
Sex:						
Men	8.9	8.3	9.3	9.3	8.8	8.8
Women	8.4	7.2	8.8	9.1	8.8	7.9
Race or ethnicity:						
White	8.7	8.1	9.1	9.3	8.7	8.4
Black	8.3	7.4	8.5	9.3	8.7	9.0
Hispanic origin	8.2	6.2	9.5	8.4	9.5	8.6
Education:						
High school or less	8.2	7.1	8.9	9.2	8.0	8.1
Some college or more	9.1	8.5	9.1	9.3	9.5	8.9
Total, 18 to 22 years in 1980–87	4.5	3.5	4.7	4.7	4.9	4.6
Sex:						
Men	4.5	3.7	4.7	4.7	4.9	4.6
Women	4.4	3.4	4.7	4.7	5.0	4.5
Race or ethnicity:						
White	4.6	3.9	4.8	4.8	5.0	4.6
Black	3.7	3.0	4.1	4.4	4.3	4.2
Hispanic origin	4.2	2.8	5.0	4.3	5.0	4.5
Education:						
High school or less	4.1	3.2	4.4	4.6	4.5	4.3
Some college or more	4.8	4.0	4.9	4.8	5.3	5.0
Total, 23 to 26 years in 1985–91	3.0	2.8	3.0	3.0	3.1	3.0
Sex:						
Men	3.1	3.1	3.0	3.0	3.0	3.2
Women	2.8	2.5	3.0	3.0	3.1	2.6
Race or ethnicity:						
White	3.0	2.9	3.0	3.0	3.1	2.9
Black	2.9	2.7	3.0	3.1	2.8	3.2
Hispanic origin	2.8	2.4	3.0	2.7	3.1	3.0
Education:						
High school or less	2.7	2.5	2.9	2.9	2.7	2.8
Some college or more	3.2	3.2	3.2	3.1	3.3	3.2
Total, 27 to 30 years in 1989–95	3.0	3.0	3.1	3.3	2.8	2.9
Sex:						
Men	3.2	3.2	3.3	3.4	2.9	3.2
Women	2.8	2.8	2.9	3.2	2.7	2.6
Race or ethnicity:						
White	3.0	3.0	3.1	3.3	2.7	2.9
Black	3.2	3.0	3.0	3.4	3.2	3.5
Hispanic origin	2.9	2.4	3.1	3.0	3.2	3.0
Education:						
High school or less	3.0	2.8	3.3	3.4	2.7	3.0
Some college or more	3.0	3.1	2.9	3.3	2.9	2.9

NOTE: The National Longitudinal Survey of Youth 1979 (NLSY79) surveyed male and female youths who were aged 14 to 21 years on December 31, 1978.

The table excludes individuals who turned 16 before 1978.

In sum, 80 percent of youths born in 1962–64 worked at some point during the school term while they were ages 16 and 17. Youths who worked an average of 20 or fewer hours per school week were more likely to have at least some college education by age 30 than those who did not work or those who averaged more than 20 hours of work per school week. In addition, the data show an interesting pattern with respect to a person’s work experience while he or she was young and the person’s later employment experience: each step up in the percentage of school weeks worked while the individual was young is associated with a step up in the percentage of weeks

the person worked from ages 18 through 30, regardless of the amount of hours per week the person worked while he or she was young. As noted throughout this article, without controlling for other factors that can influence the longer term outcomes—in particular, the characteristics of those who choose to work (and of those who choose to work more intensively) during high school—the findings do not imply that youth employment caused those outcomes. However, they do afford an insight into the possible relationship between youth employment and longer term educational and labor market outcomes. □

Notes

¹ See Christopher J. Ruhm, “Is High School Employment Consumption or Investment?” *Journal of Labor Economics*, October 1997, pp. 735–76; and National Research Council, *Protecting Youth at Work* (Washington, National Academy Press, 1998), for extensive reviews of the literature on the impact of youth employment. In general, the literature shows mixed results regarding whether youth employment affects academic outcomes. It does, however, generally suggest that working while enrolled in school positively affects subsequent labor market outcomes.

² Gerald S. Oettinger, “Does High School Employment Affect High School Academic Performance?” *Industrial and Labor Relations Review*, October 1999, pp. 136–51.

³ Audrey Light, “High School Employment, High School Curriculum, and Post-school Wages,” *Economics of Education Review*, June 1999, pp. 291–309.

⁴ Ruhm, “Is High School Employment Consumption or Investment?”

⁵ The years 1979 and 1997 both saw an upturn in the economy. Economic expansion peaked in 1979, just prior to the 1980 recession. Another strong economic expansion had 1997 in its midst. Note that, subsequent to the release of round-1 NLSY97 data, some duplicate observations were discovered. The NLSY97 round-1 sample size then fell from 9,022 to 8,984. Sample weights at the time this article was begun were based on all 9,022 observations, and tabulations in the article use the full round-1 sample. Also, tabulations based on data in both surveys use round-1 sampling weights, thereby ensuring that the data are nationally representative of each youth cohort.

⁶ Most youths surveyed in the NLSY97 had not yet turned 17, so their employment is not examined. Both the NLSY79 and the NLSY97 contain detailed, week-by-week employment histories. However, these are available for the younger NLSY79 respondents only from age 16 forward and for the NLSY97 respondents only from age 14 forward. At this point, there is not much age overlap in the histories across the two surveys. However, the next section uses the employment histories in the NLSY79 solely to examine the relationship between youth employment and long-term outcomes.

⁷ Mark Schoenhals, Marta Tienda, and Barbara Schneider, “The Educational and Personal Consequences of Adolescent Employment,” *Social Forces*, December 1998, pp. 723–62, provide a brief summary of the literature on the subject.

⁸ Family structure is defined as five mutually exclusive categories: (1) families with two biological parents or two adoptive parents (called, for simplicity, two-biological-parent families), (2) families with one biological parent and one step- or adoptive parent (called simply two-parent families), (3) families with one female biological parent and no other parent (female-parent families), (4) families with one male biological parent and no other parent (male-parent families), and (5)

families consisting of children living with foster parents, grandparents and no parents, or other relatives and no parents; families of children living in group quarters; and other family arrangements (all lumped together as children not living with parents). Due to the small sample size of male-parent families, the tables that follow exclude that category.

⁹ If, for example, the youth was 15 years old at the date of the interview, he or she is considered to have ever smoked if smoking occurred by age 14 or younger. If the youth used marijuana before 1979, he or she is considered to have ever used marijuana. In the NLSY97, youths answered the smoking and marijuana questions in a special self-administered section. Youths in the NLSY79 were asked these questions directly by the interviewer.

¹⁰ The NLSY79 suspension variable is constructed as follows: if the most recent suspension occurred before the 1979 interview, the youth is considered to have ever been suspended. If the most recent suspension occurred on or after the 1979 interview and the youth had been suspended only one time, then the youth is considered not to have ever been suspended. Otherwise, if the youth received more than one suspension (two suspensions) and the most recent one occurred in 1979 (1980), then the youth is considered to have ever been suspended.

¹¹ CPS data show an actual decline in employment-to-population ratios of youths between the late 1970s and the late 1990s, as well as a significantly lower percentage of youths working than the NLSY97 data depict. The difference may be due to the CPS data containing mostly proxy responses for the youths, while the NLSY surveys are answered by the youths themselves. (See “A Comparison of CPS and NLSY97 Information about Youth Employment,” *Report on the Youth Labor Force*, Appendix to Chapter 4 (Bureau of Labor Statistics, November 2000), pp. 47–51.)

¹² Neither survey asks the youths whether they own or have access to a car.

¹³ In all tables and charts in this article, the racial and Hispanic origin groups are mutually exclusive. Totals include American Indians, Alaskan Natives, and Asians and Pacific Islanders, not shown separately.

¹⁴ *Protecting Youth at Work* (National Research Council, 1998).

¹⁵ States, however, may adopt more or less stringent standards than the Fair Labor Standards Act imposes. However, when both the Federal Act and State laws apply, the Act requires the use of the more stringent standard. (See National Research Council, *Protecting Youth at Work*, for details on State standards.)

¹⁶ The expression “while youths were ages 16 and 17” refers to the 2-year period between the youth’s 16th and 18th birthdays. School weeks are weeks other than those in June, July, or August, the last week in December, and the first week in January. If a youth dropped out or graduated from high school at age 17, only those

school weeks prior to that event are used in employment calculations. Youths who dropped out or graduated from high school at age 16 are excluded from the analysis.

¹⁷ Hours are averaged over school weeks in which the youth worked and are defined according to the following methodology: Survey respondents report the usual number of hours they worked per week as of each job's termination date (or as of the interview date for ongoing jobs). Hours reported for each job are then filled in back to the job's starting date. Thus, a total number of hours worked across all jobs is reported for each week a youth worked. Hours per week are then averaged over the number of weeks the youth worked at ages 16 and 17 during the school year (prior to dropping out or graduating from school). Given this methodology, work hours from other periods (for example, during the summer, after the youth turned 18, and after the youth dropped out or graduated from school) are sometimes filled back into school-year weeks. This can lead to an overstatement of the average

number of hours worked. On average, about one-third (32 percent) of weeks worked at ages 16 and 17 during the school year were filled back with hours from another period: 8 percent with summer hours, 15 percent with information on hours worked after the youth turned 18, and 9 percent with information on work hours from other periods, such as times subsequent to dropping out or graduating from school.

¹⁸ See also *Report on the Youth Labor Force*.

¹⁹ All results are weighted by using the 1996 survey weights (the latest year's data available when this analysis began) that correct for oversampling, nonresponse to the interview, and permanent attrition from the survey. When weighted, the data represent all persons living in the United States in 1978 and born between 1962 and 1964.

²⁰ For a further discussion of the topic, see *Work and Family: Jobs Held and Weeks Worked by Young Adults*, Report 827 (Bureau of Labor Statistics, August 1992).

School-to-work programs: information from two surveys

Data from the 1996 School Administrator's Survey show that three-fifths of U.S. high schools offer school-to-work programs, while data from the 1997 National Longitudinal Survey show that nearly two-fifths of students participate in such programs; also, public high school students and those who work are more likely to participate in school-to-work programs

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In 1994, the U.S. Congress passed the School-to-Work Opportunities Act providing federally funded grants to the States and to local partnerships of business, government, education, and community organizations to develop “school-to-work systems.”¹ The law encouraged the States and their local partners to develop models that would work best for their particular situations. As a result, the features of school-to-work programs often vary from grant to grant and thus are difficult to describe in general terms. The Act did, however, outline three core elements that all school-to-work programs must entail:²

- School-based learning, which encompasses rigorous classroom instruction that is linked to workplace experiences and provides students with the information and skills needed to identify and prepare for promising careers;
- Work-based learning, which includes work experience, structured training, and other workplace learning experiences appropriate to students’ career interests and linked to school curricula;
- Connecting activities, which are efforts undertaken to help employers and schools forge and maintain links between the school-based and work-based components of school-to-work programs.

The general goal of the School-to-Work Act is to improve the transitions from school to work for all youths in the United States. The Act points to a “lack of a comprehensive and coherent system to help youths acquire the knowledge, skills, abilities, and information about and access to the labor market that are necessary to make an effective transition from school to work or further education.”³

In this article, we are interested in studying the extent to which school-to-work programs have been implemented in our Nation’s high schools since the Act’s passage in 1994, as well as the extent to which high school students are choosing to participate in these programs. To inform our study, we use two promising new data sources. The first, the 1997 National Longitudinal Survey of Youth (NLSY97), provides information obtained directly from students on the extent to which they participated in school-to-work programs. The second source, the 1996 School Administrator’s Survey (SAS96), provides information obtained from the schools attended by the NLSY97 interviewees on whether they offered any school-to-work programs. Using these data sources, we examine the prevalence of school-to-work programs from two different perspectives, investigating the kinds of schools offering such programs and the students participating in them.

These data offer several attractive features for our study. First, the two surveys asked about a number of different types of school-to-work

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programs, which allows us to analyze both work-based activities and school-based activities. Second, both surveys asked about the same programs and used similar definitions. Third, responses for the schools in the SAS96 can be linked to those for individuals in the NLSY97. Finally, the surveys collected extensive information on the characteristics of the schools and the youths, thus allowing researchers to examine the characteristics of the high schools that offer school-to-work programs as well as the characteristics of the students who participate in them. Ultimately, these data should become an excellent source for studying the effectiveness of school-to-work programs in helping students settle into their careers; currently, however, the available data do not support this line of inquiry.⁴

Data

1996 School Administrator's Survey (SAS96). The National School-to-Work Office sponsored a supplemental data collection effort within the NLSY97 to support their overall research interest in understanding the effectiveness of the School-to-Work Act. As its name suggests, the SAS96 collects administrative data directly from the schools on the extent to which they offer school-to-work programs; it also provides information on the kinds of schools offering these programs. The sample includes all schools with a 12th grade within the primary sampling units⁵ of the NLSY97. The survey asked questions on school policy generally and on school-to-work programs in particular, as well as the characteristics of students, teachers, and administrators. The SAS96 questionnaire was mailed to 7,985 schools in September 1996. Of these schools, 595 were excluded because they no longer existed or because they did not have a 12th grade. Of the 7,390 remaining schools, the response rate was about 72 percent.⁶

Table 1 provides descriptive statistics on the 5,253 schools used in the analysis. We focus on characteristics of the school that are related to the quality of the school, as well as characteristics that indicate something about the socioeconomic status of the school's student population. These characteristics include the following: whether the school is private or public; school size; school location; the graduation rate at the school; the percentage of the school's graduates that enroll in a 4-year college; the racial and ethnic composition of the students; and whether or not the school offered a school breakfast program, Title I services,⁷ or a dropout prevention program.

Among schools with a 12th grade, 74 percent are public and 26 percent are private.⁸ Because public schools tend to be larger than private schools, we defined school-size variables separately for public and private schools. For example, a "small" public school is defined as one with fewer than 750 students, whereas a small private school is one with fewer

Table 1. Descriptive statistics on SAS96 sample of schools with 12th grade

Characteristic	Unweighted N	Weighted percentage
Total	5,253	100.0
Type:		
Public	3,401	73.9
Private	1,852	26.1
Size		
Public:		
Small (fewer than 750 students)	1,680	72.2
Medium (750 to 1,500 students)	1,295	22.6
Large (more than 1,500 students)	426	5.2
Private:		
Small (fewer than 100 students)	818	53.3
Medium (100 to 300 students)	624	34.6
Large (more than 300 students)	410	12.1
Location		
Urban	1,765	20.8
Suburban	2,822	44.4
Rural	571	33.2
High school graduates		
Graduation rates by quartile:		
1st quartile (less than 85 percent)	1,574	29.1
2nd quartile (86 to 94 percent)	1,066	22.8
3rd quartile (94.8 to 97 percent)	1,016	26.6
4th quartile (98 percent or more)	826	21.5
Percent of graduates who attend 4-year college:		
1st quartile (less than 30 percent)	1,073	29.3
2nd quartile (31 to 44 percent)	702	21.0
3rd quartile (45 to 67 percent)	1,133	24.9
4th quartile (68 percent or more)	1,584	24.8
Student body		
Black:		
Less than 25 percent	3,633	83.3
25 to 75 percent	696	12.4
More than 75 percent	265	4.4
Hispanic:		
Less than 25 percent	3,457	89.8
25 to 75 percent	709	9.1
More than 75 percent	166	1.1
School breakfast program		
Yes	2,521	52.3
No	2,732	47.7
Title I		
Yes	1,763	43.1
No	3,490	56.9
Dropout prevention program		
Yes	2,028	42.5
No	3,225	57.5

Note: Missing information on a particular characteristic will result in numbers (Ns) that do not add up to 5,253. Due to bunching, the percent in each quartile does not necessarily equal 25 percent.

than 100 students. The majority of both public and private schools fall into the smallest size categories.

Among the schools in our study, 44 percent were in suburban areas, 21 percent were in urban areas, and 33 percent were in rural areas. In addition, only 4 percent of schools reported that 75 percent or more of their student body was black, and only 1 percent reported that 75 percent or more of their student body was Hispanic. A sizable number of schools (43 to 52 percent) have school breakfast programs, receive Title I funding, or have a dropout prevention program.

The National Longitudinal Survey of Youth, 1997 (NLSY97). The first round of the NLSY97 was administered in 1997 to a nationally representative sample of 8,984 young men and women who were ages 12 to 16 as of December 31, 1996. The survey was administered through personal interviews with the youths and one of their parents, and it gathered extensive information on the youths' labor market behavior, education and training, family and community background, as well as important life events such as marriage or the birth a child. Through annual follow-up interviews, the NLSY97 will continue to track these youths as they make the transition from school to the world of work.

In the 1997 interview, youths who had attended the 9th grade or higher were asked a number of questions about participation in school programs designed to help them prepare for the world of work. Of the nearly 9,000 respondents, roughly half were asked the school-to-work questions.⁹ The present analysis is restricted to these respondents, and table 2 provides some basic descriptive information on the group. The first column of table 2 provides the number of respondents with a particular characteristic, and the second column provides the weighted percentage that those respondents represent in the national population of youths born between 1980 and 1984.

The sample contains roughly equal numbers of girls and boys. Given the ages of the NLSY97 cohort, however, the majority of the high school respondents were in either the 9th or 10th grades in 1997. Only 74 respondents were in the 12th grade or higher. To the extent that participation in school-to-work programs is greater in the upper grades of high school, which we suspect is likely, our estimates on overall participation from the NLSY97 would underestimate school-to-work participation in high school.¹⁰ While table 1 showed that almost three-quarters of the schools are public, table 2 shows that more than 90 percent of youths in 9th grade or higher attended public schools, again reflecting the fact that public schools tend to be larger than private schools.

The variables listed in table 2 are youth characteristics that we conjectured might be related to participation in school-to-work programs. These characteristics can be divided into two groups. The first set consists of characteristics related to socioeconomic status and is aimed at assessing the extent to

Table 2. Descriptive statistics on NLSY97 sample of youths in 9th grade or higher in 1997

Characteristic	Unweighted N	Weighted percentage
Total	4,484	100.0
Sex		
Male	2,213	50.4
Female	2,271	49.6
Grade level		
9th	1,925	41.5
10th	1,635	36.3
11th	850	20.3
12th or higher	74	1.9
Race		
White	2,625	72.4
Black	1,176	15.3
Other	643	11.5
Unknown	40	0.8
Ethnicity		
Hispanic	935	13.0
Non-Hispanic	3,537	87.0
Household income		
1st quartile: Less than \$26,000	1,002	25.1
2nd quartile: \$26,001 to \$45,015	774	24.9
3rd quartile: \$45,016 to \$70,002	689	25.0
4th quartile: \$70,003 or more	665	25.0
Biological mother's education		
Less than high school	710	11.7
GED	227	5.0
High school graduate	1,413	32.6
Some college, no degree	641	15.1
Associates degree	388	9.4
College graduate	1,059	26.3
School type		
Public	4,013	90.2
Private	276	6.9
Other	158	2.9
Location		
Urban	2,631	54.4
Rural	1,853	45.6
GPA in 8th grade		
Low (Cs and/or Ds)	469	9.9
Medium (Cs and/or Bs)	2,359	50.2
High (As and/or Bs)	1,656	39.9
Employment status last week		
Working	1279	32.5
Not working	3205	67.5
College expectations		
0 percent chance	164	5.3
1 to 33 percent chance	297	8.2
34 to 66 percent chance	628	17.7
More than 66 percent chance	2,250	68.9
Course of study in high school		
General	2,593	56.0
Vocational, technical, or business	500	10.4
College prep	1,391	33.6

Note: Missing information on a particular characteristic will result in numbers (Ns) that do not add up to 4,484. Due to bunching, the percent in each quartile does not necessarily equal 25 percent.

which disadvantaged youths are targeted for school-to-work programs. These characteristics include gender, race, ethnicity, household income, education level of the youth's biological mother, whether the youth attends a public or private school, and whether the youth lives in an urban or rural location. The second set includes other characteristics that are related to the youth's work or school performance and are aimed at investigating what kinds of students tend to participate in these programs. These include academic performance in 8th grade, whether or not the youth is currently working, his or her expectations for completing college, and the course of study the youth is pursuing in high school.

Due to missing information, data on some of these youth characteristics are not available for all 4,484 respondents who were asked the questions about school-to-work programs.¹¹ For example, household income is missing for more than 1,300 youths in our analysis sample. There are two reasons for the high rate of missing data on income: First, respondents often refuse to answer questions about their income; second, the income information was collected in a separate interview with one of the youth's parents and not all parents provided an interview.

School-to-work programs

Under the guidance of the National School-to-Work Office, a limited number of school-to-work programs were chosen for inclusion in both the SAS96 and the NLSY97 questionnaires: internship/apprenticeship programs (asked about separately in SAS96, but combined in the NLSY97), job shadowing, mentoring, school-sponsored enterprise, career major, and cooperative education. The definitions given to respondents in the two surveys are similar but not identical. (See Appendix 1.)

Although the two surveys ask about the same programs, the students and the school administrators may not interpret the questions in exactly the same way. For example, a student who has received some career counseling may incorrectly respond that they had participated in a "career major" program, whereas a school administrator, who may have read the definition more closely, probably would not categorize career counseling as a career major program.

Given that the schools in the SAS96 were selected from the primary sampling units's where the NLSY97 youths live, we are able to match the NLSY97 youths with the high schools that they attend to examine the consistency in reporting of school-to-work programs between youths and schools. If the school reports offering a program and the student does not report participating, then no inconsistency need exist, since some students may not participate. On the other hand, if a school reports not offering a particular program and the student reports participating in this program, then there is a potential inconsistency.¹²

Comparison of participation rates. Table 3 shows participation rates in school-to-work programs for four different groups of youths who have attended 9th grade or higher: all youths, youths in schools that reported having the program, youths in schools that reported no corresponding program, and youths in schools that did not participate in the SAS96.

We find the results in Table 3 troubling because the participation rates among youths in schools with a particular program are very similar to those of youths in schools not offering the program. It is not clear whether the schools or the youths are incorrectly reporting. One problem with the school survey data is the substantial non-response to individual questions about school-to-work programs—roughly 12 to 18 percent of administrators did not respond to individual questions on whether or not the school offered a particular program. In defining whether a school offered a program in table 3, we treated nonresponses as "no" responses. For instance, if a school administrator did not respond to the question on whether the school offered an apprenticeship program, then it was assumed that the school did not have the program. Because this approach could result in misclassifying a school as not offering a program when in fact it did (but just failed to respond), we recalculated table 3 treating nonresponses to a particular program as nonrespondents (that is, we moved them to the "not surveyed or not responding" column of table 3). This reduced the discrepancy slightly, but by no means eliminated it. Another possible explanation for the inconsistency between school and youth reports is misclassification on the part of the youths. It may be that youths participated in school-to-work programs, but because they did not fully understand the

Table 3. Participation rates in school-to-work programs by school reports

Characteristic	Participation rates of youths attending 9th grade or higher			
	Total	Youths in schools reporting program	Youths in schools reporting no program	Youths in not surveyed schools or not responding
Any school- or work-based activity	38.3	38.5	36.4	38.7
Any work-based activity .	24.2	26.1	23.7	22.4
Job shadowing	12.6	15.1	12.1	11.5
School-sponsored enterprise	9.1	13.5	8.7	8.3
Mentoring	4.8	5.9	4.7	4.3
Apprenticeship/ internship	4.3	4.6	2.9	5.9
Any school-based activity	24.9	25.1	21.0	26.6
Career major	18.1	19.6	16.6	19.9
Tech prep	7.6	7.4	6.5	8.9
Cooperative education	6.8	6.3	6.5	7.5

Table 4. Percentage of schools with a 12th grade offering school-to-work programs in 1996 (sas96)

Activity	Percent
	Percentage of schools in 1996 that offered
Any school- or work-based activity	64.2
Any work-based activity	44.9
Job shadowing	28.7
Internship	16.6
Mentoring	15.1
Apprenticeship	13.9
School-sponsored enterprise	12.7
Any school-based activity	50.4
Cooperative education	32.5
Tech prep	33.2
Career major	13.2

definitions of the various types of programs, they misreported their participation in them; or, they simply interpreted the definitions differently from the school survey respondents.

Short of conducting a validation study, we have no way of knowing the source of the reporting error. As a result, the actual levels of participation rates by youths and incidence rates by schools should be viewed as rough estimates. However, unless reporting errors vary systematically by youth or school characteristics, differences across groups in participation or offering rates should be less affected by measurement error.

Incidence rates in SAS96

According to the SAS96 64.2 percent of schools with a 12th grade offered at least one school-to-work program to their students.¹³ (See table 4.) The most prevalent work-based activity offered by schools was job shadowing, with nearly 29 percent of schools offering such programs. Job shadowing was followed by internship, mentoring, apprenticeship, and school-sponsored enterprise programs, with incidence rates for these programs ranging from 13 to 17 percent. In 1996, school-based activities were more commonly offered by schools than were work-based activities. Technical preparatory and cooperative education programs were the most common school-based activities and were offered by approximately 33 percent of schools. Career major programs were less prevalent, with 13.2 percent of schools offering them.

Next, we examine the extent to which schools offer more than one of these school-to-work programs. While 64 percent of schools offered at least one program, 26 percent offered three or more programs, and about 9 percent offered five or more programs. (See table 5.) About 22 percent of schools offered only one program, while 31 percent of schools offered at least one work-based and one school-based activity.

Table 6 shows the proportion of schools offering various

school-to-work programs by characteristics of the school and its student body. In the discussion that follows, we only mention differences in incidence rates that were found to be statistically significant.¹⁴ In general, private schools have much smaller incidence rates for school-to-work programs. Only 24 percent of private schools offered at least one school-to-work program in 1996, compared with 78 percent of public schools. Incidence rates for each individual school-to-work program also were considerably lower among private schools than public schools. Among public schools, the percent of schools providing any school-to-work programs was highest among medium-size schools (750 to 1,500 students). This size pattern among public schools also holds for most of the individual school-to-work programs. Among private schools, the largest schools (i.e., schools with more than 300 students) were more likely to offer any school-to-work programs. However, this size pattern does not hold consistently for all of the various school-to-work programs.

In 1996, a higher percentage of suburban schools offered school-to-work programs than did urban or rural schools. This was particularly true for apprenticeship, school-sponsored enterprise, cooperative education, and technical preparatory programs. School-to-work programs were considerably less prevalent in schools with high graduation rates and a high percentage of graduates who go on to attend 4-year colleges. Table 6 shows that schools from which 98 percent or more of the students graduate had incidence rates for any school-to-work programs of 43 percent compared with about 70 percent for schools with lower graduation rates. We found similar differences between schools in which 68 percent or more of the students went on to attend 4-year colleges and schools with

Table 5. Co-existence of selected school-based and work-based activities in school with 12th grade

Activity	SAS96
	Percentage of schools in 1996 that offered:
Total activities	
At least 1	64.2
At least 2	42.6
At least 3	26.0
At least 4	15.2
At least 5	9.1
Work-based activities	
At least 1	44.9
At least 2	23.3
At least 3	11.6
School-based activities	
At least 1	50.4
At least 2	22.7
At least 3	5.7
Exactly one school-to-work activity	21.6
At least one work-based and one-school based activity	31.2

Table 6. Prevalence of selected work- or school-based activities by school characteristics

Characteristic	Percentage of schools								
	Any activities	Work-based activities					School-based activities		
		Apprenticeship	Internship	Job shadowing	Mentoring	School-education enterprise	Career major	Cooperative	Tech prep
Total	64.2	13.9	16.6	28.7	15.1	12.7	13.2	32.5	33.2
Type									
Public	78.3	17.8	20.1	36.1	19.2	15.0	17.0	42.1	43.4
Private	24.2	3.1	6.9	7.9	3.7	6.0	2.3	5.3	4.3
Size									
Public:									
Small	75.3	16.0	16.4	34.3	15.6	12.3	14.8	36.1	40.3
Medium	87.3	23.2	30.0	43.4	29.6	23.2	22.8	57.8	54.7
Large	82.1	18.4	28.1	30.5	23.9	18.2	23.7	57.3	38.1
Private:									
Small	22.3	5.0	8.3	5.9	4.6	5.1	2.4	5.8	2.6
Medium	24.6	.7	5.6	9.0	3.0	8.0	1.8	3.8	5.4
Large	31.2	1.5	4.6	13.4	1.7	4.3	3.8	7.6	8.6
Location									
Urban	57.5	12.6	20.4	26.9	17.5	13.7	13.7	30.6	26.7
Suburban	67.4	16.2	18.9	29.5	18.4	16.0	14.3	36.2	40.7
Rural	64.2	10.9	11.1	29.6	9.6	7.2	11.6	30.1	28.0
Graduation rates quartile									
1st quartile (less than 85 percent) ..	67.9	14.4	20.0	31.8	23.9	15.5	20.4	35.3	37.2
2nd quartile (86 to 94 percent)	71.6	17.3	18.6	33.4	13.1	14.1	11.2	45.3	42.9
3rd quartile (94.8 to 97 percent)	72.3	14.2	18.7	40.3	14.7	15.3	12.8	28.9	38.5
4th quartile (more than 98 percent) .	42.5	7.9	7.3	10.3	7.3	4.4	7.1	18.8	14.7
Percentage of graduates who attend 4-year college									
1st quartile (less than 30 percent) ..	70.3	10.8	15.9	30.8	15.9	14.8	16.2	33.9	35.7
2nd quartile (31 to 44 percent)	76.7	23.0	23.6	45.7	26.9	20.3	15.0	47.0	44.1
3rd quartile (45 to 67 percent)	74.6	18.3	22.0	35.5	17.1	13.4	15.2	35.2	44.6
4th quartile (more than 68 percent) .	42.5	5.7	11.0	14.0	6.6	5.8	3.9	15.9	18.2
Black:									
Less than 25 percent	67.0	14.5	16.3	32.4	15.6	14.0	11.2	34.0	37.6
25 to 75 percent	72.8	17.6	22.8	26.6	22.0	13.1	23.4	41.8	35.6
More than 75 percent	67.3	21.8	15.9	17.5	16.7	17.2	32.2	24.1	23.4
Hispanic:									
Less than 25 percent	69.8	14.8	18.1	33.3	16.3	14.6	12.1	35.0	37.4
25 to 75 percent	69.1	10.2	17.9	24.9	19.7	13.3	28.4	39.0	34.3
More than 75 percent	67.6	18.1	24.1	22.7	22.0	13.9	26.9	39.4	41.4
School breakfast									
Yes	78.2	17.3	20.5	33.4	18.4	14.7	18.3	41.4	40.6
No	48.8	10.2	12.3	23.6	11.5	10.5	7.6	22.7	25.1
Title I									
Yes	68.1	11.1	15.4	30.3	13.5	10.5	14.4	32.7	34.6
No	61.2	16.1	17.5	27.5	16.4	14.3	12.3	32.3	32.1
Dropout prevention									
Yes	73.8	18.7	21.5	35.0	19.0	15.6	18.7	43.3	38.7
No	57.1	10.4	13.0	24.0	12.3	10.5	9.1	24.5	29.1

lower college enrollment rates—the schools with the higher college enrollment rates were less likely to offer any of the individual school-to-work programs.

As mentioned previously, the School-to-Work Act emphasizes the need to improve the transition from school to work for all students, but especially students from disadvantaged backgrounds. To see if school-to-work programs are more typical for such students, we next show how incidence rates of school-to-work programs vary with our descriptors for disadvantaged student bodies.

Schools in which 25 to 75 percent of the student body is black had a higher incidence rate for any school-to-work programs than did schools in which less than 25 percent of the student body is black.¹⁵ This pattern also holds for the provision of apprenticeship, internship, mentoring, career major, and cooperative education programs. Provision of job shadowing programs, however, was highest among schools with the lowest percentage of black students. The provision of school-to-work programs does not appear to vary systematically by the percentage of Hispanic students. However, schools that offer a breakfast program or a dropout prevention program were more likely to provide school-to-work programs. The results for Title I schools were mixed, with higher incidence rates than non-Title I schools for some school-to-work programs and lower incidence rates for other programs.

Regression analysis. Thus far in our analysis, we have shown incidence rates for school-to-work programs by various characteristics of the schools. Next, we use logistic regression analysis to estimate the probability that a school with any given set of characteristics offers school-to-work programs. This approach allows us to see the independent relationship of a particular characteristic with incidence rates, while holding constant the relationship of school-to-work programs to other characteristics.

We ran logistic regressions for three different dependent variables: provision of any school-to-work program, provision of any work-based program, and provision of any school-based program. Table 7 provides the odds ratios obtained from the logistic regressions. The odds ratios indicate how much more likely schools that differ with respect to a particular characteristic are to offer a given program, compared with other schools.¹⁶ An odds ratio of 2 on the dummy variable for private school indicates that private schools are twice as likely to offer school-to-work programs as public schools. Similarly, an odds ratio of 1 indicates that they are equally likely, and an odds ratio of 0.5 indicates that they are half as likely. Table 7 shows that the actual odds ratio is 0.14, indicating that private schools are roughly 1/7th as likely as public schools to offer any school-to-work programs.

For characteristics that are continuous, such as school size, the odds ratio tells us how much more likely schools

that are one unit away from the mean for that characteristic are to offer a given program compared with schools at the mean for that characteristic. Because a change of one unit is not always the most meaningful, we divided school size by 100 and the percentage of blacks and Hispanics by 10 before entering them into the logistic analysis. By doing this, the resulting odds ratio for school size represents the change attributable to a change in school size of 100, and the odds ratio for percentage black or Hispanic represents the change attributable to a 10 percentage-point change in the percentage black or Hispanic.

The results from the regression analysis largely confirm our findings from the cross-tabulation analysis—namely, private schools are significantly less likely to provide school-to-work programs than are public schools. They are 0.3 times as likely as public schools to provide any work-based programs and 0.1 as likely to provide any school-based programs. School size is somewhat positively related to provision of school-to-work programs, particularly school-based programs. However, among private schools, large schools are slightly less likely to offer school-to-work programs. In terms of location, urban schools are less likely than suburban schools to provide school-based programs, while rural schools are less likely than suburban schools to provide work-based programs.

Schools with the highest graduation rates are less likely than other schools to provide any school-to-work programs, work-based programs, or school-based programs. Schools with the highest percentage of graduates going on to 4-year colleges also are less likely to provide any school-to-work program, especially school-based programs.

The findings are mixed regarding whether schools with less privileged student populations are more likely to offer school-to-work programs. For example, the percentage of black students at a school is not significantly related to the probability of providing school-to-work programs, whereas the percent Hispanic is slightly negatively related to provision of

Table 7. Logistic regression results for probability of offering school-to-work programs

Characteristic	Odds ratio		
	Any	Work-based	School-based
Private school	¹ 0.14	¹ 0.26	¹ 0.11
School size/100	¹ 1.03	1.01	¹ 1.05
Private school size/100 ¹	¹ .92	¹ .91	¹ .95
Urban .....	.97	1.12	¹ .84
Rural .....	.85	¹ .78	1.03
Highest graduation rate quartile (98 percent or more)	¹ .74	1.69	¹ .80
Highest 4-year college enrollment rate quartile (68 percent or more)	¹ .68	.93	¹ 1.48

¹ Significantly different from 1 at 5-percent level.

Table 8. Participation rates in school-to-work programs

Characteristics	NLSY97
	Percentage of students in 9th grade or higher in 1997 who participated
Any school- or work-based activity	38.3
Any work-based activity	24.2
Job shadowing	12.6
School-sponsored enterprise	9.1
Mentoring	4.7
Apprenticeship/internship	4.3
Any school-based activity	24.9
Career major	18.2
Tech prep	7.6
Cooperative education	6.8

these programs. Furthermore, Title I schools are slightly less likely than non-Title I schools to offer school-to-work programs, but schools with dropout prevention programs are more likely to offer school-to-work programs.

Participation rates in the NLSY97

After examining how many and what types of schools offer school-to-work programs, we now turn to the question of how many students participate in these programs and what kinds of students choose to participate. To examine participation in school-to-work programs, we use data from the NLSY97. The data show that 38 percent of youths who have attended 9th grade or higher participated in at least one of the school-to-work programs covered in the survey. (See table 8.)

Among work-based activities, job shadowing was the most prevalent, with nearly 13 percent of youths participating in such programs. School-sponsored enterprise ranked second at 9.1 percent, and apprenticeships/internships and mentoring programs followed, with participation rates of about 4 percent each. In terms of school-based learning activities, the most common program was career major, with 18.2 percent of youths reporting having participated in such a program. This was followed by technical preparatory at 7.6 percent, and cooperative education at 6.8 percent.

Table 9 shows the extent to which the youths in our study participated in more than one school-to-work program. Participation in multiple programs is not common: only 6 percent of youths participated in three or more programs, and fewer than 1 percent participated in five or more programs. About 10 percent of youths who have attended the 9th grade or higher participated in at least one work-based activity and one school-based activity. The majority of students that participated in at least one program tended to participate in only that program—23 percent of youths reported participating in

only one activity.

What kinds of students tend to participate in school-to-work programs? Table 10 shows participation rates in the various programs by characteristics of the youths that we felt may influence the quality of worker that the youth ultimately may become when he or she joins the workforce. In the discussion that follows, we only mention differences in participation rates across groups that were found to be statistically significant.¹⁷

Participation in any school-to-work program does not appear to vary according to the youths' academic performance when in 8th grade. However, participation rates in certain programs do differ by grade point average. For example, youths whose grades were average had higher participation rates in apprenticeship/internship programs than youths with higher grades. Those with higher grades were more likely to participate in job shadowing.

Youths who worked while going to school were more likely to participate in school-to-work programs: 43 percent of the youths who reported working during the survey week participated in at least one school-to-work program, compared with 36 percent of the youths who did not work. Participation rates in most of the individual programs also were higher for working youths.¹⁸

Although the School-to-Work Act emphasizes the need to make school-to-work programs available to all students, we wondered if college-bound youths are as likely to participate in these programs as youths who do not intend to go to college. To address this question, we examine how par-

Table 9. Co-existence of selected school-based and work-based activities (NLSY97)

Characteristics	Percentage of students in 9th grade or higher in 1997 who participated in activities
Total activities:	
At least 1	38.3
At least 2	16.1
At least 3	5.6
At least 4	1.9
At least 5 .....	.8
Work-based activities: .	
At least 1	24.2
At least 2	5.3
At least 3	1.1
School-based activities:	
At least 1	24.9
At least 2	6.7
At least 3	1.0
Exactly one school to work activity	22.7
At least one work-based and one-school based activity	10.3

Table 10. Participation in school-to-work program by worker-related characteristics

Characteristic	Percentage of youths in 9th grade or higher in 1997 who participated in activities							
	Work-based activities					School-based activities		
	Any program	Apprenticeship or internship	Job shadowing	Mentoring	School-sponsored enterprise	Career major	Cooperative education	Tech prep
Total	38.3	4.3	12.6	4.8	9.1	18.1	6.8	7.6
GPA in 8th grade								
Low (Cs and/or Ds)	38.8	3.8	10.4	4.2	6.9	16.1	8.3	10.0
Medium (Cs and/or Bs)	38.6	5.4	11.7	5.0	9.0	19.1	6.8	7.7
High (As and/or Bs)	37.8	3.1	14.3	4.6	9.7	17.6	6.4	6.9
Employment status last week								
Working	43.1	4.7	14.3	5.9	11.4	20.1	8.1	7.0
Not working	36.0	4.1	11.8	4.2	8.0	17.2	6.1	7.9
College expectations								
0 percent chance	34.2	3.7	9.4	2.5	7.9	15.6	7.0	8.5
1 to 33 percent chance	37.3	6.2	8.8	4.4	7.3	19.4	6.3	9.9
34 to 66 percent chance	37.9	3.9	11.7	4.5	8.2	20.7	8.7	7.8
More than 66 percent chance	40.5	4.9	4.2	5.6	10.1	18.8	6.6	8.0
Course of study in high school								
General	33.7	3.7	11.0	3.8	7.4	16.0	5.3	5.7
Vocational, technical, or business	63.5	10.7	13.8	6.6	14.9	36.5	20.0	20.7
College prep	38.1	3.4	15.0	5.8	10.0	16.1	5.2	6.8

ticipation in various school-to-work programs differs by the youth’s self-reported expectations about completing college, while recognizing that these expectations may be influenced by school-to-work programs.

In the NLSY97 questionnaire, youths were asked: “What is the percent chance that you will have a four-year college degree by the time you turn 30?” Youths were then placed into four groups: those who said they had zero chance of receiving a college degree, those who said they had a 1- to 33-percent chance, those who said they had a 34- to 66-percent chance, and those who said their chance was greater than 66 percent. Interestingly, nearly 70 percent of the youths fell into the latter category, and only 5 percent said they had no expectations of completing a degree. Findings in Table 10 show that, if anything, individuals who perceive themselves as more likely to complete college have greater participation in school-to-work programs.

Participation in school-to-work programs was considerably higher for youths who characterized their course of study in high school as being a vocational, technical, or business program as opposed to a general or college preparatory program. This strong positive relationship is not surprising given that vocational, technical, or business-oriented programs are by their nature more focused on linking educational curricula to careers.

Table 11 shows participation rates in the various programs by youth characteristics related to socioeconomic status. These characteristics are of interest given the emphasis

placed in the School-to-Work Act on providing school-to-work opportunities to youths that may ultimately become high school dropouts or have difficulties in the workforce.

Although women’s labor force participation rates are approaching those of men, gender differences still exist in terms of occupational choices and long-term attachment to the workforce. Some of these differences may influence decisions about participating in certain school-to-work programs. Overall, participation rates in school-to-work programs are similar for young men and women. However, high school girls are more likely than their male counterparts to participate in a job shadowing program, and high school boys are more likely than their female counterparts to participate in a technical preparatory program.

Findings from NLSY97 indicate that black youths were more likely than other racial groups to participate in at least one school-to-work program. Blacks also had higher participation rates than whites in apprenticeship or internship programs, as well as in mentoring, career major, cooperative education, and technical preparatory programs. Hispanics, on the other hand, were less likely than non-Hispanics to participate in at least one school-to-work program, with significantly lower participation in job shadowing, school-sponsored enterprise, and career major programs.

As part of the interview with one of the youth’s parents, information was collected on total income for the household in which the youth resides. Using this information, we were able to group the youths into four equal-sized income groups to see if participation in school-to-work programs varies by

household income. Participation rates in any school-to-work program do not vary systematically by income level. However, some differences do exist for individual programs. Youths in the highest income group, for example, were more likely to participate in job shadowing programs than those in the lowest income group. Youths in the bottom two income groups were more likely to participate in a career major program than were youths in the highest income group. Youths in the highest income group also were less likely than youths in the lowest income group to participate in cooperative education programs.

Although participation rates did not vary much by students' college expectations, the education level of the youth's biological mother does appear to be negatively related to participation in school-to-work programs. Youths whose mothers are college graduates are less likely to participate in at least one school-to-work program than are youths whose mothers are high school graduates. This relationship also holds for participation in apprenticeship or internship, career major, cooperative education, and technical preparatory programs. Youths

whose mothers have less than a high school education are less likely to participate in at least one school-to-work program than are youths whose mothers are high school graduates.

Consistent with the school survey, youths attending private high schools are less likely to participate in school-to-work programs than are those attending public schools. Approximately 26 percent of youths in private schools participated in at least one school-to-work program, whereas nearly 39 percent of public school students did.

Regression analysis. Similar to the strategy used in analyzing the school data, we now turn to our logistic regression analyses that estimate the probability that a youth with any given set of characteristics participates in school-to-work programs. This approach allows us to see the independent relationship of a particular characteristic with participation rates while holding constant the relationship of other characteristics. We ran regressions for three different dependent variables: participation in any school to work program, participa-

Table 11. Participation in school-to-work programs by socioeconomic status-related characteristics

Characteristic	Any program	Percentage of youths in 9th grade or higher in 1997 who participated in activities						
		Work-based activities				School-based activities		
		Apprenticeship or internship	Job shadowing	Mentoring	School-sponsored enterprise	Career major	Cooperative education	Tech prep
Sex								
Male	38.4	4.3	11.0	4.6	9.0	18.9	7.3	8.7
Female	38.2	4.3	14.3	5.0	9.2	17.4	6.3	6.6
Race								
White	37.7	3.9	13.2	4.2	8.6	17.4	6.2	7.2
Black	44.8	6.7	11.1	6.2	10.3	24.2	10.1	10.7
Other	34.5	4.3	10.9	6.0	10.5	15.9	5.6	6.5
Ethnicity								
Hispanic	32.0	4.1	8.9	4.7	7.3	15.8	5.4	6.9
Non-Hispanic	39.2	4.4	13.1	4.8	9.4	18.5	7.0	7.7
Household income								
Less than \$26,000	39.5	6.1	11.3	3.9	8.1	20.5	8.5	7.7
\$26,001 to 45,015	40.8	3.2	12.6	5.7	10.0	19.2	6.9	8.6
\$45,016 to 70,002	38.8	3.6	14.1	5.4	10.2	18.0	5.5	8.7
\$70,003 or more	38.6	4.3	14.7	4.3	9.2	15.1	6.0	6.3
Biological mother's education								
Less than high school ...	36.3	4.3	9.7	5.0	8.2	19.0	7.1	7.4
GED	42.0	7.9	13.0	5.8	9.4	17.9	10.0	9.6
High school graduate	41.1	5.5	12.7	4.6	9.0	21.5	7.8	8.2
Some college, no degree .	41.1	2.8	14.1	5.5	11.1	17.1	6.6	9.0
Associates degree	40.1	4.3	13.8	5.4	10.3	19.7	5.1	8.2
College graduate	32.9	3.0	12.7	4.0	8.1	13.6	5.4	5.5
School type								
Public	38.5	4.0	12.8	4.7	9.0	18.6	6.5	7.5
Private	25.9	3.2	9.5	2.5	8.6	6.8	3.5	1.8
Location								
Urban	37.6	4.6	11.7	4.8	9.6	17.7	6.6	7.4
Rural	39.2	4.0	13.8	4.7	8.5	18.8	7.0	7.9

Table 12. Logistic regression results for probability of participating in school-to-work programs

Characteristic	Odds ratio		
	Any	Work-based	School-based
Worker-related characteristics			
Low grades in 8 th (Cs and/or Ds)	0.97	0.95	0.93
Medium grades in 8 th (Cs and/or Bs) .....	.98	1.05	.90
Working	¹ 1.31	¹ 1.31	1.15
0 percent chance of completing 4-year college	¹ .68	.77	.69
1 to 33 percent chance of completing 4-year college	¹ .73	.72	.76
34 to 66 percent chance of completing 4-year college	¹ .80	.73	.90
General course of study in high school	¹ .81	¹ .75	.87
Vocational, technical, or business program	¹ 2.26	1.26	¹ 2.70
Socio-economic status related characteristics			
Female .....	.99	1.13	¹ .82
Black	¹ 1.33	¹ 1.22	¹ 1.41
Other	1.06	1.24	.90
Hispanic .....	.85	.76	.95
Log of annual household income	1.05	1.07	.99
Biological mother has less than high school degree .....	.97	1.09	.95
Biological mother has GED	1.07	1.13	.87
Biological mother has some college, no degree	1.10	1.21	.90
Biological mother has associates degree .....	.99	1.03	.99
Biological mother has college degree	¹ .97	1.00	¹ .93
Private school	¹ 1.55	¹ 1.73	¹ 1.36
Other type of school	1.36	1.18	¹ 1.68
Urban .....	.97	1.03	.90

¹ Significantly different from 1 at 5-percent level.

tion in any work-based program, and participation in any school-based program. Table 12 provides the odds ratios obtained from the logistic regressions.¹⁹

Findings from the logistic regression analysis confirm many of the cross-tabulation results discussed previously. Youths who work are more likely (about 1.3 times more likely) to participate in any school-to-work program and any work-based program. Youths who characterized their course of study as general are less likely than college preparatory students to participate in any school-to-work program and any work-based program, whereas those who characterized their course of study as vocational, technical, or business-oriented were more than twice as likely as college preparatory students to participate in any school-to-work program and any school-based program.

In addition, black youths are more likely than white youths to participate in any program, any work-based program, and any school-based program. Students who attend private schools are less likely to participate in any program, any work-based program, and any school-based program than were students who attend public school. Lastly, students whose mothers are college graduates were slightly less likely to participate in any program and any school-based program than were students whose mothers are high school graduates.

HOW COMMON ARE SCHOOL-TO-WORK PROGRAMS? We have examined this question from two different perspectives—that of the Nation’s high schools and that of its students. The

SAS96 data show that school-to-work programs are commonly offered in U.S. high schools, with more than 60 percent of schools providing at least one such program. The NLSY97 data show that a fair number of high school students are participating in school-to-work programs, with about 38 percent of students reporting having participated in at least one program. However, we have some concerns about the quality of these data because sizable numbers of students in schools that supposedly do not have school-to-work programs reported participating in them. What kinds of schools offer school-to-work programs, and what kinds of students participate in them? The data indicate that private high schools and high schools with high graduation rates and college attendance rates are less likely to offer school-to-work programs.

Regarding the likelihood of schools with disadvantaged student populations offering school-to-work programs, our findings are somewhat ambiguous—on the one hand, schools with dropout prevention programs are more likely than other schools to offer school-to-work programs, while on the other hand, schools with high percentages of Hispanic students (who are more likely to be disadvantaged) and schools receiving Title I funding are less likely to offer these programs. Students who work while going to school are more likely to participate in school-to-work programs, as are youths who reported their course of study in high school as technical, vocational, or business-oriented. Also, blacks are more likely than whites to participate in school-to-work programs, whereas youths whose mothers are highly educated are less likely to participate in these kinds of programs. □

NOTES

The views expressed in this article are those of the authors and do not necessarily reflect the views of the U.S. Department of Labor.

¹ The Act called for approximately \$300 million to be appropriated for fiscal year 1995, with equal amounts being available for fiscal years 1996–99. Federal funding for school-to-work programs is scheduled to end in 2001.

² Concise definitions of these three components were not provided in the Act. The definitions that follow were developed by Mathematica Policy Research, Inc., an organization that has been involved in a large-scale study to evaluate school-to-work grants. See *The First National Survey of Local School-to-Work Partnerships: Data Summary*, August 1997.

³ A copy of the School-to-Work Act is available on the Internet at www.stw.ed.gov/factsht/act.htm.

⁴ The NLSY97 is an annual survey that, among other things, will interview youths while they make their transition from school to the workforce. When the present analysis was conducted, however, data were available from only one interview with these youths, and most of them were still attending school. Nonetheless, for an analysis of the effects of school-to-work programs on early youth outcomes, see David Neumark and Mary Joyce, “Evaluating School-To-Work Programs Using the New NLSY,” Working Paper 7719 (Cambridge, MA, National Bureau of Economic Research, May 2000).

⁵ Primary sampling units are geographical constructs consisting of either a metropolitan area or a county.

⁶ Or 5,295 responses out of 7,390. Among the respondents, another 42 failed to answer any of the first 11 questions in the school-to-work section and thus were dropped from the analysis.

⁷ “Title I” is short for “Part A of Title I of the Improving America’s Schools Act of 1994, Reauthorization of the Elementary and Secondary Education Act of 1965.” Title I is the largest Federal aid program for our Nation’s schools and is aimed at providing educational services to children who are the furthest from meeting the standards that each State has set for all children.

⁸ Throughout this article, all estimates of means, proportions, and percentages are sample-weighted. The logistic regression estimates that appear later are not weighted.

⁹ Or 4,484 out of 8,984. Actually, 4,489 were asked the school-to-work questions, but 5 were dropped from the analysis due to missing or ambiguous information on their current grade level.

¹⁰ Clearly, we will be able to examine this issue when data from later waves of the survey are available.

¹¹ To determine the number of respondents for which information on a given characteristic is missing, simply add up the unweighted numbers in the first column of table 2 and subtract the resulting sum from 4,484.

¹² There are, however, instances where this may be valid. In par-

ticular, in the NLSY97, the youth was asked whether they “ever” participated in these programs and not whether they participated in the programs at their current school, so it is possible that the youth could have participated in the program at another school or through another organization (i.e. church, business group, or civic organization). However, we suspect that this is at most a minor part of the problem, as the inconsistencies appear almost as severe for school-based as for work-based programs.

¹³ As mentioned previously, a nonresponse to the question on whether the school offered a particular program was treated as a “no” response. To the extent that this is not the case, the percent of schools estimated to have these programs will be underestimated.

¹⁴ That is, we conducted a statistical test that incorporated the standard error associated with each estimate and found that the hypothesis that the two estimates are equal could be rejected at the 5-percent significance level.

¹⁵ The incidence rate for schools in which 25 to 75 percent of the student body is black also was larger than the incidence rate for schools in which more than 75 percent of the student body is black; however, this difference, while similar in magnitude to the difference mentioned in the text, was not statistically significant.

¹⁶ Note that the odds ratios on a discrete variable should be interpreted relative to the excluded category. The excluded categories in Table 7 are public schools, schools in suburban locations, schools with graduation rates in quartiles 1 to 3, schools with college enrollment in quartiles 1 to 3, schools without breakfast programs, schools without Title I funding, and schools without dropout prevention programs.

¹⁷ Meaning that we conducted statistical tests incorporating the standard errors associated with each estimate and found that the hypothesis that the two estimates are equal could be rejected at the 5-percent significance level.

¹⁸ We also examined the relationship between school-to-work programs and two alternative measures of working that may signal a different level of attachment to the labor force than holding a job during the survey week. The first was an indicator variable for whether or not the youth worked for an employer at any time during the 1996–97 school year or following summer. The second was an indicator variable for whether or not the youth worked for an employer during the 1996–97 school year. The results using the first work variable were very similar to those discussed in the text. The second work variable also was positively related to participation in school-to-work programs, but the association was not statistically significant.

¹⁹ The excluded categories in Table 12 are youths whose grades in 8th grade were in the “A” to “B” range, youths not working, youths who said their chance of completing college was greater than 66 percent, youths in college preparatory course of study, male youths, nonblack and non-Hispanic youths, youths whose biological mother has a high school education, youths in public schools, and youths in rural areas.

Appendix: Definitions of school-to-work programs in NLSY97 and SAS96

The NLSY97 interviewers were instructed to show the respondents a card with the school-to-work programs and their definitions. The interviewers then asked, “Here is a list of some of the kinds of programs schools offer to help students prepare for the world of work. Have you ever participated in any of these programs through your school?” The following is the list of programs and their definitions (listed in the order in which they were asked):

- Career major program, which is a defined sequence of courses based upon an occupational goal;
- Job shadowing, which is to spend time following workers at a work site;
- Mentoring, which involves being matched with an individual in an occupation;
- Cooperative education, which combines academic and

vocational studies with a job in a related field;

- School-sponsored enterprise, which involves the production of goods or services by students for sale to or use by others;
- Tech prep, which is a planned program of study with a defined career focus that links secondary and post-secondary education;
- Internship or apprenticeship, which involves working for an employer to learn about a particular occupation or industry.

The SAS96 was administered by a paper questionnaire that was filled out by school administrators and mailed back to the National Opinion Research Center. The specific school-to-work programs were asked about in a grid-style questionnaire with each column pertaining to a different program. The grid was preceded by the following instructions and definitions of terms:

The questions on the following pages are about work-based and career-oriented activities offered at your school. Please refer to the glossary that follows for definitions of activities and terms referenced in this section.

- Apprenticeship: Typically, multiyear programs that combine school- and work-based learning in specific occupational areas or occupational clusters and are designed to lead directly into either a related postsecondary program, entry-level job, or registered apprenticeship program. May or may not include paid work experiences.
- Career major: A coherent sequence of courses based upon an occupational goal.
- Cooperative education: A method of instruction whereby

students alternate or parallel their academic and vocational studies with a job in a related field. May or may not include paid work experiences.

- Internship: For a specified period of time, students work for an employer to learn about a particular industry or occupation. Students' workplace activities may include special projects, a sample of tasks from different jobs, or tasks from a single occupation. May or may not include paid work experiences.
- Job shadowing: Typically as part of career exploration activities in early high school, a student follows an employee for one or more days to learn about a particular occupation or industry. Job shadowing is intended to help students hone their career objectives and select a career major for the latter part of high school.
- Mentoring: Pairing a student with an employee over an extended period of time during which the employee helps the student master certain skills and knowledge the employee possesses, models workplace behavior, challenges the student to perform well, and assesses the student's performance. Mentoring may be combined with other work-based learning activities, such as internships or on-the-job training.
- School-sponsored enterprise: The production of goods or services by students for sale to or use by others. School-sponsored enterprises typically involve students in the management of the project. Enterprises may be undertaken on or off the school site.
- Tech prep: A planned program of study with a defined career focus that links secondary and post-secondary education.

Racial differences in youth employment

Work experience at an early age positively impacts labor force attachment of different racial groups; however, racial gaps in employment that are present in the early teen years seem to continue into adulthood

Rosella M. Gardecki

Since the late 1960s, researchers have noted large differences in employment and unemployment rates among black workers, Hispanic workers, and white workers. These differences have generally been the greatest for younger workers. For example, Robert Flanagan documents that white workers have historically held jobs at a higher rate than black workers; for young workers, this gap widened in the 1960s and the 1970s when the employment rate of black teens decreased further.¹ Recent studies show that this early joblessness has an impact on later employment probabilities and wage outcomes.² However, few studies have examined the impact of jobholding on later employment probabilities among the youngest workers.

Data from the National Longitudinal Survey of Youth 1997 cohort (NLSY97) indicate that the youngest teens follow the same employment trends. Slightly more than half of the NLSY97 14-year-olds report some type of work activity; nearly 24 percent of them are working at an employee-type job (that is, working for an employer), while about 43 percent report employment at a freelance job (for example, babysitting, snow shoveling, pet care).³ Jobholding among 14- and 15-year-old nonblack/non-Hispanic youths is markedly higher than among their black and Hispanic counterparts.

Working at a freelance job differs from working at an employee-type job in a number of as-

pects that may make freelance jobs a more viable option for many teens. Periods of actual work at freelance jobs typically are more sporadic and generally have low hours requirements. In addition, freelance jobs are not subject to the Fair Labor Standards Act—that is, they have neither maximum hours constraints nor the need for parental permission—and can be held at any age. As a result, many 12- and 13-year-olds, who are not eligible for most employee-type jobs, hold freelance jobs. Freelance jobholding in the NLSY97 does not stop at these ages, but continues to be a regular source of employment and income throughout the teenage years.⁴

This article examines the factors that affect different types of jobholding among teens in order to better understand employment decisions the youngest workers must confront, and how these decisions may differ by racial group. It focuses on the individual, family, neighborhood, and spatial characteristics that affect jobholding among teens living in a parental household. The pattern of an employee-type jobholder is examined separately from that of a freelance jobholder in an attempt to measure differences between the propensity to hold either type of job. This article presents a brief review of the existing literature on teen employment; explains the data used and the selection criteria for the NLSY97 sample; lists the factors that affect employment at any job for young workers—those aged 12 through 18 are

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considered—as a whole and by racial group (black, Hispanic, nonblack/non-Hispanic); examines the types of jobs held—that is, employee-type jobs and freelance jobs, and discusses the effect of holding a job, during the year that the youth was 14, on the probability of employment among teens ages 16 and older.

What previous research shows

According to recent figures, racial differentials in employment have continued into the present decade, improved economic conditions notwithstanding.⁵ Despite the sizable gap in employment for teens, only a limited number of studies focus on this group; most researchers consider differences in labor force status among older workers who have finished their formal education.

In one of the few studies to examine jobholding among younger teens, Robert Michael and Nancy Brandon Tuma used data from the NLSY79 to consider differential employment effects for 14- and 15-year-old workers.⁶ Nearly 25 percent of 14-year-olds reported being employed at the time of the survey, and this percentage increased for each age group. Even among the youngest workers, large differences in employment patterns were present between racial groups. White teens were more likely to be employed than their black or Hispanic counterparts at any age. Further, 16- and 17-year-old youths who reported employment prior to the age of 16 were more likely to be employed and were working more hours than those without prior experience.

Most of the remaining research focuses on racial differences in employment among older teens—those who are at least aged 16 years.⁷ Although debate continues regarding which factors cause the differential, a number of characteristics have been identified. These factors can be grouped into four areas: individual characteristics, family determinants, neighborhood and geographic factors, and spatial mismatch measures.

Individual characteristics. Aside from the typical demographic characteristics (for example, age, race, gender, schooling), other individual characteristics may impact on the probability of a youth working. In particular, a number of studies focus on the relationship between employment and criminal activity. Not surprisingly, most of these studies support the hypothesis that crime and employment are competing forces for a youth's time.⁸ As a result, participation in criminal activity decreases the probability that a teen is employed. Richard Freeman used self-reports of criminal activity as a measure of the tradeoff between crime and employment. He found that youths who reported committing a crime in the previous month were less likely to be employed than those who did

not report criminal activity. Least likely to be employed were youths who reported high income from criminal activities or who had been jailed in the previous year.⁹

John Bound and Richard Freeman, and Jeff Grogger found that a proportion of the employment differential between black and white youths can be attributed to whether a youth has a criminal record.¹⁰ These figures do not necessarily result entirely from a time tradeoff between criminal activity and employment, because an arrest may signal to employers that the youth will not be a dedicated worker. On the other hand, using the National Longitudinal Survey of Young Men, Freeman found that church attendance is a strong indication that a youth will “escape” a background of poverty to become employed.¹¹

Family characteristics. Characteristics of the youth's family may also affect his or her probability of working. These factors may either indicate unobserved family characteristics that promote labor market attachment or point to household characteristics that may ease the youth's transition into the labor market (for example, established job networks or employment opportunities that arise through another household member's work). Factors most often considered include the employment behavior of the respondent's parents and siblings, single parent households, and the poverty status of the household.

Mary Corcoran, Richard Gordon, Deborah Laren, and Gary Solon used a sample of men from the Panel Study of Income Dynamics (PSID) to examine the relationship between family, community, and employment.¹² Their strongest result indicates that family or community welfare receipt negatively affects the men's probability of working; not surprisingly, those from families who have spent more time in poverty are also less likely to work. Albert Rees and Wayne Gray found that parental characteristics have no effect on employment, while siblings who work positively affect the respondent's work behavior.¹³

Neighborhood and geographic factors. A number of studies have found that the characteristics of the youth's geographic area—and especially the immediate neighborhood—affect whether a youth begins working at an early age. The types of jobs prevalent in the region may determine the availability of teen jobs; for example, areas dominated by heavy industry may present teens with fewer opportunities due to safety regulations. In addition, neighborhood factors may impact on the probability of working in two ways, according to Bruce Weinberg, Patricia Reagan, and Jeffrey Yankow.¹⁴ First, these factors may influence the decision to work by changing the stigma attached to unemployment; for example, a neighborhood with a high unemployment rate may attach

less of a stigma to not working than may a low-unemployment neighborhood. Second, certain neighborhood characteristics may determine how effective the job network is. High unemployment may degrade the job network because fewer residents are in the labor market and able to pass along information about employers or job openings.

Bound and Freeman showed that geographic location accounts for part of the racial difference in employment.¹⁵ Finding that the black/white employment and earnings gaps in the 1970s and 1980s were larger in the Midwest than elsewhere, they attribute part of this outcome to regional changes in industrial composition and dominant occupations. In a separate study, Freeman determined that economic activity in a geographic area impacts on the probability of youth employment.¹⁶ He found that the important indicators of economic activity are the area's unemployment rate, poverty status, growth in personal income, industrial composition, and proportion of older to younger workers.¹⁷

On a neighborhood level, Katherine O'Regan and John Quigley used 1990 Census data to consider the effects of living in a predominantly nonblack/non-Hispanic census tract and of living in a census tract with higher poverty, which they refer to as social isolation.¹⁸ Focusing on black and Hispanic youths who live at home, their results indicate that the employment probabilities of a minority youth living in a predominately white or lower poverty census tract are higher than minorities residing elsewhere. Finally, Weinberg, Reagan, and Yankow examined the block-groups in which male NLSY79 respondents reside, and determined that neighborhood characteristics do affect the probability of employment. However, they also find that ordinary least square overstates the impact of neighborhoods, and that including individual fixed effects reduces the residence effect by two-thirds or more when compared to ordinary least square regressions.¹⁹

Spatial mismatch. According to the spatial mismatch theory first advanced by John Kain, housing segregation affects black employment opportunities because jobs are located outside of the urban areas with high black populations.²⁰ Also applied to Hispanics in subsequent studies, this theory is particularly appealing when considering the employment of teens because this group is generally tied to their residential area by their parents. Neighborhood factors differ from spatial mismatch in that the first takes into account the composition of the residence along a number of dimensions while the second considers the proximity of jobs to the residents of an area. Richard Arnott states that spatial mismatch may either involve problems encountered in job search or reflect job access or difficulties with transportation.²¹

First, the job search aspect of spatial mismatch theory suggests that urban teens cannot search effectively for a job

due to poor connections to an area rich in jobs. Using a sample of nonenrolled civilian men in the 1981 and 1982 NLSY79 surveys, Harry Holzer found that informal job search, which involves job networks (for example, checked with friends or relatives and direct application without a reference), results in the most job offers for both black (60 percent) and white teens (70 percent).²² However, white youths have a higher probability of a job offer using any search method. Holzer concluded that this difference accounts for the racial gap in employment, with job offers resulting from informal job search leading to 87 to 90 percent of the differential.

The second problem relates to access to jobs and lack of transportation for youths ages 14 and 15—a problem that is aggravated by their inability to drive. Research suggests the impact of this factor is not uniform across metropolitan areas. A number of researchers used microdata and discovered that proximity to a job-rich area, as measured by commute times, affects the probability that a youth is employed.²³ Keith Ihlanfeldt and David Sjoquist found that the “nearness” of jobs impacts on both black and white youth employment in Philadelphia, but only affects black youths in Los Angeles and Chicago. Using an index of commute times in four metropolitan areas in New Jersey, O'Regan and Quigley determined that longer commutes have a negative impact on minority teen employment, but the magnitude and significance of their measure varies across metropolitan areas.

Combining the two problems, Holzer, Ihlanfeldt, and Sjoquist considered the effect of longer travel times on both work and search behavior.²⁴ Although they focus on slightly older workers—NLSY79 respondents aged 16 to 24—this group is similar to younger workers in that a number lived in the parental home. Their findings indicate that greater travel for work or search activity was positively related to wage gains. Due to residence constraints and nonownership of an auto, black respondents faced higher travel costs per mile, resulting in a smaller search area.

Constructing the study

Aside from extensive employment data, the round 1 NLSY97 provides current and retrospective data on all youth respondents, limited data on the current status of other household members, and, in cases in which the parent interview was completed, extensive data on the responding parent. The round 1 NLSY97 sample consists of 8,984 respondents who were aged 12 to 18 at the time they were interviewed.²⁵ In round 2 NLSY 97, 8,386 of the youth respondents completed an interview; in addition to answering questions about themselves, they also provided all updates and changes to household composition and parental information, excluding family income.

What factors influence youth employment? This question is addressed using round 1 NLSY97 data. How does early work experience affect the probability that older teens work? To address this question requires restricting the sample to youths age 16 or older. In round 1, a large majority of youths interviewed were aged 15 or younger, so data from rounds 1 and 2 of the NLSY97 were merged.²⁶

Variable definitions. The employment variables discussed in this article equal 1 if the respondent worked at any job, at a freelance job, or at an employee-type job within 4 weeks of the interview date and zero otherwise. To measure the probability of working at an employee-type or a freelance job at age 14, a dummy variable is formed based on the starting and ending dates of the respective job types and birth dates reported by youths in the NLSY97.

Both age and highest grade completed are continuous variables taken directly from the survey instrument and measured as of the interview date. The dummy variables for black and Hispanic are created from the expanded race and ethnicity codes collected in the screener part of the round 1 instrument. Any youth who is reported as Hispanic in either the race or the ethnicity question is considered Hispanic in this study; black respondents who are also Hispanic are coded as Hispanic.²⁷ Enrollment is defined as continuous enrollment; thus, youths on summer vacation are still considered enrolled. The variable “summer” equals 1 if the respondent was interviewed during the summer months (June, July, and August) and zero otherwise. Because teens tend to hold jobs with greater frequency during the summer, this variable is included to capture differences in jobholding based solely on the time of year the youth was interviewed. Youths with any number of children are coded as a 1 in the “has a child” variable; all other youths are coded as zero.

Because the respondents are at the age where peer effects may influence their present and future behaviors, the NLSY97 presents a unique opportunity to look at the groups that impact on youths by asking the respondent a number of questions about his or her peers. The survey includes a number of questions about the respondent’s perception of peer involvement in various activities and of peer educational plans; from these questions, three variables were formed to capture teen activities.²⁸ The first looks at the percent of peers who plan to attend college. The effect that this variable might have on teen work is uncertain. If more motivated youths tended to go to college, this variable would have a positive effect on employment; conversely, if teens who were focused on college spent more time studying, they would work less. The second variable focuses on “positive activities” for youths as measured by church-going activity and volunteerism. It is unclear whether these types of activities serve as a signal

that a youth is a “good kid” or whether knowing large numbers of people who participate in these activities actually changes the behavior of teens.²⁹ Finally, NLSY97 considers whether knowing a number of peers who participate in “negative activities”—such as taking part in illegal activities or belonging to a gang—affects employment behavior. Like the positive activities, it is unclear whether associating with peers involved in these activities provides a signal for future employers or indicates something about the pre-existing work ethic of respondents.

For the purposes of this article, “crime” is defined as stealing something worth \$50 or more, selling drugs, or other property crimes, such as fencing stolen property, possessing or receiving stolen property, or deliberately selling something for more than it was worth. Youths who have been institutionalized for any crime are coded as 1 in the criminal institution variable.

The family variables are derived from the household roster, created during the screener portion of the NLSY97 interview. Siblings equals 1 if siblings of any type (biological, adoptive, step, or foster) were recorded in the household; the employment of siblings is a count of the number of these siblings age 16 or older who were employed as of the survey date. The employment of parental figures and living in a female-headed household are determined for the same relationships (for example, biological, adoptive, step, and foster).

Residence variables were originally created by NLSY97 staff based on respondent addresses. For this article, four dummy variables indicate the respondent’s region of residence.³⁰ The urban/rural variable on the NLSY97 Main CD was similarly changed into a dummy variable, with residence in an urban area equal to 1.³¹ Taken from the NLSY97 Geographic CD, the unemployment rate in the respondent’s metropolitan area is a continuous exact number based on the March CPS. The poverty rate variable indicates the percent of households in the respondent’s county of residence with incomes below the poverty level.

Finally, the spatial access variable used in this article is the mean travel time to work at the county level; it is derived from the *1994 County-City Data Book*.³² Although this variable is constructed from data for older workers (those aged 16 and older), it serves as a proxy for the distance between youths and jobs.

Sample construction. Sample one uses the employment behavior of at-home teens, regardless of age, as reported in the round 1 survey. This sample includes at-home respondents who have valid data for all variables as defined above. These youths were aged 12 to 18 during round 1 of the survey. In addition, sample one includes only respondents with an identifiable parent or a parent figure. After these restrictions are

applied, the sample includes 8,511 respondents, of whom 5,743 were at least 14 years old and eligible to report employee-type jobs. Details on the number of respondents excluded due to each restriction are provided in the appendix.

Sample two is used to address the issue of whether work experience at age 14 impacts on the employment probabilities of older teens. Answering this question requires information on the youth's residence both at age 14 and at the interview date because the spatial mismatch literature indicates that this may impact on employment probability. Because most respondents had not yet turned 16 at the date of the first interview, data from both round 1 and round 2 of the NLSY97 survey are examined to increase the size of sample two. At the time this research was conducted, round 2 addresses were not geocoded, and only teens who met certain residence restrictions (described in the appendix) were included in the sample. In short, these restrictions required teens to remain at the same residence for a period of time. After imposing the residence restrictions, 2,512 respondents remained in sample two.

Note that rather than measuring the effect of jobholding in the 14th year on later employment, this article addresses whether, among at-home teens who remain in the same labor market from the age of 14, those who hold a job do better than those who do not work. Although the difference may seem subtle, the issue of sample selection bias must be considered. Nonmoving youths may have more stable job networks (for example, family, friends, former employers) and may be more likely to be employed at older ages as a result. In addition, movers may have a lack of familiarity with the area and with available employers that hinders their ability to find work. Finally, since most teen positions are awarded on the basis of recommendations rather than work experience, movers may have more difficulty obtaining a known reference in a new area.

Due to these factors, the returns to holding a previous job may be biased upward for this sample. The following tabulation shows the weighted effect of residence restrictions on probability of employment at age 14:

<i>Variable</i>	<i>In-scope</i>	<i>Out-of-scope</i>
Any job at age 14	0.61	0.58
Employee-type job at age 14 .....	.27	.24
Freelance-type job at age 14 .....	.47	.44
Employee type job at age 16 .....	.46	.39

A larger percentage of the nonmovers held any type of job (61 percent versus 58 percent for movers) at the age of 14; the same was true of employee-type jobs (27 percent versus 24 percent) and freelance jobs (47 percent versus 44 percent). Further, a larger percentage of nonmovers than movers in this

sample held a job within 1 month of the latest survey date (46 percent versus 39 percent). In addition, this type of sample selection bias may affect the family variables because older family members who lived in the same location for a period of time may have better connections to jobs for the respondent through friends and coworkers. This may cause returns to employment of the respondent's parent(s) or siblings to be overstated. However, determining how this sample selection may bias other measures is beyond the scope of this article.

Racial disparities

In the last several decades, jobholding among teens—especially those in the youngest age group—has been increasing. Looking at the first year of the NLSY79, Michael and Tuma found that approximately 25 percent of 14-year-olds held jobs, with the rate increasing to slightly more than 50 percent by age 17.³³ The following tabulation shows the weighted employment rates by age group:

<i>Survey</i>	<i>Age 14</i>	<i>Age 15</i>	<i>Age 16</i>	<i>Age 17</i>
NLSY79	25.1	26.9	38.0	50.9
NLSY97 any job	41.7	44.4	54.3	61.2
NLSY97 employee-type job ...	41.7	44.4	54.3	61.2
NLSY97 freelance job	41.7	44.4	54.3	61.2
NLSY97 both freelance and employee-type job	41.7	44.4	54.3	61.2

Also presented in the above tabulation is the percentage of NLSY97 teens eligible for this article, as described above, who hold jobs.³⁴ The percentage of eligible youths holding jobs in the NLSY97 is higher than in the NLSY79 when all jobs are considered. Although this may reflect that more teens are working in the late 1990s than in the early 1980s, when economic conditions would have been worse, it may also reflect differences in the fielding periods that contribute to the NLSY97 collecting higher numbers of jobs.³⁵

The increase in jobholding as the cohort ages follows the same pattern as in the NLSY79. A lower percentage of younger respondents in both surveys work and that percentage increases over time.) As expected, employee-type jobholding, increases with age as respondents in the NLSY97 both become more mobile and age out of the Fair Labor Standards act restrictions to become eligible to work at more jobs. Freelance jobholding increases and then falls as more youths begin holding employee-type jobs; the percentage of those holding freelance jobs is higher for 14-year-olds than for any other age group.

Across all respondents, who are between the ages of 12 and 18 in round 1, jobholding by youths in the NLSY97 is the norm

rather than the exception. About 66 percent of the round 1 respondents in this sample reported having ever held either an employee-type job or a freelance job. Jobholding was higher among nonblack/non-Hispanic youths (71.1 percent) than either black (52.2 percent) or Hispanic youths (51.6 percent). (See table 3.) Looking at type of job reveals that a larger percentage of nonblack/non-Hispanic youths (44.6 percent and 55.9 percent, respectively) hold either employee-type or freelance jobs than their black or Hispanic counterparts. More Hispanic than black teens reported holding employee-type jobs, although more black youths reported participating in freelance activity.

Given the racial disparities with respect to the prevalence and type of youth employment, it is important to consider whether holding any type of job during the early teenage years has an impact on later employment probabilities. In short, it does. The percentage (67) of youths who reported holding any type of job during their 14th year worked at an employee-type job after the age of 16, compared with only 53 percent of those who were not early jobholders. The following tabulation shows the weighted probabilities of employment at employee-type jobs for older teens by employment status at age 14:

<i>Variable</i>	<i>All youths</i>	<i>Black youths</i>	<i>Hispanic youths</i>	<i>Nonblack/non-Hispanic youths</i>
No job held	0.53	0.40	0.39	0.59
Held any job .....	.67	.58	.66	.69
Employee-type job .....	.82	.73	.74	.84
Freelance job .....	.59	.51	.62	.60
Both employee-type and freelance jobs .	.73	.56	.69	.75

This is true regardless of racial group. It is interesting to note that the type of job also seems to matter. Those who held an early employee-type job (82 percent) were working after their 16th birthday, while only 59 percent of those reporting a freelance job during their 14th year were working after the age of 16. This holds for all racial groups, although the probability of attaining an employee-type job after the age of 15 is about the same for nonblack/non-Hispanic teens who held a freelance jobs during their 14th year as it is for those who did not work.

Other differences exist among the groups included in the survey, with potential effects on early employment. (See table 1.) Across racial groups, there are only minor differences in age and years of schooling. The majority of respondents (89.4

percent) report at least one parent who works; black teens are the least likely to have a parent working, and nonblack/non-Hispanic youths are the most. Conversely, nearly 51 percent of black teens live in female-headed households, while only 20 percent of nonblack/non-Hispanic youths do so.

Turning to peer effects, about 57 percent of the respondents reported that a large percentage of their peers planned to attend college, while only 21 percent reported that most of their peers were involved in negative activities. Interestingly, more black youths reported that their peers were involved in both negative (28.4 percent) and positive activities (34.4 percent) than their nonblack/non-Hispanic (19.0 percent and 30.6 percent, respectively) or Hispanic (23.8 percent and 28.1 percent, respectively) counterparts. Despite their peers' behavior, only about 16 percent of each group reported committing a serious crime themselves and about 2 percent reported having been institutionalized for any crime.

Geographically, more Hispanic respondents live in the West, in urban areas, and in areas of relatively high unemployment, while the majority of black youths are located in the South, in urban areas, and in counties with a high poverty rate. Finally, nonblack/non-Hispanic respondents live in counties with lower average travel times to work than either black or Hispanic teens.

Probability of employment

What is the impact of individual, family, geographic, and access measures on the probability that a youth is working at any type of job?³⁶ Being black or Hispanic significantly reduces the probability of employment. (See table 2.) Conversely, being female is positively associated with working. Completing more years of formal education has a significant positive relationship to working, although being enrolled has no effect.

Youth behavior also impacts on the probability of working. Believing that at least 75 percent of one's peers intend to attend college increases the probability of employment; other peer behaviors have no significant effect. Contrary to previous studies, those who report committing a serious crime are nearly 4 percentage points more likely to be employed. This counterintuitive finding may indicate that working teens have more opportunities to commit a crime (such as theft) than do nonworking teens. Further, the base amount for stealing may be too low to be considered a serious crime since most youths caught stealing this small amount would most likely not face serious consequences, such as institutionalization. As expected, being institutionalized for any crime—regardless of the crime's severity—has a negative impact on the probability that a teen is employed.

The work behavior of a parent has a significant positive

Table 1. Weighted sample means by racial group

Variable	Total	Black	Hispanic	Nonblack/ non-Hispanic
Ever held any job	0.659 (.474)	0.522 (.500)	0.515 (.500)	0.711 (.453)
Ever held employee job .....	.410 (.492)	.306 (.461)	.329 (.470)	.446 (.497)
Ever held freelance job .....	.513 (.500)	.402 (.491)	.373 (.484)	.559 (.497)
Age	14.4 (1.51)	14.4 (1.52)	14.4 (1.49)	14.3 (1.51)
Female .....	.486 (.500)	.490 (.500)	.464 (.499)	.489 (.500)
Enrolled in school .....	.978 (.147)	.983 (.128)	.967 (.179)	.979 (.145)
Highest grade completed	7.74 (1.59)	7.66 (1.61)	7.70 (1.61)	7.76 (1.58)
Interviewed in summer .....	.226 (.418)	.240 (.427)	.239 (.427)	.221 (.415)
Has a child .....	.005 (.069)	.014 (.119)	.003 (.056)	.003 (.055)
Percent of peers who expect to attend college .....	.574 (.494)	.470 (.500)	.493 (.500)	.609 (.488)
Percent of peers in positive activities .....	.308 (.462)	.344 (.475)	.281 (.450)	.306 (.461)
Percent of peers in negative activities .....	.210 (.407)	.284 (.451)	.238 (.426)	.190 (.393)
Ever committed a crime .....	.164 (.370)	.163 (.370)	.167 (.373)	.163 (.370)
Ever been institutionalized for a crime .....	.021 (.144)	.020 (.139)	.026 (.160)	.021 (.142)
Has a sibling .....	.844 (.363)	.826 (.380)	.884 (.320)	.840 (.366)
Siblings employed .....	.308 (.581)	.306 (.625)	.399 (.662)	.292 (.555)
Female head of household .....	.253 (.435)	.506 (.500)	.294 (.456)	.195 (.396)
Parents employed .....	.894 (.308)	.794 (.405)	.849 (.358)	.921 (.269)
Northeast .....	.187 (.390)	.148 (.355)	.151 (.358)	.201 (.401)
North-central .....	.266 (.442)	.169 (.375)	.122 (.327)	.311 (.463)
South .....	.325 (.468)	.574 (.495)	.277 (.448)	.283 (.451)
West .....	.222 (.416)	.110 (.313)	.450 (.498)	.205 (.404)
Urban .....	.537 (.499)	.645 (.479)	.725 (.446)	.482 (.500)
Unemployment rate	5.17 (2.60)	4.80 (2.12)	6.74 (3.82)	4.96 (2.31)
Percent in poverty (county)	9.88 (5.51)	13.1 (7.20)	10.8 (5.63)	9.07 (4.79)
Mean travel time to work (county)	21.9 (4.79)	23.2 (4.96)	23.6 (4.93)	21.3 (4.61)
Number in sample	8,511	2,105	1,808	4,598

¹ Youths aged 12 and 13 do not specifically report employee jobs. Therefore, the number of cases for this variable differs from all other variables. The numbers of cases are as follows: total: 5,743; black: 1,454; Hispanic: 1,201; and nonblack/non-Hispanic: 3,088.

NOTE: Standard errors are in parentheses.

effect on the employment probability of the youth. (See table 2.) As pointed out earlier, this may indicate either the presence of better connections to the labor market or unobserved family characteristics. However, the number of siblings, the siblings' employment status, and living in a female-headed household do not significantly affect the employment probability of the youth.

Youths living in the Northeast are about 6 percentage points less likely to be employed than those in the west; however, the employment probability of youths who live in the north central or the southern region is not significantly different from those in the West. Not surprisingly, living in areas with high unemployment rates or high poverty rates decreases the probability of employment, although living in an urban area does not significantly impact on the probability of work.

Finally, table 2 presents a measure of average travel time to work, reflecting job access and spatial mismatch. Living in areas in which the average travel time to work is higher has a significant negative impact on the probability that a teen is employed.

Employee-type jobs. The probability that a youth works at an employee-type job is included in table 3. As in the previous set of regressions, being black or Hispanic has a significant negative relationship to holding an employee-type job. Regardless of race, being male or completing more years of education increases the probability of holding an employee-type job. These effects are strongest for nonblack/non-Hispanic youths.

In general, the behavior of the teen's peers does not affect the probability of attaining an employee-type job; for nonblack/non-Hispanic youths, however, associating with peers engaged in positive activities significantly decreases the probability of working. This seems counterintuitive; however, this may reflect nonblack/non-Hispanic youths trading time that would have been spent at a job for time spent at church or volunteering. In addition, having an employed sibling significantly increases the probability that nonblack/non-Hispanic youths work. Regardless of racial group, the employment of a parent is positively associated with the teen working at an employee-type job, supporting the theory that unobserved family characteristics may influence the youth's employment decision or that an established job network may help the respondent find a job.

Finally, geographic factors influence the probability that teens are working at employee-type jobs. Neighborhood factors have a significant negative impact on the probability that a minority youth works at an employee-type job. Black teens living in areas of high poverty, in counties with longer commute times, or in areas of high unemployment are less

likely to work. Only the unemployment rate is negatively associated with the probability of working for Hispanic teens. Nonblack/non-Hispanic youths are not significantly affected by these neighborhood characteristics; however, living in the north central or southern regions increases the probability of employment for these teens.

Freelance jobs. The factors affecting freelance jobholding are in table 4. Being black or Hispanic is negatively related to holding a freelance job, as it was with employee-type jobs. However, being younger or being female is positively associated with holding freelance jobs, regardless of race. Completing more years of education does not impact on the probability that teens hold a freelance job; however, being enrolled in school increases the probability that a Hispanic youth works at this type of job.

Peer behavior affects freelance jobholding. Knowing a larger number of peers who plan to attend college increases the probability that Hispanic and nonblack/non-Hispanic youths work at a freelance job. Rather than college plans, it is the percent of the teen's peers involved in "good activities" that positively impacts on the probability that a black teen works; this supports Freeman's finding that church attendance positively affects jobholding among black teens.³⁷ As expected, hanging out with a "bad crowd" or committing a crime has a significant negative impact, but only for nonblack/non-Hispanic youths. Conversely, committing a crime is positively associated with the probability that black and Hispanic teens work for themselves. This counterintuitive result may reflect the fact that working at a freelance job provides an opportunity for committing a crime (for example, stealing from customers) or it may reflect the reporting of illegal activity as a freelance job (for example, lookout for a drug seller). As expected, the effect of serving time in a criminal institution on freelance jobholding is negative, but only for Hispanic youths; serving time does not seem to affect the other groups.

Turning to family factors, having at least one parent in the labor force or the presence of a sibling is positively related to the probability that nonblack/non-Hispanic youths work. This result does not extend to black or Hispanic teens. Unlike employee-type jobholding, the employment of the respondent's sibling(s) does not matter.

Finally, geographic location affects the probability that teens will work for themselves. Living in the West is positively related to holding a freelance job for black teens, while living in the South or in urban areas negatively impacts on the probability that Hispanic youths work for themselves. Living in areas of high unemployment increases the probability that nonblack/non-Hispanic teens work at a freelance job, possibly because fewer employee-type jobs are available. Regardless of racial group, living in counties with high poverty

Table 2. Probability of employment for all youths

Variable	Individual effects	Family effects	Geographic effects	Spatial effects
Age	0.012 (.008)	0.016 (.008)	0.017 (.008)	0.014 (.008)
Black	-.204 (.012)	-.189 (.012)	-.167 (.014)	-.150 (.014)
Hispanic	-.212 (.012)	-.206 (.012)	-.179 (.014)	-.165 (.014)
Female .....	.042 (.011)	.044 (.011)	.043 (.011)	.042 (.011)
Enrolled in school .....	.006 (.037)	-.010 (.038)	-.009 (.038)	-.008 (.038)
Highest grade completed .....	.045 (.007)	.041 (.008)	.041 (.008)	.045 (.008)
Interviewed in summer .....	.014 (.014)	.015 (.014)	.016 (.014)	.017 (.014)
Has a child	-.082 (.061)	-.082 (.061)	-.087 (.061)	-.090 (.061)
Percent of peers who expect to attend college .....	.042 (.011)	.038 (.011)	.037 (.011)	.039 (.012)
Percent of peers in positive activities	-.0002 (.012)	-.001 (.012)	.0003 (.012)	.002 (.012)
Percent of peers in negative activities .....	.007 (.014)	.010 (.014)	.008 (.014)	.008 (.014)
Ever committed a crime .....	.036 (.016)	.037 (.016)	.028 (.016)	.027 (.016)
Ever been institutionalized for a crime	-.100 (.034)	-.085 (.035)	-.091 (.035)	-.096 (.035)
Has a sibling	-	.020 (.016)	.023 (.016)	0.025 (.016)
Siblings employed	-	-.004 (.009)	-.003 (.009)	-.002 (.009)
Female head of household	-	-.012 (.013)	-.009 (.013)	-.011 (.013)
Parents employed	-	.101 (.016)	.090 (.017)	.085 (.017)
Northeast	-	-	-.053 (.017)	-.034 (.018)
North-central	-	-	-.008 (.017)	-.008 (.017)
South	-	-	-.021 (.016)	-.015 (.016)
Urban	-	-	-.015 (.012)	-.013 (.012)
Unemployment rate (Metropolitan Statistical Area) ..	-	-	-.0008 (.0002)	-.0006 (.0002)
Percent in poverty (county)	-	-	-.006 (.001)	-.007 (.001)
Mean travel time to work (county)	-	-	-	-.008 (.001)
P-value, family variables (LR test)	-	.000	-	-
P-value, neighborhood variables (LR test)	-	-	.000	-
P-value, access variable (LR test)	-	-	-	.000
Number in sample	8,511	8,511	8,511	8,511
Pseudo R ² .....	.066	.070	.076	.080

NOTE: Standard errors are in parentheses. Partial derivatives of probability of outcome associated with dependent variables with respect to independent variables.

Table 3. Probability of working at an employee-type job by racial group

Variable	All youths	Black youths	Hispanic youths	Nonblack/ non-Hispanic youths
Age	0.047 (.008)	0.010 (.012)	0.038 (.015)	0.074 (.014)
Black	-.091 (.013)	-	-	-
Hispanic	-.056 (.014)	-	-	-
Female	-.065 (.011)	-.042 (.017)	-.049 (.021)	-.088 (.017)
Enrolled in school	-.044 (.035)	-.026 (.060)	-.068 (.062)	-.039 (.054)
Highest grade completed .....	.061 (.007)	.054 (.011)	.040 (.013)	.067 (.012)
Interviewed in summer .....	.035 (.013)	.018 (.020)	-.021 (.023)	.077 (.021)
Has a child	-.016 (.051)	-.004 (.049)	-.050 (.098)	-.009 (.123)
Percent of peers who expect to attend college .....	.005 (.011)	-.004 (.017)	.018 (.021)	-.0003 (.017)
Percent of peers in positive activities	-.019 (.012)	.006 (.019)	-.011 (.024)	-.035 (.019)
Percent of peers in negative activities .....	.017 (.013)	-.001 (.017)	.012 (.023)	.030 (.020)
Ever committed a crime .....	.022 (.015)	.008 (.023)	.030 (.028)	.024 (.022)
Ever been institutionalized for a crime	-.067 (.025)	-.070* (.030)	-.056 (.039)	-.071 (.043)
Has a sibling	-.019 (.015)	-.012 (.022)	.003 (.033)	-.030 (.023)
Siblings employed .....	.018 (.009)	-.014 (.014)	.002 (.015)	.052 (.014)
Female head of household	-.024 (.013)	.001 (.017)	-.034 (.023)	-.028 (.021)
Parents employed .....	.082 (.015)	.048 (.019)	.071 (.024)	.102 (.027)
Northeast	-.001 (.018)	.014 (.040)	.003 (.032)	.017 (.028)
North-central .....	.024 (.017)	.020 (.034)	-.014 (.035)	.059 (.026)
South .....	.023 (.016)	.029 (.028)	-.032 (.025)	.046 (.028)
Urban .....	.004 (.011)	.004 (.019)	-.024 (.023)	.015 (.017)
Unemployment rate (Metropolitan Statistical Area) ...	-.0007 (.0002)	-.0008 (.0005)	-.001 (.0003)	-.0002 (.0004)
Percent in poverty (county)	-.005 (.001)	-.005 (.001)	-.003 (.002)	-.002 (.002)
Mean travel time to work (county)	-.003 (.001)	-.005 (.002)	-.004 (.002)	-.001 (.002)
P-value, family variables (LR test) .....	.000	.112	.015	.000
P-value, neighborhood variables (LR test) .....	.000	.001	.000	.134
P-value, access variable (LR test) .....	.004	.011	.104	.497
Number in sample	5,743	1,454	1,201	3,088
Pseudo R ² .....	.132	.123	.125	.121

NOTE: Standard errors are in parentheses. Partial derivatives of probability of outcome associated with dependent variables with respect to independent variables.

Table 4. Probability of working at a freelance job by racial group

Variable	All youths	Black youths	Hispanic youths	Nonblack/ non-Hispanic youths
Age	-0.029 (.007)	-0.026 (.011)	-0.015 (.012)	-0.036 (.011)
Black	-.098 (.012)	-	-	-
Hispanic	-.138 (.012)	-	-	-
Female .....	.084 (.010)	.036 (.018)	.040 (.018)	.124 (.014)
Enrolled in school .....	.062 (.032)	-.030 (.071)	.126 (.028)	.048 (.052)
Highest grade completed .....	.010 (.007)	.012 (.011)	.010 (.011)	.009 (.011)
Interviewed in summer	-.006 (.012)	-.014 (.021)	-.023 (.020)	.008 (.019)
Has a child	-.081 (.055)	-.049 (.057)	-.057 (.117)	-.217 (.108)
Percent of peers who expect to attend college .....	.029 (.010)	-.018 (.018)	.038 (.018)	.041 (.015)
Percent of peers in positive activities .....	.008 (.011)	.034 (.020)	.005 (.020)	-.003 (.016)
Percent of peers in negative activities	-.008 (.012)	.007 (.020)	.027 (.022)	-.039 (.019)
Ever committed a crime .....	.010 (.014)	.053 (.027)	.073 (.028)	-.034 (.021)
Ever been institutionalized for a crime	-.039 (.034)	-.048 (.053)	-.101 (.035)	.008 (.054)
Has a sibling .....	.033 (.013)	.028 (.023)	.022 (.028)	.036 (.020)
Siblings employed	-.008 (.008)	-.001 (.014)	-.008 (.013)	-.015 (.013)
Female head of household .....	.003 (.012)	.008 (.018)	.029 (.021)	-.004 (.019)
Parents employed .....	.043 (.015)	.015 (.022)	.029 (.024)	.074 (.027)
Northeast	-.034 (.015)	-.097 (.028)	-.038 (.026)	-.003 (.023)
North-central	-.024 (.015)	-.079 (.027)	.058 (.037)	-.002 (.022)
South	-.028 (.014)	-.098 (.030)	-.045 (.022)	.015 (.023)
Urban	-.020 (.010)	-.036 (.020)	-.033 (.020)	-.001 (.015)
Unemployment rate (Metropolitan Statistical Area) .....	.00002 (.0002)	-.00007 (.0005)	-.0004 (.0003)	.001 (.0003)
Percent in poverty (county)	-.004 (.001)	-.002 (.001)	-.003 (.002)	-.006 (.002)
Mean travel time to work (county)	-.007 (.001)	-.005 (.002)	-.010 (.002)	-.006 (.002)
P-value, family variables (LR test) .....	.008	.735	.524	.017
P-value, neighborhood variables (LR test) .....	.000	.004	.000	.003
P-value, access variable (LR test) .....	.000	.026	.000	.000
Number in sample	8,511	2,105	1,808	4,598
Pseudo R ² .....	.054	.025	.061	.034

NOTE: Standard errors are in parentheses. Partial derivatives of probability of outcome associated with dependent variables with respect to independent variables.

rates or with long commute times negatively impacts on the probability of freelance jobholding.

Jobholding of older youths. Does holding a job as a 14-year-old impact on the probability that youths age 16 and older work at an employee-type job? It should again be noted that the composition of this sample differs greatly from the composition of the prior sample, due to the residence restriction. These results, while informative, cannot be generalized to the teen population but rather address only nonmoving teens. (See table 5.) Column 1 of the table presents the base specification without the prior jobholding information included; in column 2, a dummy variable indicates whether the teen held any type of job at the age of 14; column 3 separates the jobs held at 14 into freelance and employee-type jobs. The results indicate that holding any type of job at age 14 increases the probability that older teens work for an employer. Further, teens who held an employee-type job in their 14th year are more likely to hold an employee-type job later compared with freelance jobholders; however, both types have a positive significant association with jobholding at older ages.

Holding an employee-type job as a teen increases the probability of employment regardless of racial group. (See table 6.) Hispanic youths gain the most from early work at an employee-type job, although black and nonblack/non-Hispanic teens also benefit. Holding freelance jobs at age 14 is positively associated with the employment probabilities of black and Hispanic youths, but has no effect on the nonblack/non-Hispanic group.

Although these results provide an indication of the effect of early employment, they may not capture the extent to which unobserved characteristics affect early jobholding. For example, older nonworking teens who did not hold a job may have chosen to devote their time to schooling or volunteer activities rather than investing in work experience. Conversely, those who took a job between the ages of 14 and 15 may possess an unobserved family trait that makes them more likely to work than other teens at later ages. Thus, the results may bias the coefficient on holding a job of either type at age 14 and older.³⁸

Groundwork for further study

Overall, this article has attempted to shed some light on whether historical racial differences in both employee-type and freelance jobholding were present for today's teens and to determine whether early differences affected later employment. Due to the ages of the respondents and the number of rounds completed, these later outcomes were limited to teens aged 16–19 with a stable geographic residence. Regardless, the information presented here is important because racial

gaps that are present for young workers seem to continue into adulthood. Even more valuable would be a follow-up study that considered similar questions after more rounds of data are complete (for example, does early work experience impact on labor market attachment when the respondent's formal education is finished?).

Keeping the strict sample selection criteria in mind, this article has found that having previous work experience positively impacted on labor force attachment for different racial groups for the NLSY97 cohort, as it did for the NLSY79 cohort.³⁹ That is, nonmoving teens who held an employee-type job at age 14 were more likely to work at an employee-type job at age 16 and older than were their counterparts, regardless of race or ethnicity. The effect of holding a freelance job was not as clear. Black and Hispanic youths who worked for themselves at an early age were more likely to work at an employee-type job than were those who did not; however, freelance jobholding had no effect for nonblack/non-Hispanic youths.

It should be reiterated that these results may overstate the effect of holding an early job because nonmovers have advantages in an area that movers may not have. For example, nonmovers may be more familiar with the employers in the area and have established job networks. More research is needed on the effect of early jobholding for youths who move between their 14th and 16th birthdays to determine the effects of early work experience when a youth must adjust to an area.

Throughout this article, the employment of older teens was considered to be a positive outcome, and to this end, the results can be interpreted to offer some support for programs that encourage early jobholding, preferably employee-type jobs. Although additional analysis may be needed, these findings suggest that a successful program would address issues such as teen job opportunities and job search networks. These would include programs that provided information about labor market opportunities or that established job networks to assist in job search. Some of these programs may fit into the school-to-work transition, with internships or cooperative education providing experience—although more research should be done on this topic before a positive recommendation is made. Other programs may be community-based to target areas in which neighborhood characteristics indicate a problem. Given the finding that parent's work behavior is positively associated with the probability that the respondent holds an employee-type job, these programs may be extended to adult workers in certain communities.

Full support for these policy provisions would require more analysis. In particular, using block-level neighborhood effects rather than county-level effects would provide better recommendations as teens are usually constrained geographi-

Table 5. Probability of working at an employee-type job for nonmovers

Variable	Base specifications	Hold any job	Freelance/ employee-type job holding
Held any job at age 14	—	0.115	—
		(.020)	—
Held an employee job at age 14	—	—	.186
			(.025)
Held a freelance job at age 14	—	—	.025
			(.021)
Age .....	.105	.101	.113
	(.014)	(.014)	(.014)
Black	-.130	-.117	-.124
	(.025)	(.026)	(.026)
Hispanic	-.077	-.056	-.061
	(.028)	(.029)	(.029)
Female	-.024	-.029	-.013
	(.020)	(.021)	(.021)
Enrolled in school .....	.024	.021	.022
	(.012)	(.011)	(.012)
Highest grade completed .....	.053	.050	.047
	(.012)	(.012)	(.012)
Interviewed in summer .....	.014	-.003	.026
	(.113)	(.111)	(.114)
Has a child .....	.012	.025	.025
	(.070)	(.071)	(.071)
Ever committed a crime .....	.063	.058	.055
	(.028)	(.028)	(.028)
Ever been institutionalized for a crime	-.016	-.022	-.022
	(.052)	(.052)	(.052)
Has a sibling	-.004	-.009	-.006
	(.028)	(.028)	(.028)
Siblings employed .....	.041	.041	.038
	(.018)	(.018)	(.018)
Female head of household .....	.012	.013	.011
	(.026)	(.026)	(.026)
Parents employed .....	.053	.053	.054
	(.039)	(.039)	(.039)
Northeast .....	.006	.008	.003
	(.033)	(.033)	(.033)
North-central .....	.010	.102	.097
	(.033)	(.032)	(.033)
South .....	.093	.094	.010
	(.032)	(.032)	(.032)
Urban .....	.018	.019	.018
	(.021)	(.021)	(.021)
Unemployment rate (Metropolitan Statistical Area) ...	-.001	-.001	-.001
	(.0004)	(.0004)	(.0004)
Percent in poverty (county)	-.008	-.008	-.008
	(.002)	(.002)	(.002)
Mean travel time to work (county)	-.007	-.006	-.006
	(.002)	(.002)	(.002)
P-value, early employment (LR test)	—	—	.000
Number in sample	2,512	2,512	2,512
Pseudo R ² .....	.115	.125	.133

NOTE: Standard errors are in parentheses. Partial derivatives of probability of outcome associated with dependent variables with respect to independent variables.

Table 6. Probability of working at an employee-type job for nonmovers by racial group

Variable	Black youths	Hispanic youths	Nonblack/ non-Hispanic youths
Held an employee job at age 14	0.169 (.054)	0.244 (.067)	0.171 (.031)
Held a freelance job at age 14 .....	.099 (.043)	.107 (.053)	-.018 (.028)
Age .....	.063 (.023)	.113 (.031)	.136 (.020)
Female	-.007 (.038)	-.022 (.044)	.0001 (.028)
Enrolled in school .....	.045 (.031)	-.010 (.023)	.030 (.015)
Highest grade completed .....	.054 (.020)	.050 (.026)	0.028 (.017)
Interviewed in summer .....	.104 (.316)	- -	.138 (.146)
Has a child .....	.008 (.084)	-.008 (.141)	.148 (.132)
Ever committed a crime .....	.004 (.052)	.166 (.056)	.087 (.038)
Ever been institutionalized for a crime	-.100 (.069)	.053 (.106)	-.035 (.075)
Has a sibling .....	.021 (.045)	-.014 (.074)	-.016 (.038)
Siblings employed .....	.046 (.030)	.049 (.034)	.015 (.026)
Female head of household .....	.031 (.038)	.016 (.054)	-.018 (.038)
Parents employed .....	.061 (.049)	.075 (.066)	-.022 (.072)
Northeast	-.115 (.062)	-.071 (.065)	.044 (.046)
North-central .....	.078 (.085)	-.017 (.074)	.133 (.043)
South .....	.115 (.062)	.074 (.062)	.112 (.046)
Urban .....	.094 (.039)	.011 (.047)	.015 (.028)
Unemployment rate (Metropolitan Statistical Area) ...	-.001 (.001)	-.001 (.001)	.0002 (.0007)
Percent in poverty (county)	-.005 (.003)	-.006 (.004)	-.010 (.003)
Mean travel time to work (county) .....	.005 (.004)	-.001 (.005)	-.008 (.003)
P-value, early employment (LR test) .....	.000	.000	.000
Number in sample	580	478	1,451
Pseudo R ² .....	.150	.198	.101

NOTE: Standard errors are in parentheses. Partial derivatives of probability of outcome associated with dependent variables with respect to independent variables.

cally. This is especially true for younger workers who may have trouble finding transportation outside their immediate neighborhood. Additionally, further investigation of movers may suggest that this group of teens would benefit more than nonmovers from job networking programs geared toward the immediate neighborhood.

Beyond the scope of this article is the question of whether

jobholding among early teens provides valuable work experience that encourages later employment or whether it signals characteristics that make the teen more likely to engage in labor market activity in future years. It is also unclear whether encouraging very early labor market attachment leads to more successful adult outcomes as measured along other dimensions, such as wages or the provision of employee benefits. □

Notes

This article is based on a report prepared for the NLSY97 Early Results Conference at the Bureau of Labor Statistics and funded by the Department of Labor. Points of view or opinions stated in this document are the author's and do not necessarily represent the official position or policy of the Department of Labor.

¹ Robert J. Flanagan, "On the Stability of the Racial Unemployment Differential," *American Economic Review*, May 1976, 302-08.

² See David T. Ellwood, "Teenage Unemployment: Permanent Scars or Temporary Blemishes?" in Richard B. Freeman and David A. Wise, eds., *The Youth Labor Market Problem: Its Nature, Causes, and Consequences* (Chicago, University of Chicago Press, 1982), 349-85; Christopher J. Ruhn, "Is High School Employment Consumption or Investment?" *Journal of Labor Economics*, October 1997, 735-76; Robert H. Meyer and David A. Wise, "High School Preparation and Early Labor Force Experience," in Richard B. Freeman and David A. Wise, eds., *The Youth Labor Market Problem: Its Nature, Causes, and Consequences* (Chicago, University of Chicago Press, 1982), 277-339; and Brian E. Becker and Stephen Hills, "The Long-Run-Effects of Job Changes and Unemployment among Male Teenagers," *Journal of Human Resources*, Summer 1983, 197-212.

³ BLS press release announcing the NLSY97 Round 1 data, "Employment experience and other characteristics of youths: results from a new longitudinal survey, USDL 99-110, Apr. 30, 1999.

⁴ Using the NLSY97 sample as defined in section two, 15 percent of male 17-year-olds and 23 percent of female 17-year-olds report holding a freelance job in the month prior to the survey.

⁵ According to figures from the October 1999 CPS, the employment-to-population rate for white teens aged 16 to 19 was 47.7; for black teens ages 16 to 19, the corresponding rate was 25.4.

⁶ Robert T. Michael and Nancy Brandon Tuma, "Youth Employment: Does Life Begin at 16?" *Journal of Labor Economics*, April 1984, 464-76. According to current Child Labor Laws, teens aged 14 and 15 may work outside school hours in various nonmanufacturing, nonmining, and nonhazardous jobs. The job may include no more than 18 hours per week during the school year and 40 hours per week during vacation periods. An exception to this rule is when these teens are enrolled in an approved Work Experience and Career Exploration Program (WECEP); in this case, they may be employed for up to 23 hours during a school week.

⁷ For an overview of this literature, see Albert Rees, "An Essay on Youth Joblessness," *Journal of Economic Literature*, June 1986, 613-29.

⁸ See Gary Becker, "Crime and Punishment: An Economic Approach," *Journal of Political Economy* March-April 1968, 169-217.

⁹ Richard B. Freeman, "The Relation of Criminal Activity to Black Youth Employment," *Review of Black Political Economy*, Summer-Fall 1987, 99-108.

¹⁰ John Bound and Richard B. Freeman, "What Went Wrong? The Erosion of Relative Earnings and Employment Among Young Black Men in the 1980s," *The Quarterly Journal of Economics*, February 1992, 201-32; Jeff Grogger, "Arrests, Persistent Youth Joblessness, and Black/White Employment Differentials," *Review of Economics and Statistics*, February 1992, 100-06.

¹¹ Richard B. Freeman, "Who Escapes? The Relation of Church-Going and Other Background Factors to the Socio-Economic Performance of Black Male Youths from Inner-City Poverty Tracts," *NBER Working Paper No. 1656*, June 1985.

¹² Mary Corcoran, Richard Gordon, Deborah Laren and Gary Solon, "The Association between Men's Economic Status and Their Family and Community Origins," *Journal of Human Resources*, Fall 1992, 575-601.

¹³ Albert Rees and Wayne Gray, "Family Effects in Youth Employment," in Richard B. Freeman and David A. Wise, eds., *The Youth Labor Market Problem: Its Nature, Causes, and Consequences* (Chicago, University of Chicago Press, 1982), 453-64.

¹⁴ Bruce A. Weinberg, Patricia B. Reagan, and Jeffrey J. Yankow, "Do Neighborhoods Matter? Evidence from the NLSY79." Unpublished paper, 1999.

¹⁵ Bound and Freeman, "What Went Wrong...," 201-32.

¹⁶ Richard B. Freeman, "Economic Determinants of Geographic and Individual Variation," in Richard B. Freeman and David A. Wise, eds., *The Youth Labor Market Problem: Its Nature, Causes, and Consequences* (Chicago, University of Chicago Press, 1982), 115-48.

¹⁷ Freeman points out that these factors should be used to determine the employment rate of young workers—and not to distinguish between the states of unemployed and out of the labor force—since his findings indicate that factors that affect employment also affect labor force participation.

¹⁸ Katherine M. O'Regan and John M. Quigley, "Teenage Employment and the Spatial Isolation of Minority and Poverty Households," *Journal of Human Resources*, Summer 1996, 692-702.

¹⁹ Weinberg, et. al., "Do Neighborhoods Matter?...," 1999.

²⁰ John F. Kain, "Housing Segregation, Negro Employment, and Metropolitan Decentralization." *The Quarterly Journal of Economics*, May 1968, 175-97. Some disagreement exists over the extent to which the data support the spatial mismatch theory. For a review of this literature, see Harry J. Holzer, "The Spatial Mismatch Hypothesis: What Has the Evidence Shown?" *Urban Studies*, February 1991, 105-22 and John F. Kain, "The Spatial Mismatch Hypothesis: Three Decades Later," *Housing Policy Debate*, volume 3, issue 2, 1992, 371-462.

²¹ Richard Arnott, "Economic Theory and the Spatial Mismatch Hypothesis." Unpublished paper, 1997.

²² Harry Holzer, "Informal Job Search and Black Youth Unemployment." *American Economic Review*, June 1987, 446–52.

²³ See Keith R. Ihlanfeldt and David L. Sjoquist, "Job Accessibility and Racial Differences in Youth Employment Rates," *American Economic Review*, March 1990, 267–76; and Katherine O'Regan, Katherine and John M. Quigley, "Spatial Effects upon Employment Outcomes: The Case of New Jersey Teenagers." Unpublished paper, 1998.

²⁴ Harry J. Holzer, Keith R. Ihlanfeldt, and David L. Sjoquist, "Work, Search, and Travel among White and Black Youth," *Journal of Urban Economics* May 1994, 110–30.

²⁵ The NLSY97 sampling frame focused on youths who were 12 to 16 years old on December 31, 1996; round 1 interviews were conducted from January to October 1997 and from March to May 1998. For more information, see the *NLSY97 User's Guide* (Columbus, OH, Center for Human Resource Research, Ohio State University, 2001).

²⁶ The round 1 data are from an internal version of the NLSY97 Public Use & Event History Data (Release 1.1); the round 2 variables are from an internal version of the round 2 data from September 1999. Survey staff may edit these data as additional information becomes available.

²⁷ Hispanic was not a choice in the race question; some screener respondents reported that the household members did not fit into standard racial categories and specified "Hispanic" in answer to the race question.

²⁸ For each NLSY97 question, a value of 1 was assigned if the youth reported 75 percent or more of his or her peers engaged in that activity; otherwise, the variable was coded as a zero. When more than 1 activity is combined to form a dummy variable, the youth must have answered 75 percent to at least 1 of the NLSY97 questions for the value to equal one; otherwise the variable was coded as a zero.

²⁹ Freeman, "Who Escapes?...", *NBER Working Paper 1656*, June 1985.

³⁰ Respondents living in the northeast are coded as 1 if they reside in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, or Vermont and zero otherwise. Respondents coded as living in the north central region included those who lived in Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. The states that comprised the southern region included Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Residents of other states were coded as living in the West.

³¹ This variable defines urban as a place with a population of 2,500

residents or more. Youths in urbanized areas with less than 2,500 youths are defined as "rural."

³² *County and City Data Book: 1994* (U.S. Department of Commerce, Bureau of the Census, 1995).

³³ Using monthly totals from the CPS and aggregating to an annual figure, Diane Wescott (in "The youngest workers: 14- and 15-year-olds," *Monthly Labor Review*, February 1981, 65-69) found lower employment rates than did Michael and Tuma. She reports that nearly 21 percent of 14- and 15-year-olds worked in the late 1970s.

³⁴ It should be noted that Michael and Tuma used the CPS section from the NLSY79 to calculate their figures; this section asks about labor force activity in the week prior to the survey, regardless of month. The NLSY97 numbers come from the YEMP section, in which all employee-type jobs and all freelance jobs are collected in a roster. The percentages stated in this article refer to employee-type jobs that the respondent reported working in the 4 weeks prior to the survey or to freelance jobs that were current at the time of the survey. It should be noted that respondents ages 12 and 13 are only able to report jobs in the freelance section, regardless of the job type (for example, freelance or employee-type). Undercounting of employee-type jobs at these ages is most likely minimal, as these youths are not legally allowed to hold most employee-type jobs.

³⁵ The 1979 field period for the NLSY79 was January 1979 to August 1979, with the majority of respondents interviewed during the school year when jobholding would have been lower. The round 1 NLSY97 field period began in January 1997 to October 1997 and March 1998 to May 1998. Due the screen-and-go method used in the NLSY97, more respondents were interviewed during the summer months than in late winter and spring. In addition, the NLSY79 did not distinguish between freelance jobs and employee-type jobs, whereas the NLSY97 prompted respondents to report each type of job separately. As a result, it is not possible to determine the extent to which the NLSY97 may collect information on more jobs due to survey design rather than actual increases in jobholding.

³⁶ Tables 5–9 contain probit estimates. The partial derivatives of probability of outcome associated with dependent variable with respect to independent variables, and standard errors of these estimated derivatives, are reported.

³⁷ Freeman, "Who Escapes?...", *NBER Working Paper 1656*, June 1985.

³⁸ A fixed effects model using NLSY97 sibling data may remove the family-specific portion of the unobserved heterogeneity; however, this cohort is not yet old enough to yield enough sibling pairs to do this type of estimation.

³⁹ Michael and Tuma, "Youth Employment...", 464–76.

Appendix: Sample construction

This appendix explains the selection of respondents for consideration in this research. Due to the types of information required for this study, some NLSY97 respondents had to be excluded if given variables were unavailable. The criteria for the two parts of the study are somewhat different; the restrictions for the examination of job holding at age 14 are described first and the restrictions for the examination of early employment as an indicator of employment at age 16 are then discussed.

The selection criteria for the sample one are as follows.

Any member without a valid age, race, and ethnicity is deleted, leaving 8,960 respondents. Next, 359 youths without at least one biological parent, adoptive parent, stepparent, or foster parent listed on the household roster are deleted from the sample. Other relatives listed on the household roster may serve as a legal guardian (for example, grandparent, aunt, uncle); however, it is unclear in the literature whether the employment behavior of a legal guardian has a different impact on the youth than the employment behavior of a parent. As a result, respondents living in this situation are dropped

from the sample. Nine respondents who have missing or incomplete freelance or employee-type job data are dropped from the sample, leaving 8,592 eligible sample members. Finally, 81 observations with other missing values are dropped from the sample. The final sample size from the round 1 data is 8,511 respondents; of these, 5,743 were age 14 or over at the time of the survey and were eligible to report employee-type jobs in the employment section (all respondents answered questions about freelance jobs).

The article examines whether work experience at the age of 14 has an impact on employment probabilities for youth aged 16 and older. Answering this question requires information on the youth's residence both at age 14 and at the most recent interview date because the spatial mismatch literature indicates that this may affect employment probability. Because most respondents had not reached age 16 at the time of the round 1 interview, the study also uses data from round 2 to increase the sample size. (Residence data in the round 1 survey are fairly limited; parents report the number of residences in which the youth respondent has lived since age 12 but do not provide any information about the location of these residences. Thus, youths who had moved cannot be included in the sample. Including the round 2 data increases the full sample size to 2,512; of these 581 respondents are black, 478 are Hispanic, and 1,451 are nonblack/non-Hispanic.)

The restrictions imposed for sample two are presented in table A-1. Construction of the sample for this section begins with the 8,511 respondents eligible in sample one. There are several additional requirements. First, all respondents must be age 16 or older by their most recent interview date. This decreases the sample to 4,930 respondents. Youths who lived outside of the parental home in round 2 were dropped from the sample, leaving a sample size of 4,628. As in the first sample, those with missing data for jobs and other variables were also deleted from sample two; 4,591 remained eligible.

Sample two further requires that the respondent must not have moved during the period under consideration to ensure that residence information is accurate. This requirement is needed because the locations of residences prior to the initial interview are not recorded and the round 2 geocode data were not available when this research was conducted. Respondents remaining in the sample had to fulfill one of the following restrictions.

1. The respondent was age 16 or older during round 1, had not moved since the age of 12, and was not interviewed in round 2. All information is from the round 1 interview.
2. The respondent was age 15 or older during round 1, had not moved since the age of 12, and did not move between round 1 and round 2. All information, except

the since age 12 residence question, is from the round 2 interview. Round 2 location information is taken from the interviewer locator questions at the end of the survey, when respondents are asked to report changes to their address. However, including only those who report no changes understates the number of nonmovers since some respondents updated incorrect round 1 address information but had not moved. Regardless, this restriction is necessary (until the round 2 geocode data are available) to ensure that all county-level information is correct.

3. The respondent was age 14 or younger during round 1 and did not move between the round 1 and round 2 survey dates. All information is from the round 2 interview. As in the second restriction above, the location information is taken from the locator questions at the end of the survey and may understate the number of nonmovers.

This information about the construction of the sample is summarized in table A-1.

Sample modification	Total sample remaining
Sample one	
Full round 1 sample	8,984
Delete observations with age, race, or ethnicity missing	8,960
Delete observations without parent listed on the household roster	8,601
Delete observations with employment data missing	8,592
Delete observations with other data missing	8,511
Sample two	
Delete observations less than 16 years of age by latest interview date	4,930
Delete observations without parent listed on household roster	4,628
Delete observations with employment data missing	4,591
Delete observations with other data missing	4,569
Delete observations with missing residence data	2,512

NOTE: Residence data in the round 1 survey are fairly limited; parents report the number of residences in which the youth has lived since age 12, but do not provide any information about the location of these residences. Thus, youths who had moved cannot be included in the sample. Including the round 2 data increases the full sample size to 2,512; of these, 581 respondents are black, 478 are Hispanic, and 1,451 are nonblack/non-Hispanic.

NOTE: Many of the statistics in the following pages were subsequently revised. These pages have not been updated to reflect the revisions.

To obtain BLS data that reflect all revisions, see <http://www.bls.gov/data/home.htm>

For the latest set of "Current Labor Statistics," see <http://www.bls.gov/opub/mlr/curlabst.htm>

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Notes on Current Labor Statistics

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

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as “seasonally adjusted.” (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of 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, 39, and 43. Seasonally adjusted labor force data in tables 1 and 4–9 were revised in the February 2001 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14 and 16–17 were revised in the July 2000 *Review* and reflect the experience through March 2000. A brief explanation of the seasonal adjustment methodology appears in “Notes on the data.”

Revisions in the productivity data in table 45 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*, Bulletin 2490. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 919. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on the back cover of this issue.

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

<http://stats.bls.gov/cpshome.htm>

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

<http://stats.bls.gov/ceshome.htm>

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

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

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

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

<http://stats.bls.gov/iprhome.htm>

For additional information on interna-

tional comparisons data, see *International Comparisons of Unemployment*, BLS Bulletin 1979.

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

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

Symbols

n.e.c. = not elsewhere classified.

n.e.s. = not elsewhere specified.

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

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

Comparative Indicators

(Tables 1–3)

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

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-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 50,000 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 pre-

ceding 4 weeks. Persons who did not look for work because they were on layoff are also counted among the unemployed. **The unemployment rate** represents the number unemployed as a percent of the civilian labor force.

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

Notes on the data

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

Labor force data in tables 1 and 4–9 are seasonally adjusted. 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 beginning of each calendar year, historical seasonally adjusted data usually are revised, and projected seasonal adjustment factors are calculated for use during the January–June period. The historical seasonally adjusted data usually are revised for only the most recent 5 years. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period, but no

revisions are made in the historical data.

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

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by about 300,000 establishments representing all industries except agriculture. Industries are classified in accordance with the 1987 *Standard Industrial Classification (SIC) Manual*. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

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

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

Production workers in manufacturing include working supervisors and nonsupervisory 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 1999 benchmarks, was made with the release of May 2000 data, published in the July 2000 issue of the *Review*. Coincident with the benchmark adjustment, historical seasonally adjusted data were revised to reflect updated seasonal factors. Unadjusted data from April 1999 forward and seasonally adjusted data from January 1996 forward are subject to revision in future benchmarks.

In addition to the routine benchmark revisions and updated seasonal factors introduced with the release of the May 2000 data, all estimates for the wholesale trade division from April 1998 forward were revised to incorporate a new sample design. This represented the first major industry division to convert to a probability-based sample under a 4-year phase-in plan for the establishment survey sample redesign project. For additional information, see the the June 2000 issue of *Employment and Earnings*.

Revisions in State data (table 11) occurred with the publication of January 2000 data.

Beginning in June 1996, the BLS uses the X-12 ARIMA methodology to seasonally ad-

just establishment survey data. This procedure, developed by the Bureau of the Census, controls for the effect of varying survey intervals (also known as the 4- versus 5-week effect), thereby providing improved measurement of over-the-month changes and underlying economic trends. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

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

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

Unemployment data by State

Description of the series

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

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

Notes on the data

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

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

(202) 691–6559 (table 11).

Compensation and Wage Data

(Tables 1–3; 21–27)

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) are available on the Internet:

<http://stats.bls.gov/ecthome.htm>

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

Employee Benefits Survey

Description of the series

Employee benefits data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 9,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or

as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 25 for medium and large private establishments and in table 26 for small private establishments and State and local government.

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

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

Definitions

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

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

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

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

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

Flexible benefit plans allow employees

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

Notes on the data

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

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

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

<http://stats.bls.gov/ebshome.htm>

Work stoppages

Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of work time lost because of stoppage. These data are presented in table 27.

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

Definitions

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

Workers involved: The number of

workers directly involved in the stoppage.

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

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

Notes on the data

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

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

<http://stats.bls.gov/cbahome.htm>

Price Data

(Tables 2; 28-38)

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

Consumer Price Indexes

Description of the series

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

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

Data collected from more than 23,000 retail establishments and 5,800 housing units in 87 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 14 major urban centers are presented in table 29. 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 and January 1998 data.

FOR ADDITIONAL INFORMATION on consumer prices, contact the Division of Consumer Prices and Price Indexes: (202) 691-7000.

Producer Price Indexes

Description of the series

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

accordance with the Standard Industrial Classification (SIC) and the product code extension of the SIC developed by the U.S. Bureau of the Census.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1992, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1987. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

FOR ADDITIONAL INFORMATION on producer prices, contact the Division of Industrial Prices and Price Indexes: (202) 691-7705.

International Price Indexes

Description of the series

The **International Price Program** produces monthly and quarterly export and import price indexes for nonmilitary goods 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 importance 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 1995.

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

For the export price indexes, the preferred pricing 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 as-

sociated 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) 691-7155.

Productivity Data

(Tables 2; 39-42)

Business sector and major sectors

Description of the series

The productivity measures relate real output to real input. As such, they encompass a family of measures which include single-factor input measures, such as output per hour, output per unit of labor input, or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the quantity of goods and services produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the quantity of goods and services produced per unit of capital services input. **Multifactor productivity** is the quantity of goods and services produced per combined inputs. For private business and private nonfarm business, inputs include labor and capital units. For manufacturing, inputs include labor, capital, energy, non-energy materials, and purchased business services.

Compensation per hour is total compensation divided by hours at work. Total compensation equals the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, plus an estimate of these payments for the self-employed (except for nonfinancial corporations in which there are no self-employed). **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a

unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current-dollar value of output and dividing by output.

Unit nonlabor costs contain all the components of unit nonlabor payments except unit profits.

Unit profits include corporate profits with inventory valuation and capital consumption adjustments per unit of output.

Hours of all persons are the total hours at work of payroll workers, self-employed persons, and unpaid family workers.

Labor inputs are hours of all persons adjusted for the effects of changes in the education and experience of the labor force.

Capital services are the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Combined units of labor and capital inputs are derived by combining changes in labor and capital input with weights which represent each component's share of total cost. Combined units of labor, capital, energy, materials, and purchased business services are similarly derived by combining changes in each input with weights that represent each input's share of total costs. The indexes for each input and for combined units are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Business sector output is an annually-weighted index constructed by excluding from real gross domestic product (GDP) the following outputs: general government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Nonfarm business also excludes farming. Private business and private nonfarm business further exclude government enterprises. The measures are supplied by the U.S. Department of Commerce's Bureau of Economic Analysis. Annual estimates of manufacturing sectoral output are produced by the Bureau of Labor Statistics. Quarterly manufacturing output indexes from the Federal Reserve Board are adjusted to these annual output measures by the BLS. Compensation data are developed from data of the Bureau of Economic Analysis and the Bureau of Labor Statistics. Hours data are developed from data of the Bureau of Labor Statistics.

The productivity and associated cost measures in tables 39-42 describe the relation-

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

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

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

Industry productivity measures

Description of the series

The BLS industry productivity 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. In addition to labor productivity, the industry data also include annual measures of compensation and unit labor costs for three-digit industries and measures of multifactor productivity for three-digit manufacturing industries and railroad transportation. The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

Definitions

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

The **labor input** series consist of the hours of all employees (production workers and 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.

Unit labor costs represent the labor compensation costs per unit of output produced, and are derived by dividing an index of labor compensation by an index of out-

put. **Labor compensation** includes payroll as well as supplemental payments, including both legally required expenditures and payments for voluntary programs.

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

Notes on the data

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

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

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

International Comparisons

(Tables 43-45)

Labor force and unemployment

Description of the series

Tables 43 and 44 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and several European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international compar-

isons than the figures regularly published by each country. For further information on adjustments and comparability issues, see Constance Sorrentino, “International unemployment rates: how comparable are they?” *Monthly Labor Review*, June 2000, pp. 3-20.

Definitions

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

Notes on the data

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

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

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

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

For the United States, the break in series reflects a major redesign of the labor force survey questionnaire and collection methodology introduced in January 1994. Revised population estimates based on the 1990 census, adjusted for the estimated undercount, also were incorporated. In 1996, previously

published data for the 1990–93 period were revised to reflect the 1990 census-based population controls, adjusted for the undercount. In 1997, revised population controls were introduced into the household survey. Therefore, the data are not strictly comparable with prior years. In 1998, new composite estimation procedures and minor revisions in population controls were introduced into the household survey. Therefore, the data are not strictly comparable with data for 1997 and earlier years. See the Notes section on Employment and Unemployment Data of this *Review*.

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

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

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

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

In October 1992, the survey methodology was revised and the definition of unemployment was changed to include only those who were actively looking for a job within the 30 days preceding the survey and who

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

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

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

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

to include students.

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

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

Manufacturing productivity and labor costs

Description of the series

Table 45 presents comparative indexes of manufacturing labor productivity (output per hour), output, total hours, compensation per hour, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are trend comparisons—that is, series that measure changes over time—rather than level comparisons. There are greater technical problems in comparing the levels of manufacturing output among countries.

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

Definitions

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

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

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

To preserve the comparability of the U.S. measures with those for other economies, BLS uses gross product originating in manufacturing for the United States for these comparative measures. The gross product originating series differs from the manufacturing output series that BLS publishes in its news releases on quarterly measures of U.S. productivity and costs (and that underlies the measures that appear in tables 39 and 41 in this section). The quarterly measures are on a “sectoral output” basis, rather than a value-added basis. Sectoral output is gross output less intrasector transactions.

Total labor hours refers to hours worked in all countries. The measures are developed from statistics of manufacturing employment and average hours. The series used for France (from 1970 forward), Norway, and Sweden are official series published with the national accounts. Where official total hours series are not available, the measures are developed by BLS using employment figures published with the national accounts, or other comprehensive employment series, and estimates of annual hours worked. For Germany, BLS uses estimates of average hours worked developed by a research institute connected to the Ministry of Labor for use with the national accounts employment figures. For the other countries, BLS constructs its own estimates of average hours.

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

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

Notes on the data

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

and exclude manufacturing handicrafts from 1960 to 1966.

The measures for recent years may be based on current indicators of manufacturing output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

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

Occupational Injury and Illness Data

(Tables 46–47)

Survey of Occupational Injuries and Illnesses

Description of the series

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

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

Definitions

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

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

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It in-

cludes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

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

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

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

Notes on the data

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

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

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

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses per 100 equivalent full-time workers. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail on the

available measures is presented in the annual bulletin, *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics*.

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

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

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

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

<http://www.bls.gov/oshhome.htm>

Census of Fatal Occupational Injuries

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

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

Definition

A fatal work injury is any intentional or unintentional wound or damage to the body result-

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

Notes on the data

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

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

<http://www.bls.gov/oshhome.htm>

Bureau of Labor Statistics Internet

The Bureau of Labor Statistics World Wide Web site on the Internet contains a range of data on consumer and producer prices, employment and unemployment, occupational compensation, employee benefits, workplace injuries and illnesses, and productivity. The homepage can be accessed using any Web browser:

<http://stats.bls.gov>

Also, some data can be accessed through anonymous FTP or Gopher at

stats.bls.gov

1. Labor market indicators

Selected indicators	1999	2000	1999			2000				2001	
			II	III	IV	I	II	III	IV	I	II
Employment data											
Employment status of the civilian noninstitutionalized population (household survey): ¹											
Labor force participation rate.....	67.1	67.2	67.1	67.1	67.1	67.4	67.3	67.0	67.1	67.2	66.9
Employment-population ratio.....	64.3	64.5	64.2	64.2	64.3	64.6	64.6	64.3	64.4	64.4	63.9
Unemployment rate.....	4.2	4.0	4.3	4.2	4.1	4.1	4.0	4.0	4.0	4.2	4.5
Men.....	4.1	3.9	4.2	4.1	4.0	3.9	3.9	3.9	4.0	4.3	4.6
16 to 24 years.....	10.3	9.7	10.5	10.1	10.3	9.7	9.8	9.8	9.6	10.6	11.2
25 years and over.....	3.0	2.8	3.0	3.0	2.9	2.8	2.8	2.8	2.9	3.1	3.4
Women.....	4.3	4.1	4.4	4.3	4.2	4.2	4.1	4.2	4.0	4.2	4.3
16 to 24 years.....	9.5	8.9	9.2	9.6	9.4	9.5	9.0	8.6	8.6	8.6	9.2
25 years and over.....	3.3	3.2	3.5	3.3	3.1	3.2	3.2	3.3	3.0	3.3	3.4
Employment, nonfarm (payroll data), in thousands: ¹											
Total.....	128,916	131,759	128,430	129,073	129,783	130,984	131,854	131,927	132,264	132,559	132,485
Private sector.....	108,709	111,079	108,319	108,874	109,507	110,456	110,917	111,293	111,669	111,886	111,708
Goods-producing.....	25,507	25,709	25,454	25,459	25,524	25,704	25,711	25,732	25,704	25,621	25,314
Manufacturing.....	18,552	18,469	18,543	18,516	18,482	18,504	18,510	18,487	18,378	18,188	17,885
Service-producing.....	103,409	106,050	102,976	103,614	104,259	105,280	106,143	106,195	106,560	106,938	107,171
State and local government workers.....											
Average hours:											
Private sector.....	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.4	34.3	34.3	34.2
Manufacturing.....	41.7	41.6	41.7	41.8	41.7	41.8	41.8	41.5	41.1	41.0	40.8
Overtime.....	4.6	4.6	4.6	4.6	4.7	4.7	4.7	4.5	4.3	4.1	3.9
Employment Cost Index²											
Percent change in the ECI, compensation:											
All workers (excluding farm, household and Federal workers).....	3.4	4.1	1.0	1.1	.9	1.3	1.0	1.0	.7	1.3	.9
Private industry workers.....	3.4	4.4	1.1	.9	.9	1.5	1.2	.9	.7	1.4	1.0
Goods-producing ³	3.4	4.4	.7	.9	1.0	1.6	1.2	.9	.6	1.3	.9
Service-producing ³	3.4	4.4	1.3	.9	.8	1.4	1.2	1.0	.7	1.4	1.0
State and local government workers.....	3.4	3.0	.4	1.5	1.0	.6	.3	1.3	.7	.9	.6
Workers by bargaining status (private industry):											
Union.....	2.7	4.0	.7	.9	.7	1.3	1.0	1.2	.5	.7	1.1
Nonunion.....	3.6	4.4	1.2	.9	1.0	1.5	1.2	1.0	.7	1.5	1.0

¹ Quarterly data seasonally adjusted.

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

³ Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

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

Selected measures	1999	2000	1999			2000				2001	
			II	III	IV	I	II	III	IV	I	II
Compensation data^{1,2}											
Employment Cost Index—compensation (wages, salaries, benefits):											
Civilian nonfarm.....	3.4	4.1	1.0	1.1	0.9	1.3	1.0	1.0	0.7	1.3	0.9
Private nonfarm.....	3.4	4.4	1.1	.9	.9	1.5	1.2	.9	.7	1.4	1.0
Employment Cost Index—wages and salaries:											
Civilian nonfarm.....	3.5	3.8	1.0	1.1	.8	1.1	1.0	1.1	.6	1.1	.9
Private nonfarm.....	3.5	3.9	1.2	.9	.9	1.2	1.0	1.0	.6	1.2	1.0
Price data¹											
Consumer Price Index (All Urban Consumers): All Items.....	2.7	1.0	.7	1.0	.2	1.7	.7	.8	-.1	1.0	1.0
Producer Price Index:											
Finished goods.....	2.9	1.0	1.2	1.5	.1	1.4	1.3	.6	1.0	1.0	1.0
Finished consumer goods.....	3.8	1.0	1.8	2.2	-.2	1.8	1.8	.7	1.0	1.0	1.0
Capital equipment.....	.3	1.0	-.4	-.4	1.2	.1	.0	.0	1.0	-.1	1.0
Intermediate materials, supplies, and components.....	3.7	1.0	1.9	1.9	.1	1.9	1.6	1.0	-.1	1.0	1.0
Crude materials.....	15.3	1.2	9.4	10.2	-3.5	9.1	11.2	.3	1.1	-.1	1.0
Productivity data³											
Output per hour of all persons:											
Business sector.....	2.8	4.3	-1.1	2.9	7.0	-.6	7.3	1.0	3.0	.0	2.8
Nonfarm business sector.....	2.6	4.3	-1.4	3.0	7.4	-.6	6.3	1.4	2.3	.1	2.5
Nonfinancial corporations ⁴	3.5	4.2	.4	2.8	4.5	4.0	7.1	4.0	1.6	.6	-

¹ Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted, and the price data are not compounded.

² Excludes Federal and private household workers.

³ Annual rates of change are computed by comparing annual averages. Quarterly per-

cent 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 ending					
	2000				2001		2000				2001	
	I	II	III	IV	I	II	I	II	III	IV	I	II
Average hourly compensation: ¹												
All persons, business sector.....	5.9	8.6	6.5	9.4	5.3	5.2	4.7	5.7	6.1	7.6	7.4	6.6
All persons, nonfarm business sector.....	6.2	7.6	7.1	8.9	5.1	4.7	5.0	5.8	6.3	7.4	7.2	6.4
Employment Cost Index—compensation:												
Civilian nonfarm ²	1.3	1.0	1.0	.7	1.3	.9	4.3	4.4	4.3	4.1	4.1	3.9
Private nonfarm.....	1.5	1.2	.9	.7	1.4	1.0	4.6	4.6	4.6	4.4	4.2	4.0
Union.....	1.3	1.0	1.2	.5	.7	1.1	3.6	3.9	4.2	4.0	3.4	3.5
Nonunion.....	1.5	1.2	1.0	.7	1.5	1.0	4.7	4.6	4.7	4.4	4.3	4.2
State and local governments.....	.6	.3	1.3	.7	.9	.6	3.6	3.5	3.3	3.0	3.3	3.6
Employment Cost Index—wages and salaries:												
Civilian nonfarm ²	1.1	1.0	1.1	.6	1.1	.9	4.0	4.0	4.0	3.8	3.8	3.7
Private nonfarm.....	1.2	1.0	1.0	.6	1.2	1.0	4.2	4.1	4.1	3.9	3.8	3.8
Union.....	.5	.9	1.1	.9	.6	1.1	2.7	2.8	3.2	3.4	3.6	3.8
Nonunion.....	1.3	1.1	1.0	.6	1.2	.9	4.4	4.3	4.3	4.0	3.9	3.7
State and local governments.....	.6	.3	1.7	.7	.7	.5	3.8	3.7	3.5	3.3	3.5	3.7

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

² Excludes Federal and household workers.

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

[Numbers in thousands]

Employment status	Annual average		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
TOTAL															
Civilian noninstitutional population ¹	207,753	209,699	209,543	209,727	209,935	210,161	210,378	210,577	210,743	210,889	211,026	211,171	211,348	211,525	211,725
Civilian labor force.....	139,368	140,863	140,757	140,546	140,724	140,847	141,000	141,136	141,489	141,955	141,751	141,868	141,757	141,272	141,354
Participation rate.....	67.1	67.2	67.2	67.0	67.0	67.0	67.0	67.0	67.1	67.3	67.2	67.2	67.1	66.8	66.8
Employed.....	133,488	135,208	135,183	134,898	134,939	135,310	135,464	135,478	135,836	135,999	135,815	135,780	135,354	135,103	135,379
Employment-population ratio ²	64.3	64.5	64.5	64.3	64.3	64.4	64.4	64.3	64.5	64.5	64.4	64.3	64.0	63.9	63.7
Unemployed.....	5,880	5,655	5,574	5,648	5,785	5,537	5,536	5,658	5,653	5,956	5,936	6,088	6,402	6,169	6,422
Unemployment rate.....	4.2	4.0	4.0	4.0	4.1	3.9	3.9	4.0	4.0	4.2	4.2	4.3	4.5	4.4	4.5
Not in the labor force.....	68,385	68,836	68,786	69,181	69,211	69,314	69,378	69,441	69,254	68,934	69,275	69,304	69,592	70,254	70,370
Men, 20 years and over															
Civilian noninstitutional population ¹	91,555	92,580	92,546	92,642	92,754	92,863	92,969	93,061	93,117	93,184	93,227	93,285	93,410	93,541	93,616
Civilian labor force.....	79,104	79,930	79,785	79,782	79,929	80,053	80,155	80,135	80,289	80,492	80,288	80,261	80,157	80,135	80,134
Participation rate.....	76.7	76.6	76.5	76.4	76.6	76.5	76.5	76.4	76.6	76.7	76.5	76.4	76.6	76.3	76.2
Employed.....	67,761	68,580	68,489	68,495	68,710	68,728	68,774	68,683	68,848	68,916	68,761	68,534	68,706	68,595	68,466
Employment-population ratio ²	74.0	74.1	74.0	73.9	74.1	74.0	74.0	73.8	73.9	74.0	73.8	73.5	73.6	73.3	73.1
Agriculture.....	2,028	2,252	2,262	2,280	2,276	2,350	2,219	2,122	2,232	2,122	2,154	2,150	2,117	2,169	2,035
Nonagricultural industries.....	65,517	66,328	66,227	66,215	66,434	66,378	66,555	66,561	66,616	66,795	66,607	66,383	66,589	66,426	66,430
Unemployed.....	2,433	2,350	2,296	2,287	2,319	2,325	2,381	2,452	2,441	2,576	2,527	2,728	2,869	2,756	2,880
Unemployment rate.....	3.5	3.3	3.2	3.2	3.3	3.3	3.3	3.4	3.4	3.6	3.5	3.8	4.0	3.9	4.0
Women, 20 years and over															
Civilian noninstitutional population ¹	100,158	101,078	101,007	101,111	101,209	101,321	101,448	101,533	101,612	101,643	101,686	101,779	101,870	101,938	102,023
Civilian labor force.....	60,840	61,565	61,561	61,535	61,265	61,486	61,528	61,625	61,819	62,126	62,220	62,412	62,132	62,119	61,890
Participation rate.....	60.7	60.9	60.9	60.9	60.5	60.7	60.6	60.7	60.8	61.1	61.2	61.3	61.0	60.9	60.7
Employed.....	58,555	59,352	59,282	59,273	58,992	59,344	59,425	59,506	59,708	59,894	59,932	60,178	59,741	59,766	59,510
Employment-population ratio ²	58.5	58.7	58.7	58.6	58.3	58.6	58.6	58.6	58.8	58.9	58.9	59.1	58.6	58.6	58.3
Agriculture.....	803	818	829	797	808	764	748	797	822	852	839	819	847	822	752
Nonagricultural industries.....	57,752	58,535	58,453	58,476	58,184	58,580	58,677	58,709	58,886	59,042	59,093	59,359	58,895	58,943	58,759
Unemployed.....	2,285	2,212	2,279	2,262	2,273	2,142	2,103	2,119	2,111	2,232	2,288	2,233	2,390	2,353	2,380
Unemployment rate.....	3.8	3.6	3.7	3.7	3.7	3.5	3.4	3.4	3.4	3.6	3.7	3.6	3.8	3.8	3.8
Both sexes, 16 to 19 years															
Civilian noninstitutional population ¹	16,040	16,042	15,991	15,974	15,972	15,977	15,960	15,983	16,014	16,063	16,113	16,108	16,068	16,046	16,086
Civilian labor force.....	8,333	8,369	8,411	8,229	8,430	8,308	8,317	8,376	8,381	8,337	8,243	8,195	8,050	7,802	8,118
Participation rate.....	52.0	52.2	52.6	51.5	52.8	52.0	52.1	52.4	52.3	51.9	51.2	50.9	50.1	48.6	50.5
Employed.....	7,172	7,216	7,412	7,130	7,237	7,238	7,265	7,289	7,280	7,188	7,122	7,067	6,907	6,742	6,956
Employment-population ratio ²	44.7	45.4	46.4	44.6	45.3	45.3	45.5	45.6	45.5	44.7	44.2	43.9	43.0	42.0	43.2
Agriculture.....	234	235	222	218	233	242	274	257	220	205	143	191	229	201	209
Nonagricultural industries.....	6,938	7,041	7,190	6,912	7,004	6,996	6,991	7,032	7,060	6,983	6,980	6,876	6,678	6,541	6,748
Unemployed.....	1,162	1,093	999	1,099	1,193	1,070	1,052	1,087	1,101	1,149	1,121	1,127	1,143	1,060	1,162
Unemployment rate.....	13.9	13.1	11.9	13.4	14.2	12.9	12.6	13.0	13.1	13.8	13.6	13.8	14.2	13.6	14.3
White															
Civilian noninstitutional population ¹	173,085	174,428	174,316	174,443	174,587	174,745	174,899	175,034	175,145	175,246	175,362	175,416	175,533	175,653	175,789
Civilian labor force.....	116,509	117,574	117,477	117,298	117,554	117,553	117,603	117,640	117,945	118,276	118,287	118,243	118,145	117,688	117,773
Participation rate.....	67.3	67.4	67.4	67.2	67.3	67.3	67.2	67.2	67.3	67.5	67.5	67.4	67.3	67.0	67.0
Employed.....	112,235	113,475	113,493	113,201	113,378	113,464	113,584	113,509	113,811	114,015	113,902	113,853	113,434	113,185	113,037
Employment-population ratio ²	64.8	65.1	65.1	64.9	64.9	64.9	64.9	64.8	65.0	65.1	65.0	64.9	64.6	64.4	64.3
Unemployed.....	4,273	4,099	3,984	4,097	4,176	4,089	4,019	4,131	4,134	4,261	4,385	4,389	4,711	4,503	4,696
Unemployment rate.....	3.7	3.5	3.4	3.5	3.6	3.5	3.4	3.5	3.5	3.6	3.7	3.7	4.0	3.8	4.0
Black															
Civilian noninstitutional population ¹	24,855	25,218	25,191	25,221	25,258	25,299	25,339	25,376	25,408	25,382	25,412	25,441	25,472	25,501	25,533
Civilian labor force.....	16,365	16,603	16,573	16,501	16,540	16,489	16,627	16,732	16,742	16,773	16,691	16,789	16,666	16,639	16,756
Participation rate.....	65.8	65.8	65.8	65.4	65.5	65.2	65.6	65.9	65.9	66.1	65.7	66.0	65.4	65.2	65.6
Employed.....	15,056	15,334	15,277	15,232	15,239	15,304	15,401	15,485	15,470	15,372	15,440	15,348	15,299	15,311	15,343
Employment-population ratio ²	60.6	60.8	60.6	60.4	60.3	60.5	60.8	61.0	60.9	60.6	60.8	60.3	60.1	60.0	60.1
Unemployed.....	1,309	1,269	1,296	1,269	1,301	1,185	1,226	1,247	1,272	1,401	1,251	1,441	1,367	1,328	1,413
Unemployment rate.....	8.0	7.6	7.8	7.7	7.9	7.2	7.4	7.5	7.6	8.4	7.5	8.6	8.2	8.0	8.4

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		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Hispanic origin															
Civilian noninstitutional population ¹	21,650	22,393	22,355	22,422	22,488	22,555	22,618	22,687	22,749	22,769	22,830	22,889	22,957	23,021	23,090
Civilian labor force.....	14,665	15,368	15,320	15,243	15,312	15,513	15,491	15,626	15,671	15,540	15,653	15,770	15,775	15,608	15,570
Participation rate.....	67.7	68.6	68.5	68.0	68.1	68.8	68.5	68.9	68.9	68.1	68.6	68.9	68.7	67.8	67.4
Employed.....	13,720	14,492	14,456	14,384	14,439	14,647	14,711	14,686	14,772	14,612	14,673	14,782	14,747	14,634	14,538
Employment-population ratio ²	63.4	64.7	64.7	64.2	64.2	64.9	65.0	64.7	64.9	63.8	64.3	64.6	64.2	63.6	63.0
Unemployed.....	945	876	864	859	873	866	780	940	899	989	980	988	1,028	975	1,032
Unemployment rate.....	6.4	5.7	5.6	5.6	5.7	5.6	5.0	6.0	5.7	6.4	6.3	6.3	6.5	6.2	6.6

¹ The population figures are not seasonally adjusted.

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

NOTE: 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		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Characteristic															
Employed, 16 years and over.....	133,488	135,208	135,183	134,898	134,939	135,310	135,464	135,478	135,836	135,999	135,815	135,780	135,354	135,103	134,932
Men.....	771,446	72,293	72,240	72,141	72,379	72,398	72,427	72,354	72,534	72,589	72,359	72,201	72,245	71,978	71,926
Women.....	62,042	62,915	62,943	62,757	62,560	62,912	63,037	63,124	63,302	63,410	63,456	63,578	63,109	63,125	63,006
Married men, spouse present.....	43,254	43,368	43,364	43,308	43,375	43,321	43,345	43,251	43,293	43,134	43,340	43,385	43,516	43,733	43,428
Married women, spouse present.....	33,450	33,708	33,745	33,621	33,507	33,491	33,622	33,633	33,635	34,249	34,059	34,080	33,662	33,686	33,380
Women who maintain families.....	8,229	8,387	8,340	8,460	8,492	8,516	8,449	8,495	8,501	8,426	8,373	8,049	8,160	8,319	8,529
Class of worker															
Agriculture:															
Wage and salary workers.....	1,944	2,034	2,051	2,065	2,048	2,018	2,041	2,005	2,019	1,983	1,839	1,910	1,902	1,958	1,775
Self-employed workers.....	1,297	1,233	1,187	1,189	1,241	1,274	1,182	1,180	1,198	1,182	1,291	1,231	1,223	1,201	1,166
Unpaid family workers.....	40	38	44	39	36	38	32	25	34	25	29	36	47	38	36
Nonagricultural industries:															
Wage and salary workers.....	121,323	123,128	123,020	122,744	122,931	123,117	123,461	123,632	123,813	124,035	124,069	123,814	123,395	123,416	123,009
Government.....	18,903	19,053	18,836	18,592	18,644	19,003	19,073	19,146	19,352	18,843	19,103	19,134	18,854	19,067	18,812
Private industries.....	102,420	104,076	104,184	104,152	104,287	104,114	104,388	104,486	104,461	105,192	104,966	104,680	104,541	104,349	104,197
Private households.....	933	890	926	821	781	824	812	827	879	859	823	881	812	789	744
Other.....	101,487	103,186	103,258	103,331	103,506	103,290	103,576	103,659	103,582	104,333	104,143	103,800	103,729	103,559	103,453
Self-employed workers.....	8,790	8,674	8,660	8,619	8,618	8,786	8,561	8,533	8,600	8,698	8,617	8,784	8,608	8,530	8,741
Unpaid family workers.....	95	101	74	86	114	108	136	128	121	110	142	138	93	103	94
Persons at work part time¹															
All industries:															
Part time for economic reasons.....	3,357	3,190	3,125	3,110	3,170	3,188	3,222	3,416	3,234	3,327	3,273	3,164	3,201	3,371	3,637
Slack work or business conditions.....	1,968	1,927	1,858	1,871	1,980	2,051	1,909	2,183	1,964	2,035	2,043	1,914	2,097	2,215	2,299
Could only find part-time work.....	1,079	944	981	918	880	831	947	886	896	954	933	907	873	900	1,025
Part time for noneconomic reasons.....	18,758	18,722	18,444	18,579	18,704	18,595	18,758	18,896	18,993	18,568	19,021	18,647	18,713	18,581	18,472
Nonagricultural industries:															
Part time for economic reasons.....	3,189	3,045	2,981	2,972	3,038	3,030	3,044	3,285	3,088	3,227	3,143	3,007	3,061	3,197	3,532
Slack work or business conditions.....	1,861	1,835	1,760	1,773	1,901	1,940	1,808	2,082	1,882	1,971	1,970	1,828	1,985	2,089	2,234
Could only find part-time work.....	1,056	924	982	896	861	817	923	871	877	945	910	877	864	876	1,024
Part time for noneconomic reasons.....	18,197	18,165	17,897	18,052	18,142	18,024	18,206	18,323	18,437	18,040	18,509	18,132	18,176	18,061	18,039

¹ Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

6. Selected unemployment indicators, monthly data seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Characteristic															
Total, 16 years and over.....	4.2	4.0	4.0	4.0	4.1	3.9	3.9	4.0	4.0	4.2	4.2	4.3	4.5	4.4	4.5
Both sexes, 16 to 19 years.....	13.9	13.1	11.9	13.4	14.2	12.9	12.6	13.0	13.1	13.8	13.6	13.8	14.2	13.6	14.3
Men, 20 years and over.....	3.5	3.3	3.2	3.2	3.3	3.3	3.3	3.4	3.4	3.6	3.5	3.8	4.0	3.9	4.0
Women, 20 years and over.....	3.8	3.6	3.7	3.7	3.7	3.5	3.4	3.4	3.4	3.6	3.7	3.6	3.8	3.8	3.8
White, total.....	3.7	3.5	3.4	3.5	3.6	3.5	3.4	11.5	3.5	3.6	3.7	3.7	4.0	3.8	4.0
Both sexes, 16 to 19 years.....	12.0	11.4	9.9	11.5	12.0	11.4	11.2	11.7	11.5	11.7	10.9	11.6	11.8	11.8	12.6
Men, 16 to 19 years.....	12.6	12.3	11.7	12.5	13.1	12.2	11.8	12.4	12.2	13.3	12.6	11.8	12.8	13.1	14.5
Women, 16 to 19 years.....	11.3	10.4	7.9	10.4	10.8	10.6	10.5	10.9	10.7	9.8	9.2	11.2	10.8	10.5	10.6
Men, 20 years and over.....	3.0	2.8	2.8	2.8	2.8	2.9	2.9	3.0	2.9	3.2	3.2	3.3	3.5	3.3	3.6
Women, 20 years and over.....	3.3	3.1	3.2	3.2	3.3	3.1	3.0	3.0	3.1	3.0	3.3	3.1	3.5	3.4	3.3
Black, total.....	8.0	7.6	7.8	7.7	7.9	7.2	7.4	7.5	7.6	8.4	7.5	8.6	8.2	8.0	8.4
Both sexes, 16 to 19 years.....	27.9	24.7	25.6	26.4	26.8	24.1	23.9	21.9	26.7	27.9	28.8	28.9	31.6	25.1	28.2
Men, 16 to 19 years.....	30.9	26.4	31.5	25.7	31.7	26.7	27.0	22.5	30.1	26.9	31.7	27.7	34.9	30.0	30.7
Women, 16 to 19 years.....	25.1	23.0	19.3	27.1	22.3	21.7	21.2	21.3	23.4	28.9	25.7	30.2	28.6	20.3	26.0
Men, 20 years and over.....	6.7	7.0	6.9	6.8	7.2	6.5	7.0	6.9	7.3	6.9	6.6	8.5	8.2	7.6	7.8
Women, 20 years and over.....	6.8	6.3	6.5	6.3	6.2	5.8	5.8	6.2	5.7	7.3	5.8	6.3	5.5	6.4	6.8
Hispanic origin, total.....	6.4	5.7	5.6	5.6	5.7	5.6	5.0	6.0	5.7	6.0	6.3	6.3	6.5	6.2	6.6
Married men, spouse present.....	2.2	2.0	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.5	2.5	2.6	2.6
Married women, spouse present.....	2.7	2.7	2.6	2.7	2.8	2.7	2.5	2.5	2.6	2.5	2.6	2.7	2.9	2.9	3.0
Women who maintain families.....	6.4	5.9	6.0	7.7	6.0	5.4	5.4	5.2	5.1	6.4	6.1	6.2	6.3	6.2	6.3
Full-time workers.....	4.1	3.9	3.8	3.8	3.9	3.8	3.8	3.9	3.9	4.1	4.0	4.2	4.3	4.3	4.4
Part-time workers.....	5.0	4.8	4.9	5.1	5.0	4.6	4.5	4.5	4.6	4.9	4.8	4.8	5.5	4.6	5.3
Industry															
Nonagricultural wage and salary workers.....	4.3	4.1	4.0	4.1	4.1	4.0	4.0	4.0	4.0	4.3	4.5	4.5	4.6	4.5	4.8
Mining.....	5.7	3.9	3.9	4.5	4.3	5.0	7.1	3.5	3.6	2.2	4.6	3.5	5.1	5.5	6.8
Construction.....	7.0	6.4	6.0	6.0	6.4	6.4	6.5	6.9	6.5	6.8	7.0	6.2	7.1	6.6	6.7
Manufacturing.....	3.6	3.6	3.4	3.6	3.5	3.6	4.0	3.6	3.6	4.2	4.5	5.0	4.6	4.8	5.0
Durable goods.....	3.5	3.4	3.4	3.3	3.1	3.2	3.8	3.5	3.4	4.2	4.2	5.0	4.3	4.9	5.0
Nondurable goods.....	3.9	4.0	3.2	4.0	4.1	4.3	4.3	3.9	4.0	4.3	5.0	5.0	5.1	4.7	4.9
Transportation and public utilities.....	3.0	3.1	2.9	3.1	3.1	3.2	2.8	2.6	3.2	2.8	2.9	3.1	4.1	3.8	4.4
Wholesale and retail trade.....	5.2	5.0	5.1	5.0	5.1	4.8	4.8	4.7	4.8	5.0	5.1	5.3	5.3	5.3	5.3
Finance, insurance, and real estate.....	2.3	2.3	2.3	2.2	2.4	2.1	2.3	1.9	2.1	2.3	2.5	2.6	2.7	2.3	2.6
Services.....	4.1	3.8	3.8	3.9	3.8	3.7	3.6	3.7	3.6	4.0	4.2	4.1	4.1	3.9	4.4
Government workers.....	2.2	2.1	2.5	2.1	2.3	2.1	2.0	2.3	2.2	2.2	1.5	2.1	2.3	2.0	2.0
Agricultural wage and salary workers.....	8.9	7.5	7.2	7.2	8.0	7.9	8.8	9.4	8.9	9.0	9.2	11.3	9.2	8.2	9.6
Educational attainment¹															
Less than a high school diploma.....	6.7	6.4	6.4	6.4	6.3	6.2	6.4	6.6	6.3	6.8	7.7	6.9	6.6	6.5	6.8
High school graduates, no college.....	3.5	3.5	3.4	3.4	3.7	3.4	3.5	3.5	3.4	3.8	3.8	3.9	3.8	3.9	3.9
Some college, less than a bachelor's degree.....	2.8	2.7	2.8	2.7	2.7	2.6	2.4	2.7	2.7	3.0	2.7	2.7	3.0	3.0	3.2
College graduates.....	1.8	1.7	1.6	1.7	1.7	1.9	1.6	1.6	1.6	1.6	1.6	2.0	2.3	2.1	2.2

¹ Data refer to persons 25 years and over.

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		2000							2001					
	1999	2000	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Less than 5 weeks.....	2,568	2,543	2,572	2,493	2,567	2,498	2,510	2,531	2,440	2,613	2,797	2,674	2,958	2,679	2,809
5 to 14 weeks.....	1,832	1,803	1,776	1,811	1,832	1,750	1,755	1,796	1,852	1,977	1,669	1,992	1,977	2,028	2,084
15 weeks and over.....	1,480	1,309	1,260	1,319	1,373	1,247	1,311	1,317	1,326	1,371	1,490	1,517	1,499	1,484	1,540
15 to 26 weeks.....	755	665	609	650	673	618	702	713	675	731	793	814	759	852	804
27 weeks and over.....	725	644	651	669	700	629	609	604	651	640	697	703	740	632	737
Mean duration, in weeks.....	13.4	12.6	12.5	13.2	13.0	12.1	12.4	12.4	12.6	12.6	12.9	13.0	12.6	12.2	13.0
Median duration, in weeks.....	6.4	5.9	5.9	5.9	6.1	5.3	6.1	6.1	6.1	5.9	6.0	6.5	5.8	6.5	6.2

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

[Numbers in thousands]

Reason for unemployment	Annual average		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Job losers ¹	2,622	2,492	2,439	2,450	2,585	2,502	2,446	2,501	2,514	2,742	2,853	2,963	3,199	3,159	3,291
On temporary layoff.....	848	842	917	857	907	837	825	877	937	1,032	945	991	1,053	1,084	940
Not on temporary layoff.....	1,774	1,650	1,522	1,593	1,678	1,665	1,621	1,624	1,577	1,711	1,908	1,972	2,146	2,075	2,351
Job leavers.....	783	775	692	788	780	756	815	768	746	838	820	814	749	820	810
Reentrants.....	2,005	1,957	2,042	1,960	1,930	1,798	1,868	1,936	1,899	1,956	1,927	1,908	2,005	1,801	1,906
New entrants.....	469	431	416	412	503	429	398	429	466	446	372	382	462	482	477
Percent of unemployed															
Job losers ¹	44.6	44.1	43.6	43.7	44.6	45.6	44.3	44.4	44.7	45.8	47.8	48.8	49.9	50.4	50.8
On temporary layoff.....	14.4	14.9	16.4	15.3	15.6	15.3	14.9	15.6	16.7	17.2	15.8	16.3	16.4	17.3	14.5
Not on temporary layoff.....	30.2	29.2	27.2	28.4	28.9	30.4	29.3	28.8	28.0	28.6	32.0	32.5	33.5	33.1	36.3
Job leavers.....	13.3	13.7	12.4	14.0	13.5	13.8	14.7	13.6	13.3	14.0	13.7	13.4	11.7	13.1	12.5
Reentrants.....	34.1	34.6	36.5	34.9	33.3	32.8	33.8	34.4	33.8	32.7	32.3	31.4	31.3	28.8	29.4
New entrants.....	8.0	7.6	7.4	7.3	8.7	7.8	7.2	7.6	8.3	7.4	6.2	6.4	7.2	7.7	7.4
Percent of civilian labor force															
Job losers ¹	1.9	1.8	1.7	1.7	1.8	1.8	1.7	1.8	1.8	1.9	2.0	2.1	2.3	2.2	2.3
Job leavers.....	.6	.6	.5	.6	.6	.5	.6	.5	.5	.6	.6	.6	.5	.6	.6
Reentrants.....	1.4	1.4	1.5	1.4	1.4	1.3	1.3	1.4	1.3	1.4	1.4	1.3	1.4	1.3	1.3
New entrants.....	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3

¹ Includes persons who completed temporary jobs.

9. Unemployment rates by sex and age, monthly data seasonally adjusted

[Civilian workers]

Sex and age	Annual average		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Total, 16 years and over.....	4.2	4.0	4.0	4.0	4.1	3.9	3.9	4.0	4.0	4.2	4.2	4.3	4.5	4.4	4.5
16 to 24 years.....	9.9	9.3	9.1	9.2	9.4	8.9	8.9	9.1	9.2	9.6	9.5	10.0	10.4	9.9	10.4
16 to 19 years.....	13.9	13.1	11.9	13.4	14.2	12.9	12.6	13.0	13.1	13.8	13.6	13.8	14.2	13.6	14.3
16 to 17 years.....	16.3	15.4	13.4	16.3	16.9	15.7	15.2	15.4	15.8	17.4	17.2	16.0	16.7	15.5	16.0
18 to 19 years.....	12.4	11.5	10.7	11.5	12.6	11.1	11.1	11.4	11.6	11.5	11.0	12.3	12.6	12.2	13.1
20 to 24 years.....	7.5	7.1	7.5	6.9	6.6	6.6	6.8	6.8	7.0	7.2	7.2	7.8	8.3	7.9	8.2
25 years and over.....	3.1	3.0	3.0	3.0	3.1	3.0	2.9	3.0	3.0	3.2	3.2	3.2	3.4	3.3	3.5
25 to 54 years.....	3.2	3.1	3.1	3.1	3.2	3.0	3.0	3.0	3.0	3.2	3.2	3.4	3.5	3.5	3.6
55 years and over.....	2.8	2.6	2.4	2.4	2.7	2.7	2.8	2.9	2.6	2.7	2.8	2.6	2.8	2.6	2.8
Men, 16 years and over.....	4.1	3.9	3.9	3.8	4.0	3.9	3.9	4.0	4.0	4.3	4.2	4.4	4.6	4.5	4.7
16 to 24 years.....	10.3	9.7	9.6	9.6	10.2	9.5	9.4	9.5	9.7	10.3	10.8	10.9	10.9	11.0	11.8
16 to 19 years.....	14.7	14.0	14.2	14.1	15.8	13.7	13.4	13.6	14.1	15.0	15.5	13.8	15.1	15.3	15.9
16 to 17 years.....	17.0	16.8	15.9	17.5	17.1	17.5	17.6	17.5	18.4	20.5	18.5	15.6	18.7	17.4	18.0
18 to 19 years.....	13.1	12.2	13.0	12.0	15.2	11.2	10.7	11.3	11.7	11.8	13.1	12.7	12.8	13.9	14.5
20 to 24 years.....	7.7	7.3	7.0	7.1	6.9	7.1	7.3	7.3	7.2	7.6	8.2	9.3	8.7	8.7	9.5
25 years and over.....	3.0	2.8	2.8	2.8	2.8	2.8	2.9	3.0	3.0	3.1	3.0	3.2	3.5	3.3	3.4
25 to 54 years.....	3.0	2.9	2.9	2.8	2.9	2.9	2.9	2.9	2.9	3.1	3.0	3.3	3.5	3.5	3.5
55 years and over.....	2.8	2.7	2.3	2.4	2.7	2.6	2.8	2.9	2.8	3.0	2.9	2.9	2.9	2.9	3.0
Women, 16 years and over.....	4.3	4.1	4.1	4.2	4.2	4.0	3.9	4.0	4.0	4.1	4.2	4.2	4.4	4.3	4.4
16 to 24 years.....	9.5	8.9	8.5	8.9	8.6	8.2	8.4	8.6	8.7	8.8	8.1	8.9	9.8	8.8	8.9
16 to 19 years.....	13.2	12.1	9.4	12.6	12.4	12.0	11.9	12.3	12.1	12.4	11.6	13.7	13.3	11.8	12.7
16 to 17 years.....	15.5	14.0	10.7	15.0	16.8	13.8	12.8	13.4	13.2	14.1	15.7	16.4	14.5	13.6	14.0
18 to 19 years.....	11.6	10.8	8.2	10.9	9.8	11.0	11.6	11.5	11.6	11.3	8.7	11.9	12.4	10.4	11.6
20 to 24 years.....	7.2	7.0	8.0	6.7	6.3	6.0	6.3	6.3	6.7	6.7	6.1	6.3	7.8	7.1	6.7
25 years and over.....	3.3	3.2	3.2	3.3	3.4	3.2	3.0	3.1	3.0	3.2	3.4	3.2	3.3	3.4	3.5
25 to 54 years.....	3.4	3.3	3.3	3.4	3.5	3.2	3.1	3.2	3.1	3.4	3.5	3.5	3.4	3.6	3.8
55 years and over.....	2.8	2.6	2.4	2.4	2.6	2.8	2.8	2.7	2.4	2.5	2.7	2.2	2.6	2.2	2.5

10. Unemployment rates by State, seasonally adjusted

State	May 2000	Apr. 2001	May 2001 ^P	State	May 2000	Apr. 2001	May 2001 ^P
Alabama.....	4.5	5.3	4.7	Missouri.....	3.4	4.0	3.8
Alaska.....	6.8	5.8	5.6	Montana.....	3.1	3.0	2.8
Arizona.....	3.9	4.3	4.2	Nebraska.....	3.1	3.0	2.8
Arkansas.....	4.6	4.5	4.6	Nevada.....	3.8	4.9	4.4
California.....	5.0	4.9	4.9	New Hampshire.....	3.1	2.9	2.8
Colorado.....	2.7	2.7	2.8	New Jersey.....	3.7	4.2	4.3
Connecticut.....	2.3	2.2	2.3	New Mexico.....	4.7	5.6	5.7
Delaware.....	4.0	3.3	3.4	New York.....	4.6	4.3	4.3
District of Columbia.....	5.6	4.6	4.9	North Carolina.....	3.6	4.9	5.2
Florida.....	3.6	3.9	3.9	North Dakota.....	3.0	2.6	2.3
Georgia.....	3.9	4.0	3.7	Ohio.....	4.1	3.9	4.0
Hawaii.....	4.3	4.8	4.3	Oklahoma.....	3.1	2.9	2.9
Idaho.....	4.8	4.9	4.8	Oregon.....	5.1	5.2	5.6
Illinois.....	4.3	5.4	5.2	Pennsylvania.....	4.1	4.4	4.7
Indiana.....	3.5	2.9	3.1	Rhode Island.....	4.3	4.4	4.5
Iowa.....	2.6	2.7	2.8	South Carolina.....	4.1	4.3	4.4
Kansas.....	3.9	3.5	3.6	South Dakota.....	2.4	2.5	2.6
Kentucky.....	4.1	5.4	5.6	Tennessee.....	3.9	4.3	4.1
Louisiana.....	5.5	5.4	5.6	Texas.....	4.3	4.3	4.5
Maine.....	3.8	3.1	3.5	Utah.....	3.2	3.9	4.0
Maryland.....	4.0	3.6	3.7	Vermont.....	3.0	3.1	2.9
Massachusetts.....	2.7	3.2	3.6	Virginia.....	2.2	2.7	3.0
Michigan.....	3.5	4.6	5.0	Washington.....	5.2	5.8	5.5
Minnesota.....	3.3	3.9	3.9	West Virginia.....	5.6	5.1	5.3
Mississippi.....	6.0	5.0	5.0	Wisconsin.....	3.7	4.2	4.1
				Wyoming.....	4.0	3.4	3.6

^P = preliminary

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

[In thousands]

State	May 2000	Apr. 2001	May 2001 ^P	State	May 2000	Apr. 2001	May 2001 ^P
Alabama.....	1,938.5	1,926.2	1,925.3	Missouri.....	2,751.7	2,756.9	2,746.3
Alaska.....	283.5	287.5	288.1	Montana.....	389.4	393.1	393.2
Arizona.....	2,246.8	2,276.4	2,276.7	Nebraska.....	908.9	911.3	914.2
Arkansas.....	1,161.3	1,164.2	1,165.4	Nevada.....	1,024.0	1,068.6	1,070.4
California.....	14,479.5	14,818.3	14,813.4	New Hampshire.....	621.5	627.3	627.0
Colorado.....	2,209.1	2,270.4	2,265.2	New Jersey.....	3,998.8	4,027.3	4,028.2
Connecticut.....	1,695.2	1,700.8	1,701.8	New Mexico.....	744.4	754.7	757.5
Delaware.....	418.7	425.4	424.7	New York.....	8,636.4	8,729.5	8,722.2
District of Columbia.....	645.9	649.9	651.3	North Carolina.....	3,942.1	3,975.7	3,985.4
Florida.....	7,071.2	7,264.1	7,286.7	North Dakota.....	328.0	328.6	327.7
Georgia.....	3,983.1	4,045.6	4,052.0	Ohio.....	5,641.2	5,652.1	5,641.5
Hawaii.....	550.8	560.0	557.8	Oklahoma.....	1,487.8	1,501.2	1,498.3
Idaho.....	561.3	564.8	568.2	Oregon.....	1,607.1	1,600.5	1,598.4
Illinois.....	6,042.3	6,058.2	6,058.5	Pennsylvania.....	5,693.1	5,736.6	5,732.9
Indiana.....	3,011.0	2,995.8	2,996.2	Rhode Island.....	476.3	478.8	478.8
Iowa.....	1,476.6	1,482.0	1,477.9	South Carolina.....	1,878.1	1,893.0	1,898.6
Kansas.....	1,349.5	1,363.7	1,367.0	South Dakota.....	379.1	378.7	381.3
Kentucky.....	1,821.5	1,835.9	1,839.0	Tennessee.....	2,733.2	2,759.7	2,753.9
Louisiana.....	1,936.3	1,951.7	1,948.7	Texas.....	9,436.8	9,626.4	9,640.0
Maine.....	604.0	611.9	610.6	Utah.....	1,075.0	1,092.5	1,093.4
Maryland.....	2,451.2	2,473.3	2,475.7	Vermont.....	298.2	299.9	299.9
Massachusetts.....	3,312.9	3,362.8	3,365.7	Virginia.....	3,503.8	3,560.6	3,562.6
Michigan.....	4,684.1	4,693.1	4,676.5	Washington.....	2,719.0	2,744.2	2,745.0
Minnesota.....	2,667.4	2,689.2	2,693.2	West Virginia.....	746.9	739.7	737.1
Mississippi.....	1,161.3	1,145.5	1,145.6	Wisconsin.....	2,834.1	2,848.8	2,843.8
				Wyoming.....	238.6	245.1	243.6

^P = preliminary

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

12. Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted
 [In thousands]

Industry	Annual average		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
TOTAL	128,916	131,739	131,969	131,899	131,837	132,046	132,145	132,279	132,367	132,428	132,595	132,654	132,489	132,530	132,437
PRIVATE SECTOR	108,709	111,079	111,029	111,180	111,237	111,463	111,564	111,689	111,753	111,799	111,915	111,943	111,742	111,760	111,622
GOODS-PRODUCING	25,507	25,709	25,727	25,774	25,727	25,696	25,713	25,711	25,688	25,633	25,627	25,602	25,421	25,324	25,198
Mining	539	543	453	542	543	547	551	548	548	550	555	557	560	564	565
Metal mining.....	44	41	41	40	40	40	40	40	41	39	39	38	37	37	35
Oil and gas extraction.....	297	311	312	313	313	316	320	319	320	325	328	331	335	339	340
Nonmetallic minerals, except fuels.....	113	114	113	113	114	115	115	114	112	111	113	113	113	112	112
Construction	6,415	6,698	6,663	6,678	6,699	6,728	6,758	6,781	6,791	6,826	6,880	6,929	6,852	6,881	6,867
General building contractors.....	1,458	1,528	1,520	1,520	1,525	1,538	1,549	1,548	1,543	1,538	1,555	1,552	1,548	1,556	1,549
Heavy construction, except building.....	874	901	896	897	900	900	904	909	913	921	930	938	915	923	926
Special trades contractors.....	4,084	4,269	4,247	4,256	4,274	4,290	4,305	4,324	4,335	4,367	4,395	4,439	4,389	4,402	4,392
Manufacturing	18,552	18,469	18,521	18,554	18,485	18,421	18,404	18,382	18,349	18,257	18,192	18,116	18,009	17,879	17,766
Production workers.....	12,747	12,628	12,675	12,688	12,631	12,559	12,545	12,511	12,466	12,394	12,323	12,254	12,166	12,066	11,963
Durable goods	11,111	11,138	11,168	11,207	11,172	11,129	11,126	11,120	11,102	11,031	10,997	10,941	10,870	10,778	10,695
Production workers.....	7,596	7,591	7,617	7,635	7,608	7,568	7,560	7,544	7,517	7,462	7,415	7,358	7,308	7,235	7,160
Lumber and wood products.....	834	832	837	836	831	826	821	817	811	806	799	799	800	797	798
Furniture and fixtures.....	548	558	559	565	559	560	559	557	555	552	549	548	543	540	532
Stone, clay, and glass products.....	566	579	579	581	580	579	577	577	577	579	578	578	577	574	571
Primary metal industries.....	699	698	700	700	700	695	695	691	686	681	679	671	667	660	654
Fabricated metal products.....	1,521	1,537	1,543	1,546	1,541	1,540	1,536	1,537	1,536	1,526	1,514	1,509	1,503	1,488	1,479
Industrial machinery and equipment.....	2,136	2,120	2,120	2,137	2,133	2,121	2,123	2,122	2,119	2,117	2,105	2,084	2,072	2,054	2,031
Computer and office equipment.....	368	361	354	362	365	364	365	365	366	369	370	369	367	366	357
Electronic and other electrical equipment.....	1,672	1,719	1,719	1,735	1,740	1,736	1,738	1,737	1,738	1,735	1,726	1,715	1,684	1,656	1,624
Electronic components and accessories.....	641	682	678	689	695	698	704	708	710	714	711	702	686	670	649
Transportation equipment.....	1,888	1,849	1,868	1,855	1,836	1,822	1,822	1,817	1,817	1,772	1,786	1,775	1,768	1,757	1,752
Motor vehicles and equipment.....	1,018	1,013	1,025	1,027	1,015	1,005	994	995	990	952	967	956	950	939	934
Aircraft and parts.....	496	465	466	465	464	464	463	462	464	462	464	465	464	465	465
Instruments and related products.....	855	852	849	856	856	858	861	865	867	870	871	871	866	865	865
Miscellaneous manufacturing industries.....	391	394	394	396	396	392	394	395	396	393	390	391	390	387	389
Nondurable goods	7,441	7,331	7,353	7,347	7,313	7,292	7,278	7,262	7,647	7,226	7,195	7,175	7,139	7,101	7,071
Production workers.....	5,150	5,038	5,058	5,053	5,023	4,991	4,985	4,967	4,949	4,932	4,908	4,896	4,854	4,831	4,803
Food and kindred products.....	1,682	1,684	1,685	1,686	1,679	1,674	1,678	1,679	1,682	1,684	1,686	1,687	1,687	1,684	1,686
Tobacco products.....	37	34	35	34	33	33	32	33	32	32	31	32	32	33	33
Textile mill products.....	559	528	531	530	528	523	518	514	510	505	496	494	489	480	472
Apparel and other textile products.....	690	633	639	637	625	620	616	611	604	599	595	590	581	579	569
Paper and allied products.....	668	657	657	656	655	655	655	654	652	651	645	642	641	639	635
Printing and publishing.....	1,552	1,547	1,552	1,553	1,549	1,547	1,544	1,540	1,539	1,534	1,529	1,524	1,512	1,502	1,469
Chemicals and allied products.....	1,035	1,038	1,037	1,036	1,036	1,037	1,038	1,038	1,039	1,039	1,039	1,039	1,036	1,033	1,034
Petroleum and coal products.....	132	127	129	128	128	127	126	127	127	127	127	126	128	127	128
Rubber and miscellaneous plastics products.....	1,006	1,011	1,016	1,013	1,009	1,006	1,002	997	993	987	979	973	967	959	954
Leather and leather products.....	77	71	72	74	71	70	69	69	69	68	68	68	66	65	64
SERVICE-PRODUCING	103,409	106,050	106,242	106,125	106,110	106,350	106,432	106,568	106,679	106,795	106,968	107,052	107,068	107,206	107,239
Transportation and public utilities	6,834	7,019	7,015	7,034	6,963	7,062	7,076	7,093	7,108	7,106	7,123	7,127	7,119	7,130	7,114
Transportation.....	4,411	4,529	4,520	4,536	4,548	4,553	4,559	4,573	4,583	4,580	4,591	4,591	4,576	4,584	4,568
Railroad transportation.....	235	236	233	235	236	235	234	235	232	229	231	230	230	230	227
Local and interurban passenger transit.....	478	476	472	477	478	478	477	478	478	479	480	480	477	483	482
Trucking and warehousing.....	1,810	1,856	1,854	1,860	1,860	1,861	1,861	1,864	1,866	1,868	1,870	1,872	1,864	1,867	1,865
Water transportation.....	186	196	197	195	198	199	200	200	200	201	200	201	202	203	201
Transportation by air.....	1,227	1,281	1,278	1,282	1,288	1,291	1,298	1,306	1,316	1,312	1,318	1,316	1,313	1,315	1,310
Pipelines, except natural gas.....	13	14	14	14	14	14	14	14	14	14	14	13	14	14	14
Transportation services.....	463	471	472	473	474	475	475	476	477	477	478	479	476	472	469
Communications and public utilities.....	2,423	2,490	2,495	2,498	2,415	2,509	2,517	2,520	2,525	2,526	2,532	2,536	2,543	2,546	2,546
Communications.....	1,560	1,639	1,644	1,647	1,565	1,660	1,668	1,672	1,678	1,679	1,685	1,690	1,696	1,699	1,700
Electric, gas, and sanitary services.....	863	851	851	851	850	849	849	848	847	847	847	846	847	847	847
Wholesale trade	6,911	7,024	7,019	7,030	7,037	7,042	7,059	7,070	7,068	7,067	7,064	7,066	7,053	7,038	7,022
Retail trade	22,848	23,307	23,280	23,311	23,348	23,371	23,380	23,395	23,406	23,415	23,472	23,457	23,530	23,546	23,570
Building materials and garden supplies.....	988	1,016	1,016	1,014	1,015	1,012	1,012	1,011	1,010	1,007	1,007	1,006	999	1,006	1,015
General merchandise stores.....	2,798	2,837	2,831	2,820	2,830	2,834	2,829	2,835	2,822	2,789	2,807	2,797	2,804	2,821	2,822
Department stores.....	2,459	2,491	2,482	2,470	2,483	2,487	2,481	2,492	2,480	2,448	2,462	2,451	2,459	2,473	2,476

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		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
Food stores.....	3,497	3,521	3,522	3,523	3,526	3,520	3,528	3,527	3,532	3,538	3,548	3,550	3,562	3,553	3,547
Automotive dealers and service stations.....	2,368	2,412	2,410	2,412	2,418	2,420	2,426	2,426	2,425	2,424	2,424	2,420	2,421	2,428	2,430
New and used car dealers.....	1,080	1,114	1,114	1,116	1,118	1,120	1,122	1,123	1,123	1,124	1,124	1,124	1,122	1,126	1,127
Apparel and accessory stores.....	1,171	1,193	1,190	1,196	1,195	1,202	1,202	1,208	1,214	1,221	1,227	1,228	1,226	1,231	1,228
Furniture and home furnishings stores.....	1,087	1,134	1,136	1,135	1,138	1,138	1,142	1,144	1,148	1,147	1,146	1,147	1,140	1,136	1,136
Eating and drinking places.....	7,961	8,114	8,098	8,123	8,132	8,138	8,137	8,142	8,149	8,157	8,171	8,158	8,213	8,216	8,241
Miscellaneous retail establishments.....	2,978	3,080	3,077	3,088	3,094	3,098	3,105	3,103	3,106	3,132	3,142	3,151	3,165	3,155	3,151
Finance, insurance, and real estate.....	7,555	7,560	7,541	7,546	7,549	7,556	7,569	7,575	7,582	7,594	7,609	7,618	7,626	7,644	7,631
Finance.....	3,688	3,710	3,699	3,701	3,707	3,718	3,725	3,729	3,735	3,738	3,748	3,755	3,761	3,770	3,768
Depository institutions.....	2,056	2,029	2,028	2,024	2,024	2,024	2,023	2,023	2,025	2,024	2,025	2,028	2,032	2,037	2,040
Commercial banks.....	1,468	1,430	1,430	1,425	1,425	1,524	1,421	1,420	1,420	1,418	1,417	1,418	1,421	1,426	1,428
Savings institutions.....	254	253	253	252	253	253	253	253	253	253	254	254	255	255	256
Nondepository institutions.....	709	681	676	675	674	677	678	678	677	678	683	686	691	697	701
Security and commodity brokers.....	689	748	745	751	756	762	767	770	774	777	781	781	780	776	766
Holding and other investment offices.....	234	251	250	251	253	255	257	248	259	259	259	260	258	260	261
Insurance.....	2,368	2,346	2,345	2,340	2,341	2,335	2,337	2,340	2,339	2,346	2,351	2,353	2,356	2,358	2,356
Insurance carriers.....	1,610	1,589	1,590	1,585	1,585	1,580	1,580	1,583	1,582	1,588	1,592	1,593	1,596	1,598	1,598
Insurance agents, brokers, and service.....	758	757	755	755	756	755	757	757	757	758	759	760	760	760	758
Real estate.....	1,500	1,504	1,497	1,495	1,501	1,503	1,507	1,506	1,508	1,510	1,510	1,510	1,509	1,516	1,507
Services¹.....	39,055	40,460	14,447	40,495	40,613	40,736	40,767	40,845	40,901	40,984	41,020	41,073	40,993	41,078	41,087
Agricultural services.....	766	801	795	798	801	804	808	811	813	818	821	828	824	834	834
Hotels and other lodging places	1,848	1,912	1,917	1,923	1,923	1,924	1,927	1,939	1,946	1,952	1,957	1,960	1,944	1,835	1,922
Personal services.....	1,226	1,251	1,247	1,250	1,256	1,257	1,259	1,261	1,265	1,261	1,261	1,265	1,267	1,277	1,280
Business services.....	9,300	9,858	9,876	9,884	9,921	9,965	9,939	9,933	9,893	9,888	9,851	9,822	9,729	9,702	9,668
Services to buildings.....	983	994	992	994	994	995	994	998	1,002	1,007	1,007	1,007	1,009	1,013	1,009
Personnel supply services.....	3,616	3,887	3,916	3,909	3,917	3,947	3,890	3,869	3,816	3,779	3,731	3,694	3,600	3,590	3,558
Help supply services.....	3,248	3,487	3,517	3,505	3,506	3,547	3,465	3,461	3,404	3,372	3,339	3,201	3,202	3,198	3,160
Computer and data processing services.....	1,875	2,095	2,091	2,106	2,114	2,124	2,135	2,152	2,164	2,176	2,186	2,195	2,199	2,200	2,205
Auto repair services and parking.....	1,196	1,248	1,240	1,248	1,254	1,260	1,266	1,270	1,278	1,291	1,291	1,298	1,300	1,309	1,302
Miscellaneous repair services.....	372	366	365	365	366	366	366	366	365	365	365	364	364	363	361
Motion pictures.....	599	594	597	596	596	590	588	593	597	600	600	605	601	587	596
Amusement and recreation services.....	1,651	1,728	1,726	1,735	1,741	1,738	1,747	1,755	1,759	1,769	1,772	1,775	1,764	1,787	1,776
Health services.....	10,036	10,197	10,078	10,097	10,114	10,131	10,146	10,164	10,184	10,211	10,236	10,259	10,280	10,296	10,329
Offices and clinics of medical doctors.....	1,875	1,924	1,921	1,923	1,926	1,933	1,938	1,941	1,948	1,953	1,958	1,962	1,967	1,973	1,981
Nursing and personal care facilities.....	1,786	1,795	1,793	1,793	1,798	1,797	1,799	1,800	1,803	1,806	1,806	1,811	1,816	1,814	1,820
Hospitals.....	3,974	3,990	3,982	3,988	3,993	4,001	4,005	4,016	4,025	4,035	4,045	4,055	4,062	4,071	4,086
Home health care services.....	636	643	643	645	645	645	646	644	642	646	645	648	646	645	648
Legal services.....	996	1,009	1,010	1,010	1,011	1,013	1,014	1,013	1,015	1,017	1,020	1,022	1,021	1,027	1,027
Educational services.....	2,267	2,325	2,335	2,337	2,352	2,344	2,329	2,338	2,357	2,363	2,375	2,384	2,388	2,431	2,429
Social services.....	2,783	2,903	2,887	2,883	2,889	2,928	2,950	2,958	2,977	2,985	2,997	3,009	3,023	3,039	3,052
Child day care services.....	680	712	712	715	719	719	724	727	729	732	734	739	743	745	752
Residential care.....	771	806	804	807	809	813	817	820	823	827	829	831	835	835	842
Museums and botanical and zoological gardens.....	99	106	106	107	107	107	107	108	108	109	110	110	109	110	111
Membership organizations.....	2,436	2,475	2,474	2,466	2,470	2,482	2,482	2,486	2,487	2,487	2,487	2,489	2,489	2,496	2,497
Engineering and management services.....	3,256	3,419	3,421	3,423	3,440	3,455	3,467	3,478	3,490	3,496	3,504	510	3,517	3,512	3,529
Engineering and architectural services.....	957	1,017	1,018	1,022	1,026	1,030	1,034	1,035	1,040	1,046	1,050	1,052	1,053	1,057	1,060
Management and public relations.....	1,031	1,090	1,089	1,090	1,098	1,102	1,108	1,113	1,116	1,119	1,123	1,125	1,124	1,121	1,125
Government.....	20,206	20,681	20,940	20,719	20,600	20,583	20,581	20,590	20,614	20,629	20,680	20,711	20,747	20,770	20,815
Federal.....	2,669	2,777	3,101	2,820	2,653	2,623	2,622	2,620	2,613	2,613	2,615	2,613	2,615	2,612	2,601
Federal, except Postal Service.....	1,796	1,917	2,238	1,957	1,790	1,762	1,762	1,761	1,754	1,755	1,756	1,754	1,756	1,754	1,752
State.....	4,709	4,785	4,776	4,782	4,794	4,813	4,798	4,798	4,809	4,800	4,825	4,836	4,847	4,854	4,880
Education.....	1,983	2,032	2,029	2,033	2,037	2,051	2,035	2,033	2,037	2,028	2,048	2,055	2,065	2,066	2,087
Other State government.....	2,726	2,753	2,747	2,749	2,757	2,762	2,763	2,765	2,772	2,772	2,777	2,781	2,782	2,788	2,793
Local.....	12,829	13,119	13,063	13,117	13,153	13,147	13,161	13,172	13,192	13,216	13,240	13,262	13,285	13,304	13,334
Education.....	7,289	7,440	7,396	7,438	7,456	7,439	7,445	7,449	7,457	7,468	7,479	7,492	7,495	7,512	7,521
Other local government.....	5,540	5,679	5,667	5,679	5,697	5,708	5,716	5,723	5,735	5,748	5,761	5,770	5,790	5,792	5,813

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		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
PRIVATE SECTOR	34.5	34.5	34.5	34.4	34.3	34.4	34.4	34.3	34.2	34.4	34.3	34.3	34.2	34.2	34.2
GOODS-PRODUCING	41.0	41.0	41.0	41.1	40.8	40.7	40.8	40.6	40.1	40.5	40.3	40.5	40.6	40.5	40.3
MINING	43.2	43.1	43.0	43.2	43.1	43.0	43.1	43.0	42.5	43.1	43.2	43.8	44.0	43.9	43.3
MANUFACTURING	41.7	41.6	41.7	41.8	41.4	41.4	41.4	41.2	40.6	41.0	40.9	41.0	41.0	40.7	40.7
Overtime hours.....	4.6	4.6	4.6	4.7	4.5	4.4	4.5	4.3	4.1	4.2	3.9	4.1	3.9	3.9	3.9
Durable goods	42.2	42.1	42.2	42.4	41.9	41.8	41.9	41.6	41.0	41.3	41.1	41.3	41.3	41.0	40.9
Overtime hours.....	4.8	4.7	4.8	4.8	4.6	4.5	4.6	4.4	4.1	4.1	3.9	4.0	3.9	3.9	3.9
Lumber and wood products.....	41.1	41.0	41.0	41.0	40.7	40.8	40.9	40.8	40.2	39.8	40.1	40.3	40.1	40.6	40.3
Furniture and fixtures.....	40.3	40.0	40.2	40.1	39.6	39.7	39.7	39.4	38.8	39.2	39.1	39.1	39.3	38.6	38.3
Stone, clay, and glass products.....	43.4	43.1	42.8	43.2	43.0	42.9	43.2	43.0	42.3	43.0	42.8	43.7	43.2	43.9	44.1
Primary metal industries.....	44.5	44.9	45.1	45.2	44.7	44.7	44.4	44.4	43.5	43.8	43.2	43.4	44.3	43.5	43.8
Blast furnaces and basic steel products.....	45.2	46.0	46.5	46.2	45.9	45.8	45.1	45.2	44.7	44.7	44.4	44.4	45.4	44.6	45.1
Fabricated metal products.....	42.4	42.6	42.7	43.0	42.3	42.2	42.2	42.1	41.3	41.7	41.7	41.9	42.0	41.4	41.1
Industrial machinery and equipment.....	42.1	42.2	42.3	42.5	42.1	41.9	42.0	41.7	41.1	41.5	41.0	41.2	41.3	40.7	40.4
Electronic and other electrical equipment.....	41.2	41.1	41.2	41.5	40.5	40.7	40.7	40.5	40.3	40.3	40.3	40.1	39.8	39.1	39.3
Transportation equipment.....	43.8	43.4	43.6	43.7	43.2	42.9	43.0	42.5	41.5	42.0	42.0	42.0	42.4	42.4	41.9
Motor vehicles and equipment.....	45.0	44.4	44.7	44.5	44.3	43.8	43.9	43.2	41.5	42.1	42.0	42.3	43.3	43.6	42.9
Instruments and related products.....	41.3	41.3	41.5	41.6	40.9	41.1	41.2	41.2	40.7	41.0	41.1	41.0	41.0	41.0	40.8
Miscellaneous manufacturing.....	39.8	39.0	39.0	39.3	38.7	38.5	38.6	38.4	38.1	38.3	38.2	38.2	38.2	37.9	38.4
Nondurable goods	40.9	40.8	40.8	41.0	40.7	40.7	40.6	40.5	40.1	40.6	40.4	40.5	40.5	40.3	40.3
Overtime hours.....	4.4	4.4	4.4	4.5	4.4	4.3	4.3	4.2	4.1	4.3	4.0	4.1	3.9	4.0	3.9
Food and kindred products.....	41.8	41.7	41.9	41.8	41.8	41.6	41.5	41.4	40.9	41.3	41.1	41.2	41.3	41.1	41.2
Textile mill products.....	40.9	41.2	41.1	41.6	40.8	40.8	40.6	40.5	40.7	40.4	40.5	40.3	40.3	40.3	40.5
Apparel and other textile products.....	37.5	37.8	37.9	38.1	37.7	37.6	37.5	37.6	37.2	37.6	37.6	37.5	38.0	37.8	37.5
Paper and allied products.....	43.4	42.5	42.6	42.6	42.5	42.4	42.3	42.2	41.7	41.9	41.7	41.8	42.0	41.6	41.7
Printing and publishing.....	38.1	38.3	38.4	38.4	38.1	38.2	38.2	38.2	37.0	38.4	38.4	38.6	38.2	38.0	38.0
Chemicals and allied products.....	43.0	42.5	42.4	42.7	42.3	42.4	42.3	42.1	42.1	42.6	42.3	42.3	42.6	42.4	42.3
Rubber and miscellaneous plastics products.....	41.7	41.4	41.3	41.5	41.3	41.3	41.2	41.0	40.4	41.0	40.9	41.0	40.8	40.6	40.7
Leather and leather products.....	37.4	37.5	37.4	37.6	37.4	37.3	37.4	37.3	36.8	36.9	36.4	36.1	36.6	35.9	36.2
SERVICE-PRODUCING	32.8	32.8	32.8	32.8	32.7	32.8	32.8	32.8	32.7	32.9	32.8	32.8	32.7	32.7	32.8
TRANSPORTATION AND PUBLIC UTILITIES	38.7	38.6	38.5	38.5	38.4	38.5	38.6	38.6	38.7	38.7	38.5	38.3	38.1	38.1	38.1
WHOLESALE TRADE	38.3	38.5	38.5	38.5	38.3	38.4	38.4	38.4	38.3	38.3	38.1	38.3	38.2	38.2	38.2
RETAIL TRADE	29.0	28.9	28.9	28.9	28.9	28.8	28.9	28.9	28.7	29.1	28.9	28.8	28.8	28.8	28.7

^P = preliminary.

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

14. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry, seasonally adjusted

Industry	Annual average		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
PRIVATE SECTOR (in current dollars)..	\$13.24	\$13.75	\$13.72	\$13.75	\$13.80	\$13.84	\$13.90	\$13.97	\$14.03	\$14.03	\$14.11	\$14.17	\$14.21	\$14.24	\$14.31
Goods-producing.....	14.83	15.40	15.35	15.38	15.45	15.47	15.57	15.63	15.65	15.67	15.74	15.79	15.78	15.86	15.91
Mining.....	17.05	17.24	17.29	17.29	17.25	17.24	17.30	17.38	17.43	17.49	17.52	17.55	17.53	17.54	17.76
Construction.....	17.19	17.88	17.80	17.86	17.93	17.97	18.02	18.16	18.17	18.28	18.30	18.33	18.15	18.22	18.29
Manufacturing.....	13.90	14.38	14.35	14.37	14.43	14.44	14.54	14.57	14.58	14.54	14.63	14.66	14.72	14.78	14.81
Excluding overtime.....	13.17	13.62	13.60	13.62	13.69	13.73	13.80	13.84	13.88	13.83	13.94	13.96	14.04	14.09	14.13
Service-producing.....	12.73	13.24	13.22	13.24	13.29	13.34	13.39	13.46	13.53	13.54	13.62	13.68	13.73	13.76	13.84
Transportation and public utilities.....	15.69	16.22	16.26	16.18	16.27	16.31	16.39	16.42	16.50	16.51	16.64	16.68	16.74	16.76	16.89
Wholesale trade.....	14.59	15.20	15.21	15.24	15.25	15.33	15.37	15.44	15.55	15.53	15.60	15.68	15.74	15.70	15.84
Retail trade.....	9.09	9.46	9.44	9.47	9.50	9.54	9.57	9.61	9.65	9.64	9.69	9.72	9.74	9.79	9.84
Finance, insurance, and real estate....	14.62	15.07	15.04	15.07	15.13	15.19	15.20	15.28	15.35	15.44	15.55	15.61	15.64	15.74	15.84
Services.....	13.37	13.91	13.87	13.92	13.97	14.01	14.07	14.16	14.23	14.25	14.35	14.40	14.48	14.49	14.55
PRIVATE SECTOR (in constant (1982) dollars).....	7.86	7.89	7.87	7.87	7.90	7.88	7.90	7.92	7.94	7.90	7.92	7.95	7.94	7.93	7.95

^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		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May. ^P	June ^P
PRIVATE SECTOR	\$13.24	\$13.75	\$13.63	\$13.69	\$13.68	\$13.89	\$13.97	\$13.99	\$14.04	\$14.10	\$14.16	\$14.19	\$14.27	\$14.22	\$14.22
MINING	17.05	17.24	17.15	17.21	17.13	17.16	17.28	17.32	17.54	17.67	17.61	17.57	17.60	17.49	17.62
CONSTRUCTION	17.19	17.88	17.73	17.92	18.05	18.17	18.22	18.20	18.23	18.17	18.16	18.30	18.07	18.17	18.22
MANUFACTURING	13.90	14.38	14.33	14.35	14.36	14.51	14.53	14.60	14.67	14.59	14.61	14.65	14.74	14.75	14.79
Durable goods	14.36	14.82	14.76	14.74	14.81	14.96	14.99	15.05	15.11	14.98	15.03	15.09	15.14	15.19	15.24
Lumber and wood products.....	11.51	11.93	11.93	11.99	12.01	12.07	12.09	12.07	12.12	12.13	12.08	12.08	12.13	12.16	12.19
Furniture and fixtures.....	11.29	11.73	11.70	11.76	11.83	11.88	11.86	11.90	11.93	11.92	12.03	12.04	12.07	12.09	12.15
Stone, clay, and glass products.....	13.97	14.53	14.47	14.58	14.65	14.77	14.75	14.76	14.72	14.65	14.68	14.79	14.96	15.03	15.14
Primary metal industries.....	15.80	16.42	16.46	16.67	16.49	16.54	16.48	16.58	16.65	16.66	16.58	16.63	16.90	16.82	16.96
Blast furnaces and basic steel products.....	18.84	19.82	20.00	20.35	19.97	19.83	19.84	19.71	19.88	20.16	20.05	20.00	20.37	20.26	20.42
Fabricated metal products.....	13.50	13.87	13.82	13.83	13.85	13.99	14.01	14.03	14.09	13.99	14.03	14.08	14.11	14.23	14.26
Industrial machinery and equipment... Electronic and other electrical equipment.....	15.03	15.55	15.49	15.57	15.61	15.69	15.66	15.67	15.81	15.73	15.74	15.77	15.74	15.79	15.81
Transportation equipment.....	13.43	13.80	13.66	13.77	13.76	13.91	14.00	14.04	14.17	14.07	14.16	14.26	14.39	14.38	14.49
Motor vehicles and equipment.....	17.79	18.45	18.40	18.02	18.37	18.77	18.88	19.05	19.00	18.57	18.68	18.76	18.77	18.83	18.90
Instruments and related products.....	18.10	18.79	18.81	18.22	18.68	19.12	19.26	19.43	19.31	18.77	18.91	19.02	19.13	19.18	19.25
Miscellaneous manufacturing.....	14.08	14.43	14.30	14.46	14.44	14.58	14.62	14.64	14.80	14.64	14.60	14.73	14.80	14.75	14.81
Miscellaneous manufacturing.....	11.26	11.63	11.55	11.57	11.56	11.66	11.75	11.82	11.94	11.98	11.98	12.05	12.04	12.10	12.05
Nondurable goods	13.21	13.69	13.65	13.75	13.68	13.80	13.81	13.89	13.97	12.97	13.97	13.97	14.12	14.07	14.12
Food and kindred products.....	12.11	12.50	12.51	12.54	12.49	12.59	12.59	12.69	12.71	12.70	12.65	12.68	12.79	12.83	12.87
Tobacco products.....	19.87	21.57	22.52	22.90	22.60	22.13	22.47	21.85	21.76	21.34	21.49	22.63	22.59	23.01	23.21
Textile mill products.....	10.81	11.16	11.13	11.18	11.21	11.30	11.23	11.27	11.27	11.32	11.27	11.31	11.30	11.29	11.32
Apparel and other textile products.....	8.92	9.30	9.33	9.29	9.29	9.36	9.37	9.33	9.37	9.39	9.36	9.46	9.44	9.39	9.44
Paper and allied products.....	15.88	16.25	16.21	16.36	16.27	16.37	16.43	16.50	16.61	16.53	16.54	16.56	16.74	16.72	16.90
Printing and publishing.....	13.96	14.40	14.33	14.41	14.39	14.56	14.50	14.56	14.66	14.59	14.64	14.69	14.75	14.75	14.76
Chemicals and allied products.....	17.42	18.15	18.10	18.33	18.21	18.32	18.27	18.35	18.47	18.34	18.41	18.33	18.64	18.52	18.55
Petroleum and coal products.....	21.43	22.00	21.83	21.93	21.78	22.06	22.14	22.23	22.31	22.10	22.21	21.83	22.09	21.83	21.79
Rubber and miscellaneous plastics products.....	12.40	12.85	12.79	12.88	12.87	12.96	12.98	13.10	13.20	13.24	13.31	13.19	13.33	13.30	13.30
Leather and leather products.....	9.71	10.18	10.11	10.13	10.24	10.31	10.33	10.32	10.37	10.51	10.35	10.46	10.37	10.26	10.35
TRANSPORTATION AND PUBLIC UTILITIES	15.69	16.22	16.18	16.19	16.22	16.31	16.38	16.43	16.53	16.56	16.68	16.65	16.78	16.70	16.81
WHOLESALE TRADE	14.59	15.20	15.12	15.27	15.19	15.33	15.45	15.45	15.58	15.56	15.62	15.58	15.86	15.66	15.75
RETAIL TRADE	9.09	9.46	9.39	9.40	9.41	9.58	9.59	9.61	9.65	9.69	9.72	9.74	9.78	9.78	9.78
FINANCE, INSURANCE, AND REAL ESTATE	14.62	15.07	14.93	15.01	14.99	15.11	15.24	15.25	15.32	15.45	15.63	15.67	15.81	15.74	15.73
SERVICES	13.37	13.91	13.72	13.78	13.74	14.00	14.11	14.20	14.33	14.39	14.47	14.48	14.58	14.46	14.40

^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		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
PRIVATE SECTOR															
Current dollars.....	\$456.78	\$474.38	\$471.60	\$477.78	\$474.70	\$479.21	\$484.76	\$479.86	\$480.17	\$477.99	\$481.44	\$482.46	\$486.61	\$484.90	\$489.17
Seasonally adjusted.....	—	—	473.34	473.00	473.34	476.10	478.16	479.17	479.83	482.63	483.97	486.03	485.98	487.01	489.40
Constant (1982) dollars.....	271.25	272.16	270.10	273.33	271.72	272.43	275.28	272.03	272.51	269.74	270.62	270.89	271.70	269.39	271.46
MINING	736.56	743.04	742.60	748.64	746.87	751.61	756.86	743.03	747.20	750.98	751.95	757.27	765.60	769.56	769.99
CONSTRUCTION	672.13	702.68	700.34	716.80	725.61	728.62	732.44	704.34	694.56	692.28	682.82	702.52	695.70	728.62	726.98
MANUFACTURING															
Current dollars.....	579.63	598.21	598.99	592.66	594.50	606.52	604.45	607.36	607.34	596.73	591.71	597.72	588.13	600.33	603.43
Constant (1982) dollars.....	344.20	343.21	343.06	339.05	340.30	344.81	343.24	344.31	344.69	336.76	332.61	335.61	328.38	333.52	334.87
Durable goods															
Durable goods	605.99	623.92	625.82	614.66	620.54	632.81	631.08	633.61	630.09	615.68	613.22	620.20	607.11	624.31	626.36
Lumber and wood products.....	473.06	489.13	495.10	489.19	494.02	496.08	499.32	494.87	486.01	477.92	473.54	483.20	483.99	497.34	497.35
Furniture and fixtures.....	454.99	469.20	472.68	466.87	473.20	481.14	474.40	474.81	476.01	464.88	461.95	467.15	457.45	462.22	467.78
Stone, clay, and glass products.....	606.30	626.24	623.66	634.23	641.67	646.93	647.53	637.63	624.13	613.84	610.69	631.53	638.79	665.83	672.22
Primary metal industries.....	703.10	737.26	742.35	741.82	733.81	742.65	731.71	746.10	735.93	731.37	716.26	718.42	730.08	731.67	742.85
Blast furnaces and basic steel products.....	851.57	911.72	930.00	944.24	916.62	908.21	890.82	902.72	890.62	901.15	882.20	884.00	920.72	899.54	920.94
Fabricated metal products.....	572.40	590.86	594.26	583.63	585.86	598.77	596.83	597.68	596.01	581.98	580.84	585.73	567.22	589.12	588.94
Industrial machinery and equipment.....	632.76	656.21	655.23	653.94	652.50	658.98	656.15	658.14	662.44	655.94	648.49	651.30	628.03	644.23	640.31
Electronic and other electrical equipment.....	553.32	567.18	562.79	561.82	558.66	573.09	575.00	575.64	585.22	567.02	566.40	568.97	554.02	559.38	569.46
Transportation equipment.....	779.20	800.73	807.76	758.64	789.91	822.13	819.39	821.06	807.50	772.51	775.22	789.80	765.82	804.04	799.47
Motor vehicles and equipment.....	814.50	834.28	852.09	772.53	823.79	860.40	857.07	852.98	826.47	778.96	786.66	808.35	791.98	840.08	837.38
Instruments and related products.....	581.50	595.96	592.02	595.75	587.71	597.78	602.34	607.56	621.72	603.17	605.90	605.40	594.96	602.48	602.77
Miscellaneous manufacturing....	488.15	453.57	450.45	446.60	448.53	455.91	457.08	457.43	460.88	454.04	454.04	461.52	450.30	458.59	462.72
Nondurable goods	540.29	558.55	556.92	559.63	556.78	567.18	564.83	569.49	569.98	565.79	560.20	561.59	559.15	564.21	569.04
Food and kindred products.....	506.20	521.25	522.92	524.17	525.83	535.08	528.78	534.25	528.74	520.70	509.80	513.54	510.32	522.18	528.96
Tobacco products.....	763.01	877.90	939.08	964.09	942.42	927.25	878.12	895.85	892.16	832.26	831.66	893.89	885.53	906.59	956.25
Textile mill products.....	442.13	459.79	459.67	458.38	458.49	465.56	457.06	460.94	462.07	459.59	449.67	458.06	444.09	454.99	459.59
Apparel and other textile products.....	334.50	351.54	356.41	349.30	351.16	352.87	352.31	352.67	353.25	349.31	352.87	355.70	346.45	355.88	356.83
Paper and allied products.....	689.19	690.63	687.30	693.66	688.22	699.00	699.92	706.20	705.93	697.57	683.10	687.24	688.01	690.54	701.35
Printing and publishing.....	531.88	551.52	547.41	550.46	549.70	562.02	558.25	564.93	564.41	555.88	557.78	565.57	554.60	556.08	557.93
Chemicals and allied products..	749.06	771.38	767.44	775.36	766.64	776.77	772.82	778.04	788.67	781.28	778.74	773.53	790.34	783.40	780.96
Petroleum and coal products....	908.63	932.80	910.31	925.45	886.45	930.93	952.02	955.89	952.64	987.87	957.25	936.51	965.33	910.31	932.61
Rubber and miscellaneous plastics products.....	517.08	531.99	530.79	525.50	528.96	540.43	537.37	539.72	543.84	544.16	543.05	538.15	529.20	539.98	543.97
Leather and leather products....	363.15	381.75	383.17	375.82	389.12	390.75	389.44	390.10	382.65	384.67	373.64	375.51	369.17	370.39	379.85
TRANSPORTATION AND PUBLIC UTILITIES	607.20	626.09	622.93	634.65	627.71	631.20	638.82	632.56	638.06	632.59	637.18	362.70	641.00	632.93	642.14
WHOLESALE TRADE	558.80	585.20	582.12	592.48	581.78	588.67	597.92	593.28	596.71	589.72	590.44	592.04	607.44	598.59	601.65
RETAIL TRADE	263.61	273.39	275.13	280.12	277.60	275.90	277.15	274.85	278.89	273.26	276.05	276.62	281.66	280.69	284.60
FINANCE, INSURANCE, AND REAL ESTATE	529.24	547.04	540.47	550.87	539.64	545.47	557.78	549.00	553.05	556.20	567.37	564.12	580.23	565.78	569.43
SERVICES	435.86	454.86	448.64	456.12	452.05	455.00	464.22	462.92	467.16	464.80	471.72	472.05	476.77	469.95	472.32

^P = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision. Dash indicates data not available

17. Diffusion indexes of employment change, seasonally adjusted

[In percent]

Timespan and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Private nonfarm payrolls, 356 industries												
Over 1-month span:												
1998.....	63.2	56.2	59.3	60.2	58.9	57.1	55.4	58.4	54.8	55.0	58.2	56.4
1999.....	55.1	59.6	52.8	57.2	58.2	54.2	57.1	54.4	55.2	57.9	59.9	56.8
2000.....	55.7	59.3	61.0	54.2	47.7	60.5	57.8	55.1	52.0	54.8	55.1	54.2
2001.....	53.7	50.4	55.8	45.0	46.0	44.9	-	-	-	-	-	-
Over 3-month span:												
1998.....	65.3	66.1	64.6	65.7	62.2	57.9	57.5	58.4	59.1	59.2	59.3	59.2
1999.....	60.8	57.8	58.5	55.8	58.1	57.9	57.2	59.2	59.8	59.1	61.0	60.6
2000.....	61.6	63.3	61.9	56.2	55.1	57.9	61.5	56.4	54.1	53.3	55.7	53.3
2001.....	51.7	54.1	48.6	49.2	43.1	44.6	-	-	-	-	-	-
Over 6-month span:												
1998.....	70.4	67.4	65.0	62.5	63.6	60.5	59.2	58.6	57.9	59.6	60.6	59.9
1999.....	59.8	59.8	58.2	60.3	56.7	59.2	61.8	60.8	62.2	61.2	62.3	64.9
2000.....	63.5	60.6	62.6	63.7	61.5	55.5	56.1	58.6	54.2	54.8	51.8	54.2
2001.....	52.0	50.6	48.0	46.6	-	-	-	-	-	-	-	-
Over 12-month span:												
1998.....	69.7	67.6	67.4	66.0	64.0	62.7	61.9	62.0	60.9	59.3	60.8	58.8
1999.....	61.2	60.2	58.2	60.8	60.8	61.6	62.2	61.3	63.9	63.0	61.3	60.9
2000.....	62.5	63.0	61.8	59.5	58.4	56.8	55.7	56.5	54.2	53.4	53.0	51.8
2001.....	50.0	-	-	-	-	-	-	-	-	-	-	-
Manufacturing payrolls, 139 industries												
Over 1-month span:												
1998.....	57.4	51.5	53.7	53.3	43.8	48.2	38.2	51.5	41.9	41.5	41.2	43.4
1999.....	46.9	44.5	43.0	42.3	50.4	39.3	51.5	39.3	45.2	46.3	53.3	46.7
2000.....	44.9	56.6	55.5	46.7	41.2	54.8	53.7	38.6	34.6	41.5	43.8	44.1
2001.....	37.9	32.4	41.5	31.3	29.4	33.1	-	-	-	-	-	-
Over 3-month span:												
1998.....	59.6	59.6	55.9	50.4	46.7	37.9	41.5	41.5	41.9	38.2	36.8	40.8
1999.....	41.2	39.0	38.2	41.8	40.8	45.2	39.0	45.2	40.8	44.9	46.3	46.0
2000.....	50.0	54.0	52.9	42.3	43.0	48.5	48.2	33.6	28.7	30.5	39.0	35.7
2001.....	28.3	29.4	24.6	26.5	22.1	26.1	-	-	-	-	-	-
Over 6-month span:												
1998.....	63.2	54.4	50.4	40.4	44.5	40.1	37.5	36.4	34.9	40.1	37.1	34.2
1999.....	36.0	38.2	37.5	41.2	36.8	39.7	43.0	41.5	46.0	40.4	46.3	51.5
2000.....	51.5	44.5	48.5	55.1	43.8	34.9	33.5	34.6	30.1	29.4	25.0	27.9
2001.....	26.8	25.4	19.9	21.0	-	-	-	-	-	-	-	-
Over 12-month span:												
1998.....	54.8	52.2	51.8	46.7	40.4	40.1	38.2	37.5	36.4	34.6	35.7	34.2
1999.....	38.6	34.6	32.4	36.0	37.9	39.0	40.1	40.4	44.5	46.0	44.9	44.5
2000.....	46.3	45.2	41.2	37.9	33.8	31.3	31.3	31.3	27.6	25.4	24.3	21.3
2001.....	20.6	-	-	-	-	-	-	-	-	-	-	-

Dash indicates 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	1992	1993	1994	1995	1996	1997	1998	1999	2000
Civilian noninstitutional population.....	192,805	194,838	196,814	198,584	200,591	203,133	205,220	207,753	209,699
Civilian labor force.....	128,105	129,200	131,056	132,304	133,943	136,297	137,673	139,368	140,863
Labor force participation rate.....	66.4	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.2
Employed.....	118,492	120,259	123,060	124,900	126,708	129,558	131,463	133,488	135,208
Employment-population ratio.....	61.5	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.5
Agriculture.....	3,247	3,115	3,409	3,440	3,443	3,399	3,378	3,281	3,305
Nonagricultural industries.....	115,245	117,144	119,651	121,460	123,264	126,159	128,085	130,207	131,903
Unemployed.....	9,613	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,655
Unemployment rate.....	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0
Not in the labor force.....	64,700	65,638	65,758	66,280	66,647	66,837	67,547	68,385	68,836

19. Annual data: Employment levels by industry

[In thousands]

Industry	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total employment.....	108,601	110,713	114,163	117,191	119,608	122,690	125,865	128,916	131,759
Private sector.....	89,956	91,872	95,036	97,885	100,189	103,133	106,042	108,709	111,079
Goods-producing.....	23,231	23,352	23,908	24,265	24,493	24,962	25,414	25,507	25,709
Mining.....	635	610	601	581	580	596	590	539	543
Construction.....	4,492	4,668	4,986	5,160	5,418	5,691	6,020	6,415	6,698
Manufacturing.....	18,104	18,075	18,321	18,524	18,495	18,675	18,805	18,552	18,469
Service-producing.....	85,370	87,361	90,256	92,925	95,115	97,727	100,451	103,409	106,050
Transportation and public utilities.....	5,718	5,811	5,984	6,132	6,253	6,408	6,611	6,834	7,019
Wholesale trade.....	5,997	5,981	6,162	6,378	6,482	6,648	6,800	6,911	7,024
Retail trade.....	19,356	19,773	20,507	21,187	21,597	21,966	22,295	22,848	23,307
Finance, insurance, and real estate....	6,602	6,757	6,896	6,806	6,911	7,109	7,389	7,555	7,560
Services.....	29,052	30,197	31,579	33,117	34,454	36,040	37,533	39,055	40,460
Government.....	18,645	18,841	19,128	19,305	19,419	19,557	19,823	20,206	20,681
Federal.....	2,969	2,915	2,870	2,822	2,757	2,699	2,686	2,669	2,777
State.....	4,408	4,488	4,576	4,635	4,606	4,582	4,612	4,709	4,785
Local.....	11,267	11,438	11,682	11,849	12,056	12,276	12,525	12,829	13,119

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	1992	1993	1994	1995	1996	1997	1998	1999	2000
Private sector:									
Average weekly hours.....	34.4	34.5	34.7	34.5	34.4	34.6	34.6	34.5	34.5
Average hourly earnings (in dollars).....	10.57	10.83	11.12	11.43	11.82	12.28	12.78	13.24	13.75
Average weekly earnings (in dollars).....	363.61	373.64	385.86	394.34	406.61	424.89	442.19	456.78	474.38
Mining:									
Average weekly hours.....	43.9	44.3	44.8	44.7	45.3	45.4	43.9	43.2	43.1
Average hourly earnings (in dollars).....	14.54	14.60	14.88	15.30	15.62	16.15	16.91	17.05	17.24
Average weekly earnings (in dollars).....	638.31	646.78	666.62	683.91	707.59	733.21	742.35	736.56	743.04
Construction:									
Average weekly hours.....	38.0	38.5	38.9	38.9	39.0	39.0	38.9	39.1	39.3
Average hourly earnings (in dollars).....	14.15	14.38	14.73	15.09	15.47	16.04	16.61	17.19	17.88
Average weekly earnings (in dollars).....	537.70	553.63	573.00	587.00	603.33	625.56	646.13	672.13	702.68
Manufacturing:									
Average weekly hours.....	41.0	41.4	42.0	41.6	41.6	42.0	41.7	41.7	41.6
Average hourly earnings (in dollars).....	11.46	11.74	12.07	12.37	12.77	13.17	13.49	13.90	14.38
Average weekly earnings (in dollars).....	469.86	486.04	506.94	514.59	531.23	553.14	562.53	579.63	598.21
Transportation and public utilities:									
Average weekly hours.....	38.3	39.3	39.7	39.4	39.6	39.7	39.5	38.7	38.6
Average hourly earnings (in dollars).....	13.43	13.55	13.78	14.13	14.45	14.92	15.31	15.69	16.22
Average weekly earnings (in dollars).....	514.37	532.52	547.07	556.72	572.22	592.32	604.75	607.20	626.09
Wholesale trade:									
Average weekly hours.....	38.2	38.2	38.4	38.3	38.3	38.4	38.3	38.3	38.5
Average hourly earnings (in dollars).....	11.39	11.74	12.06	12.43	12.87	13.45	14.07	14.58	15.20
Average weekly earnings (in dollars).....	435.10	448.47	463.10	476.07	492.92	516.48	538.88	558.80	585.20
Retail trade:									
Average weekly hours.....	28.8	28.8	28.9	28.8	28.8	28.9	29.0	29.0	28.9
Average hourly earnings (in dollars).....	7.12	7.29	7.49	7.69	7.99	8.33	8.74	9.09	9.46
Average weekly earnings (in dollars).....	205.06	209.95	216.46	221.47	230.11	240.74	253.46	263.61	273.39
Finance, insurance, and real estate:									
Average weekly hours.....	35.8	35.8	35.8	35.9	35.9	36.1	36.4	36.2	36.3
Average hourly earnings (in dollars).....	10.82	11.35	11.83	12.32	12.80	13.34	14.07	14.62	15.07
Average weekly earnings (in dollars).....	387.36	406.33	423.51	442.29	459.52	481.57	512.15	529.24	547.04
Services:									
Average weekly hours.....	32.5	32.5	32.5	32.4	32.4	32.6	32.6	32.6	32.7
Average hourly earnings (in dollars).....	10.54	10.78	11.04	11.39	11.79	12.28	12.84	13.37	13.91
Average weekly earnings (in dollars).....	342.55	350.35	358.80	369.04	382.00	400.33	418.58	435.86	454.86

21. Employment Cost Index, compensation,¹ by occupation and industry group

[June 1989 = 100]

Series	1999			2000			2001		Percent change		
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 2001	
Civilian workers²	141.8	143.3	144.6	146.5	148.0	149.5	150.6	152.5	153.8	0.9	3.9
Workers, by occupational group:											
White-collar workers.....	143.3	145.0	146.3	148.4	149.9	151.5	152.5	154.4	156.0	1.0	4.1
Professional specialty and technical.....	142.2	143.9	145.3	146.7	148.3	150.0	151.3	153.2	154.3	.7	4.0
Executive, administrative, and managerial.....	145.4	147.3	148.6	150.5	151.9	153.7	154.6	156.6	158.6	1.3	4.4
Administrative support, including clerical.....	143.4	144.7	146.1	148.6	150.1	151.8	152.8	155.3	156.8	1.0	4.5
Blue-collar workers.....	138.3	139.5	140.6	142.7	144.1	145.6	146.5	148.2	149.3	.7	3.6
Service occupations.....	142.4	143.1	144.8	146.0	147.1	148.5	150.0	152.0	153.3	.9	4.2
Workers, by industry division:											
Goods-producing.....	140.0	141.2	142.5	144.9	146.6	148.0	148.8	150.7	152.2	1.0	3.8
Manufacturing.....	140.9	142.1	143.6	146.0	147.5	148.7	149.3	151.3	151.4	.9	3.5
Service-producing.....	142.4	144.0	145.3	147.1	148.4	150.1	151.1	153.0	155.4	.9	4.0
Services.....	143.2	145.1	146.5	148.0	149.3	151.2	152.4	154.3	154.6	.7	4.1
Health services.....	141.4	142.7	144.3	145.9	147.5	149.0	150.7	152.5	155.6	1.4	4.8
Hospitals.....	142.2	143.4	145.0	146.3	147.7	149.5	151.3	153.2	152.2	1.6	5.3
Educational services.....	141.7	144.6	145.8	146.5	146.8	149.7	150.6	151.7	151.9	.3	3.7
Public administration ³	141.5	142.4	144.4	145.7	146.9	148.3	150.6	150.6	154.0	.9	4.0
Nonmanufacturing.....	141.9	143.4	144.7	146.6	148.0	149.6	150.7	152.6	154.0	.9	4.1
Private industry workers.....	142.0	143.3	144.6	146.8	148.5	149.9	150.9	153.0	154.5	1.0	4.0
Excluding sales occupations.....	141.9	143.2	144.5	146.5	148.2	149.8	150.9	153.0	154.4	.9	4.2
Workers, by occupational group:											
White-collar workers.....	144.1	145.6	146.9	149.3	151.1	152.6	153.6	155.7	157.4	1.1	4.2
Excluding sales occupations.....	144.5	146.0	147.3	149.4	151.3	152.9	154.1	156.5	158.1	1.0	4.5
Professional specialty and technical occupations.....	144.1	145.2	146.7	148.4	150.7	152.2	153.7	156.3	157.5	.8	4.5
Executive, administrative, and managerial occupations.....	145.8	147.7	149.1	151.1	152.7	154.4	155.3	157.3	159.4	1.3	4.4
Sales occupations.....	142.6	144.1	145.3	148.9	150.3	151.2	151.4	152.3	154.5	1.4	2.8
Administrative support occupations, including clerical.....	143.7	145.0	146.2	149.0	150.6	152.3	153.4	156.1	157.7	1.0	4.7
Blue-collar workers.....	138.2	139.4	140.5	142.6	144.1	145.5	146.4	148.2	149.3	.7	3.6
Precision production, craft, and repair occupations.....	138.4	139.6	140.6	142.3	144.1	145.8	146.7	148.7	149.7	.7	3.9
Machine operators, assemblers, and inspectors.....	138.4	139.9	141.4	144.0	145.0	146.0	146.8	148.3	149.1	.5	2.8
Transportation and material moving occupations.....	133.6	134.4	135.2	137.5	138.6	139.9	141.1	142.6	143.9	.9	3.8
Handlers, equipment cleaners, helpers, and laborers.....	142.3	143.2	144.4	146.4	148.1	149.4	150.4	152.2	153.4	.8	3.6
Service occupations.....	140.6	141.0	142.6	143.9	145.4	146.6	148.1	150.0	151.3	.9	4.1
Production and nonsupervisory occupations ⁴	140.8	141.9	143.1	145.3	146.9	148.4	149.5	151.4	152.7	.9	3.9
Workers, by industry division:											
Goods-producing.....	139.9	141.1	142.5	144.8	146.6	147.9	148.8	150.7	152.1	.9	3.8
Excluding sales occupations.....	139.3	140.5	141.8	144.2	145.9	147.2	148.2	150.1	151.5	.9	3.8
White-collar occupations.....	142.7	143.9	145.5	148.1	150.1	151.3	151.9	154.5	156.5	1.3	4.3
Excluding sales occupations.....	141.3	142.5	143.9	146.5	148.4	149.6	150.5	153.0	155.0	1.3	4.4
Blue-collar occupations.....	138.3	139.4	140.7	142.8	144.4	145.8	146.8	148.2	149.2	.7	3.4
Construction.....	136.9	137.9	138.7	140.8	143.2	145.1	146.7	148.2	150.3	1.4	5.0
Manufacturing.....	140.9	142.1	143.6	146.0	147.5	148.7	149.3	151.3	152.6	.9	3.5
White-collar occupations.....	143.0	144.3	145.8	148.2	150.2	151.4	151.5	154.2	156.0	1.2	3.9
Excluding sales occupations.....	141.3	142.5	143.8	146.2	148.2	149.3	149.7	152.2	154.0	1.2	3.9
Blue-collar occupations.....	139.4	140.5	142.1	144.4	145.6	146.7	147.8	149.1	150.0	.6	3.0
Durables.....	141.0	142.3	144.0	146.5	148.3	149.4	150.1	151.8	153.1	.9	3.2
Nondurables.....	140.4	141.5	142.8	144.9	146.0	147.5	147.7	150.4	151.6	.8	3.8
Service-producing.....	142.8	144.1	145.3	147.4	149.1	150.6	151.7	153.8	155.3	1.0	4.2
Excluding sales occupations.....	143.3	144.6	145.9	147.7	149.4	151.1	152.2	154.6	156.0	.9	4.4
White-collar occupations.....	144.3	145.8	147.0	149.3	151.0	152.6	153.7	155.8	157.4	1.0	4.2
Excluding sales occupations.....	145.5	147.0	148.3	150.3	152.1	153.9	155.1	157.5	159.1	1.0	4.6
Blue-collar occupations.....	137.8	139.1	139.8	141.8	143.1	144.5	145.3	147.7	148.7	.7	3.9
Service occupations.....	140.5	140.8	142.4	143.6	145.1	146.3	147.9	149.6	150.8	.8	3.9
Transportation and public utilities.....	140.9	141.8	142.3	143.9	145.7	147.4	148.3	150.5	152.4	1.3	4.6
Transportation.....	138.1	138.7	139.5	140.4	141.8	142.8	143.9	145.4	146.9	1.0	3.6
Public utilities.....	144.6	145.7	146.1	148.6	150.9	153.5	154.1	157.3	159.8	1.6	5.9
Communications.....	144.9	146.1	146.0	148.4	150.9	153.9	154.7	158.3	161.1	1.8	6.8
Electric, gas, and sanitary services.....	144.2	145.1	146.1	148.9	151.0	152.9	153.4	156.0	158.1	.3	4.7
Wholesale and retail trade.....	141.1	142.2	143.5	145.6	147.3	148.3	149.4	151.0	152.6	1.1	3.6
Excluding sales occupations.....	141.9	142.8	144.3	146.4	148.1	149.6	150.6	152.6	153.9	.9	3.9
Wholesale trade.....	144.6	146.3	148.5	150.0	151.8	152.1	154.4	155.1	157.8	1.7	4.0
Excluding sales occupations.....	144.0	145.8	147.4	149.6	151.1	152.7	154.9	156.9	158.5	1.0	4.9
Retail trade.....	139.1	140.0	140.7	143.2	144.8	146.2	146.6	148.7	149.7	.7	3.4
General merchandise stores.....	135.6	137.2	138.3	139.7	141.0	142.2	144.4	147.3	149.4	1.4	6.0
Food stores.....	135.7	137.0	138.1	140.1	142.5	143.4	144.5	146.1	148.2	1.4	4.0

See footnotes at end of table.

21. Continued—Employment Cost Index, compensation,¹ by occupation and industry group

[June 1989 = 100]

Series	1999			2000				2001		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3	12
										months	months
										ended	ended
										June 2001	
Finance, insurance, and real estate.....	145.8	147.6	148.3	152.0	153.1	155.2	155.7	157.9	159.5	1.0	4.2
Excluding sales occupations.....	148.8	151.0	151.6	154.2	155.5	157.4	158.4	161.2	163.1	1.2	4.9
Banking, savings and loan, and other credit agencies.....	155.4	159.3	159.8	162.7	164.2	165.8	166.5	170.8	172.7	1.1	5.2
Insurance.....	144.0	144.5	145.8	149.9	151.3	154.8	155.2	157.6	159.3	1.1	5.3
Services.....	144.6	146.1	147.6	149.4	151.2	152.9	154.1	156.5	157.8	.8	4.4
Business services.....	148.7	150.7	151.9	154.2	156.3	157.5	158.4	160.5	163.0	1.6	4.3
Health services.....	141.4	142.6	144.2	145.8	147.5	149.0	150.6	152.7	154.7	1.3	4.9
Hospitals.....	142.1	143.0	144.6	145.8	147.5	149.2	151.1	153.5	155.9	1.6	5.7
Educational services.....	148.7	152.2	153.0	154.0	154.9	158.8	159.9	162.3	162.6	.2	5.0
Colleges and universities.....	149.6	152.6	153.3	154.6	155.5	158.6	159.2	162.2	162.6	.2	4.6
Nonmanufacturing.....	142.0	143.4	144.5	146.7	148.4	150.0	151.1	153.1	154.7	1.0	4.2
White-collar workers.....	144.1	145.6	146.9	149.2	151.0	152.6	153.7	155.8	157.5	1.1	4.3
Excluding sales occupations.....	145.3	146.8	148.1	150.2	152.0	153.8	155.1	157.5	159.1	1.0	4.7
Blue-collar occupations.....	136.8	138.0	138.7	140.6	142.3	143.9	144.8	146.9	148.1	.8	4.1
Service occupations.....	140.4	140.7	142.3	143.5	145.1	146.3	147.8	149.5	150.7	.8	3.9
State and local government workers.....	141.0	143.1	144.6	145.5	145.9	147.8	148.9	150.3	151.2	.6	3.6
Workers, by occupational group:											
White-collar workers.....	140.2	142.6	144.0	144.9	145.3	147.3	148.3	149.5	150.4	.6	3.5
Professional specialty and technical.....	139.3	142.0	143.2	144.1	144.5	146.6	147.4	148.4	149.2	.5	3.3
Executive, administrative, and managerial.....	142.8	144.5	146.1	147.0	147.2	149.2	150.7	152.4	153.7	.9	4.4
Administrative support, including clerical.....	141.3	143.0	145.0	145.9	146.5	148.3	149.4	150.7	151.6	.6	3.5
Blue-collar workers.....	139.5	140.9	142.5	143.7	144.2	145.9	147.2	148.6	149.0	.3	3.3
Workers, by industry division:											
Services.....	140.5	143.2	144.5	145.2	145.5	148.0	148.9	149.9	150.6	.5	3.5
Services excluding schools ⁵	140.3	142.6	143.8	145.2	145.8	147.6	148.8	150.1	151.9	1.2	4.2
Health services.....	142.0	144.2	145.8	147.3	147.9	150.0	151.6	152.1	154.4	1.5	4.4
Hospitals.....	142.7	144.8	146.3	147.9	148.4	150.7	152.0	152.2	154.7	1.6	4.2
Educational services.....	140.3	143.1	144.4	145.0	145.2	147.9	148.7	149.6	150.1	.3	3.4
Schools.....	140.6	143.5	144.7	145.3	145.5	148.2	149.0	149.9	150.5	.4	3.4
Elementary and secondary.....	140.0	142.9	144.1	144.5	144.7	147.3	148.1	148.5	149.0	.3	3.0
Colleges and universities.....	142.1	144.8	146.5	147.4	147.6	150.5	151.7	153.7	154.3	.4	4.5
Public administration ³	141.5	142.4	144.4	145.7	146.1	146.9	148.3	150.6	151.9	.9	4.0

¹ Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

² Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

³ Consists of legislative, judicial, administrative, and regulatory activities.

⁴ This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

⁵ Includes, for example, library, social, and health services.

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

[June 1989 = 100]

Series	1999			2000			2001			Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3	12
										months	months
										ended	ended
										June 2001	
Civilian workers¹	139.8	141.3	142.5	144.0	145.4	147.0	147.9	149.5	150.8	0.9	3.7
Workers, by occupational group:											
White-collar workers.....	141.6	143.3	144.6	146.2	147.6	149.2	150.2	151.7	153.1	.9	3.7
Professional specialty and technical.....	141.0	142.6	144.0	144.9	146.4	148.3	149.6	151.1	152.-	.6	3.8
Executive, administrative, and managerial.....	143.8	145.9	147.2	148.6	149.9	151.6	152.4	154.0	155.8	1.2	3.9
Administrative support, including clerical.....	140.9	142.3	143.5	145.5	146.9	148.5	149.6	151.6	152.7	.8	4.0
Blue-collar workers.....	135.8	137.0	137.9	139.2	140.6	142.0	142.9	144.7	146.0	.9	3.8
Service occupations.....	139.4	140.1	141.7	143.0	144.0	145.7	147.1	148.6	149.7	.7	4.0
Workers, by industry division:											
Goods-producing.....	137.4	138.6	139.7	141.3	143.0	144.3	145.3	147.0	147.6	1.1	3.9
Manufacturing.....	139.0	140.2	141.5	142.9	144.4	145.7	146.5	148.5	150.0	1.0	3.9
Service-producing.....	140.7	142.3	143.5	145.0	146.3	148.0	148.9	150.5	151.7	.8	3.7
Services.....	142.3	144.1	145.5	146.6	147.9	149.9	151.0	152.6	153.6	.7	3.9
Health services.....	139.7	140.9	142.5	143.8	145.3	146.7	148.3	149.8	151.8	1.3	4.5
Hospitals.....	138.8	140.1	141.6	142.6	143.8	145.6	147.3	148.8	151.2	1.6	5.1
Educational services.....	140.6	143.7	144.7	145.3	145.6	148.9	149.6	150.5	151.0	.3	3.7
Public administration ²	137.8	139.5	141.5	142.5	142.9	144.6	146.1	147.6	148.7	.7	4.1
Nonmanufacturing.....	139.9	141.5	142.6	144.2	145.5	147.2	148.1	149.7	149.7	.8	3.7
Private industry workers	139.7	141.0	142.2	143.9	145.4	146.8	147.7	149.4	150.9	1.0	3.8
Excluding sales occupations.....	139.6	140.8	142.0	143.5	145.1	146.5	147.6	149.5	150.8	1.3	3.9
Workers, by occupational group:											
White-collar workers.....	142.1	143.5	144.8	146.6	148.3	149.7	150.6	152.3	153.8	1.0	3.7
Excluding sales occupations.....	142.5	143.9	145.2	146.7	148.5	149.9	151.1	153.0	154.4	.8	4.0
Professional specialty and technical occupations.....	141.8	142.6	144.1	145.1	147.3	148.6	150.2	152.1	153.2	.7	4.0
Executive, administrative, and managerial occupations..	144.3	146.4	147.6	149.2	150.7	152.3	153.0	154.7	156.5	1.2	3.8
Sales occupations.....	140.5	142.1	143.3	146.7	147.9	149.0	148.7	149.2	151.5	1.5	2.4
Administrative support occupations, including clerical...	141.4	142.7	143.8	146.0	147.5	149.1	150.1	152.3	153.6	.9	4.1
Blue-collar workers.....	135.6	136.8	137.7	139.1	140.5	141.9	142.8	144.6	145.9	.9	3.8
Precision production, craft, and repair occupations.....	135.6	136.7	137.5	138.9	140.6	142.0	142.8	144.6	145.7	.8	3.6
Machine operators, assemblers, and inspectors.....	136.7	138.3	139.5	140.7	141.6	142.9	143.7	145.6	146.9	.9	3.7
Transportation and material moving occupations.....	131.0	131.9	132.7	134.1	135.2	136.5	137.6	139.5	140.7	.9	4.1
Handlers, equipment cleaners, helpers, and laborers....	138.3	139.4	140.4	141.8	143.6	145.0	146.2	148.0	149.8	1.2	4.3
Service occupations.....	137.8	138.0	139.6	141.0	142.5	143.5	144.9	146.4	147.5	.8	3.5
Production and nonsupervisory occupations ³	138.2	139.3	140.4	142.1	143.7	145.0	146.0	147.7	149.0	.9	3.7
Workers, by industry division:											
Goods-producing.....	137.3	138.5	139.7	141.3	143.0	144.3	145.2	147.0	148.6	1.1	3.9
Excluding sales occupations.....	136.6	137.8	138.9	140.5	142.1	143.4	144.6	146.3	147.8	1.0	4.0
White-collar occupations.....	140.5	141.7	143.0	145.0	146.8	147.9	148.7	150.5	152.3	1.2	3.7
Excluding sales occupations.....	138.8	140.1	141.3	143.2	144.9	146.0	147.2	148.9	150.5	1.1	3.9
Blue-collar occupations.....	135.4	136.6	137.6	139.0	140.5	142.0	143.1	144.7	146.1	1.0	4.0
Construction.....	131.9	133.0	133.6	136.0	138.0	139.4	140.7	142.1	143.9	1.3	4.3
Manufacturing.....	139.0	140.2	141.5	142.9	144.4	145.7	146.5	148.5	150.0	1.0	3.9
White-collar occupations.....	141.4	142.7	144.0	145.8	147.7	148.7	149.2	151.1	152.7	1.1	3.4
Excluding sales occupations.....	139.6	140.8	142.0	143.7	145.6	146.6	147.5	149.9	150.5	.9	3.4
Blue-collar occupations.....	137.2	138.4	139.7	140.8	142.0	143.4	144.6	146.4	147.8	1.0	4.1
Durables.....	139.1	140.4	141.8	143.0	144.7	146.1	147.3	149.0	150.5	1.0	4.0
Nondurables.....	138.7	139.7	140.9	142.7	143.9	145.0	145.4	147.5	149.0	1.0	3.5
Service-producing.....	140.8	142.1	143.3	145.0	146.5	147.9	148.9	150.5	151.9	.9	3.7
Excluding sales occupations.....	141.4	142.6	143.8	145.3	146.9	148.3	149.4	151.3	152.6	.9	3.9
White-collar occupations.....	142.3	143.8	145.0	146.9	148.5	150.0	150.9	152.5	154.0	1.0	3.7
Excluding sales occupations.....	143.7	145.1	146.4	147.8	149.6	151.2	152.3	154.3	155.6	.8	4.0
Blue-collar occupations.....	135.9	137.0	137.8	139.1	140.3	141.6	142.2	144.3	145.3	.7	3.6
Service occupations.....	137.8	138.0	139.6	141.1	142.5	143.5	144.8	146.1	147.2	.8	3.3
Transportation and public utilities.....	136.8	137.5	137.9	138.5	140.0	141.3	142.3	143.7	145.7	1.4	4.1
Transportation.....	133.7	134.4	134.9	134.9	136.2	137.4	138.6	139.8	141.6	1.3	4.0
Public utilities.....	140.6	141.5	141.8	143.2	144.9	146.4	147.1	148.7	151.0	1.5	4.2
Communications.....	141.1	141.9	142.2	143.4	145.0	146.7	147.4	149.2	151.8	1.7	4.7
Electric, gas, and sanitary services.....	140.0	140.9	141.3	143.0	144.7	145.9	146.6	148.1	149.9	1.2	3.6
Wholesale and retail trade.....	139.6	140.7	142.0	143.8	145.5	146.4	147.4	148.4	150.1	1.1	3.2
Excluding sales occupations.....	141.1	141.8	143.3	145.2	146.8	148.2	149.0	150.7	151.9	.8	3.5
Wholesale trade.....	142.3	144.3	146.5	147.4	149.4	149.6	151.6	151.6	154.5	1.9	3.4
Excluding sales occupations.....	143.0	144.8	146.4	147.9	149.7	151.3	153.2	154.9	156.5	1.0	4.5
Retail trade.....	138.3	138.9	139.6	142.1	143.5	144.8	145.2	146.9	147.8	.6	3.0
General merchandise stores.....	134.3	135.6	136.7	137.8	138.5	139.7	142.2	143.8	145.5	1.2	5.1
Food stores.....	132.8	133.9	134.9	136.7	139.5	140.2	141.6	143.3	144.5	.8	3.6

See footnotes at end of table.

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

[June 1989 = 100]

Series	1999			2000				2001		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3	12
										months	months
										ended	ended
										June 2001	
Finance, insurance, and real estate.....	142.4	144.5	145.2	148.7	149.5	151.7	151.7	153.9	154.6	0.5	3.4
Excluding sales occupations.....	144.8	147.5	148.0	150.2	151.5	153.3	154.1	156.6	157.6	.6	4.0
Banking, savings and loan, and other credit agencies.....	154.5	159.2	159.6	162.0	163.3	165.0	165.7	169.4	170.8	.8	4.6
Insurance.....	139.8	140.2	141.5	145.5	146.6	150.7	150.8	152.4	153.3	.6	4.6
Services.....	143.2	144.5	146.0	147.4	149.1	150.6	151.8	153.8	155.0	.8	4.0
Business services.....	146.3	148.5	149.8	152.0	154.1	155.3	156.0	158.2	160.8	1.6	4.3
Health services.....	139.6	140.6	142.2	143.5	145.3	146.6	148.1	149.8	151.8	1.3	4.5
Hospitals.....	138.3	139.3	140.9	141.8	143.3	144.9	146.8	148.5	151.0	1.7	5.4
Educational services.....	144.2	147.5	148.2	148.9	149.6	153.4	154.3	155.4	156.1	.5	4.3
Colleges and universities.....	144.4	147.2	147.9	148.9	149.4	152.5	152.9	154.1	155.0	.6	3.7
Nonmanufacturing.....	139.7	141.0	142.1	143.9	145.5	146.9	147.9	149.5	150.9	.9	3.7
White-collar workers.....	142.0	143.5	144.7	146.5	148.2	149.6	150.6	152.3	153.8	1.0	3.8
Excluding sales occupations.....	143.2	144.6	145.9	147.4	149.1	150.7	151.9	153.9	155.3	.9	4.2
Blue-collar occupations.....	134.0	135.1	135.8	137.4	138.9	140.3	140.9	142.8	143.9	.8	3.6
Service occupations.....	137.7	137.9	139.5	140.9	142.4	143.4	144.7	146.0	147.1	.8	3.3
State and local government workers.....	139.6	142.2	143.5	144.3	144.7	147.2	148.3	150.2	151.2	.5	3.7
Workers, by occupational group:											
White-collar workers.....	139.3	142.1	143.4	144.1	144.5	147.1	148.0	149.0	149.8	.5	3.4
Professional specialty and technical.....	139.4	142.5	143.6	144.3	144.7	147.4	148.2	149.1	149.8	.5	3.5
Executive, administrative, and managerial.....	140.5	142.7	144.3	144.9	145.1	147.3	148.8	150.1	151.5	.9	4.4
Administrative support, including clerical.....	137.5	139.6	141.7	142.4	143.0	145.0	146.2	147.0	147.6	.4	3.2
Blue-collar workers.....	137.6	139.4	140.7	141.5	142.1	143.9	145.1	146.0	146.5	.3	3.1
Workers, by industry division:											
Services.....	139.9	142.9	144.0	144.6	144.9	147.9	148.7	149.5	150.2	.5	3.7
Services excluding schools ⁴	139.6	142.1	143.2	144.3	144.8	146.7	147.9	149.1	150.7	1.1	4.1
Health services.....	140.4	142.8	144.2	145.3	145.7	147.7	149.3	149.9	151.9	1.3	4.3
Hospitals.....	140.6	142.8	144.1	145.3	145.6	147.7	149.2	149.5	151.8	1.5	4.3
Educational services.....	139.8	142.9	144.0	144.5	144.8	148.0	148.7	149.5	150.0	.3	3.6
Schools.....	140.0	143.1	144.2	144.7	144.9	148.1	148.9	149.7	150.2	.3	3.7
Elementary and secondary.....	139.9	143.1	144.1	144.5	144.6	147.9	148.5	149.0	149.5	.3	3.4
Colleges and universities.....	139.8	142.6	144.4	144.9	145.6	148.3	149.5	151.4	151.8	.3	4.3
Public administration ²	137.8	139.5	141.5	142.5	142.9	144.6	146.1	147.6	148.7	.7	4.1

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	1999			2000				2001		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3	12
										months	months
										ended	ended
										June 2001	
Private industry workers.....	147.3	148.6	150.2	153.8	155.7	157.5	158.6	161.5	163.2	1.1	4.8
Workers, by occupational group:											
White-collar workers.....	149.4	151.0	152.5	156.3	158.5	160.4	161.5	165.2	167.4	1.3	5.6
Blue-collar workers.....	143.6	144.8	146.2	150.0	151.6	153.1	154.1	155.7	156.7	.3	3.0
Workers, by industry division:											
Goods-producing.....	145.2	146.3	148.2	152.3	154.2	155.7	156.2	158.5	159.6	.7	3.5
Service-producing.....	147.9	149.4	150.7	154.0	156.0	157.9	159.4	162.6	164.6	1.2	5.5
Manufacturing.....	144.5	145.7	147.8	152.3	153.9	154.9	154.8	157.1	157.9	.5	2.6
Nonmanufacturing.....	148.0	149.4	150.7	154.0	156.1	158.1	159.7	162.9	164.9	1.2	5.6

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

[June 1989 = 100]

Series	1999			2000				2001		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3	12
										months	months
										ended	ended
										June 2001	
COMPENSATION											
Workers, by bargaining status¹											
Union.....	139.0	140.2	141.2	143.0	144.4	146.1	146.9	147.9	149.5	1.1	0.6
Goods-producing.....	138.2	139.2	140.8	143.3	144.8	146.8	147.3	147.9	149.3	.9	3.1
Service-producing.....	139.7	141.0	141.4	142.5	143.9	145.2	146.4	147.6	149.5	1.3	3.9
Manufacturing.....	138.1	139.1	141.0	144.5	145.4	147.1	147.4	147.9	148.8	.6	2.3
Nonmanufacturing.....	139.2	140.3	140.8	141.7	143.4	145.0	146.2	147.3	149.4	1.4	4.2
Nonunion.....	142.5	143.8	145.2	147.4	149.1	150.6	151.6	153.8	155.3	1.0	4.2
Goods-producing.....	140.5	141.8	143.1	145.4	147.2	148.4	149.3	151.6	153.1	1.0	4.0
Service-producing.....	143.0	144.4	145.7	148.0	149.6	151.2	152.3	154.4	155.9	1.0	4.2
Manufacturing.....	141.7	143.0	144.4	146.5	148.2	149.2	149.9	152.4	153.7	.9	3.7
Nonmanufacturing.....	142.4	143.8	145.1	147.4	149.1	150.7	151.8	153.9	155.4	1.0	4.2
Workers, by region¹											
Northeast.....	141.5	143.2	144.3	146.3	147.6	149.3	150.3	151.6	153.7	1.4	4.1
South.....	140.7	141.8	143.0	145.0	146.7	147.6	148.6	151.1	152.3	.8	3.8
Midwest (formerly North Central).....	143.6	145.0	146.3	148.9	150.7	152.2	153.3	154.8	156.0	.8	3.5
West.....	142.1	143.3	144.7	147.0	148.8	150.8	151.8	154.3	156.0	1.1	4.8
Workers, by area size¹											
Metropolitan areas.....	142.0	143.3	144.7	146.9	148.6	150.1	151.0	153.1	154.6	1.0	4.0
Other areas.....	141.8	143.1	143.6	146.0	147.7	148.8	150.3	152.1	153.7	1.1	4.1
WAGES AND SALARIES											
Workers, by bargaining status¹											
Union.....	134.7	135.7	136.5	137.2	138.5	140.0	141.2	142.1	143.7	1.1	3.8
Goods-producing.....	133.8	134.9	136.1	137.2	138.4	140.2	141.3	142.4	144.2	1.3	4.2
Service-producing.....	135.8	136.8	137.2	137.6	138.9	140.1	141.5	142.2	143.7	1.1	3.5
Manufacturing.....	134.7	135.8	137.5	138.8	139.7	141.4	142.6	143.9	145.5	1.1	4.2
Nonmanufacturing.....	134.6	135.6	135.9	136.4	137.8	139.2	140.4	141.1	142.7	1.1	3.6
Nonunion.....	140.7	142.0	143.3	145.1	146.7	148.1	149.0	150.8	152.2	.9	3.7
Goods-producing.....	138.8	140.0	141.1	142.9	144.7	145.8	146.8	148.8	150.3	1.0	3.9
Service-producing.....	141.3	142.6	143.9	145.8	147.3	148.7	149.6	151.4	152.7	.9	3.7
Manufacturing.....	140.5	141.7	142.9	144.4	146.1	147.2	148.0	150.1	151.6	1.0	3.8
Nonmanufacturing.....	140.5	141.8	143.0	145.0	146.6	148.0	148.9	150.7	152.0	.9	3.7
Workers, by region¹											
Northeast.....	138.2	139.9	140.9	142.3	143.7	145.3	146.0	147.3	149.2	1.3	3.8
South.....	139.4	140.2	141.5	143.0	144.6	145.3	146.3	148.3	149.3	.7	3.3
Midwest (formerly North Central).....	141.0	142.4	143.6	145.3	147.1	148.6	149.6	150.9	152.3	.9	3.5
West.....	140.2	141.3	142.6	144.7	146.3	148.2	149.2	151.3	152.9	1.1	4.5
Workers, by area size¹											
Metropolitan areas.....	139.9	141.2	142.5	144.1	145.7	147.1	148.0	149.8	151.2	.9	3.8
Other areas.....	138.4	139.8	140.2	142.2	143.7	144.7	146.0	147.4	148.8	.9	3.5

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, and in selected features within plans, medium and large private establishments, selected years, 1980-97

Item	1980	1982	1984	1986	1988	1989	1991	1993	1995	1997
Scope of survey (in 000's).....	21,352	21,043	21,013	21,303	31,059	32,428	31,163	28,728	33,374	38,409
Number of employees (in 000's):										
With medical care.....	20,711	20,412	20,383	20,238	27,953	29,834	25,865	23,519	25,546	29,340
With life insurance.....	20,498	20,201	20,172	20,451	28,574	30,482	29,293	26,175	29,078	33,495
With defined benefit plan.....	17,936	17,676	17,231	16,190	19,567	20,430	18,386	16,015	17,417	19,202
Time-off plans										
Participants with:										
Paid lunch time.....	10	9	9	10	11	10	8	9	-	-
Average minutes per day.....	-	25	26	27	29	26	30	29	-	-
Paid rest time.....	75	76	73	72	72	71	67	68	-	-
Average minutes per day.....	-	25	26	26	26	26	28	26	-	-
Paid funeral leave.....	-	-	-	88	85	84	80	83	80	81
Average days per occurrence.....	-	-	-	3.2	3.2	3.3	3.3	3.0	3.3	3.7
Paid holidays.....	99	99	99	99	96	97	92	91	89	89
Average days per year.....	10.1	10.0	9.8	10.0	9.4	9.2	10.2	9.4	9.1	9.3
Paid personal leave.....	20	24	23	25	24	22	21	21	22	20
Average days per year.....	-	3.8	3.6	3.7	3.3	3.1	3.3	3.1	3.3	3.5
Paid vacations.....	100	99	99	100	98	97	96	97	96	95
Paid sick leave ¹	62	67	67	70	69	68	67	65	58	56
Unpaid maternity leave.....	-	-	-	-	33	37	37	60	-	-
Unpaid paternity leave.....	-	-	-	-	16	18	26	53	-	-
Unpaid family leave.....	-	-	-	-	-	-	-	-	84	93
Insurance plans										
Participants in medical care plans.....	97	97	97	95	90	92	83	82	77	76
Percent of participants with coverage for:										
Home health care.....	-	-	46	66	76	75	81	86	78	85
Extended care facilities.....	58	62	62	70	79	80	80	82	73	78
Physical exam.....	-	-	8	18	28	28	30	42	56	63
Percent of participants with employee contribution required for:										
Self coverage.....	26	27	36	43	44	47	51	61	67	69
Average monthly contribution.....	-	-	\$11.93	\$12.80	\$19.29	\$25.31	\$26.60	\$31.55	\$33.92	\$39.14
Family coverage.....	46	51	58	63	64	66	69	76	78	80
Average monthly contribution.....	-	-	\$35.93	\$41.40	\$60.07	\$72.10	\$96.97	\$107.42	\$118.33	\$130.07
Participants in life insurance plans.....	96	96	96	96	92	94	94	91	87	87
Percent of participants with:										
Accidental death and dismemberment insurance.....	69	72	74	72	78	71	71	76	77	74
Survivor income benefits.....	-	-	-	10	8	7	6	5	7	6
Retiree protection available.....	-	64	64	59	49	42	44	41	37	33
Participants in long-term disability insurance plans.....	40	43	47	48	42	45	40	41	42	43
Participants in sickness and accident insurance plans.....	54	51	51	49	46	43	45	44	-	-
Participants in short-term disability plans ¹	-	-	-	-	-	-	-	-	53	55
Retirement plans										
Participants in defined benefit pension plans.....	84	84	82	76	63	63	59	56	52	50
Percent of participants with:										
Normal retirement prior to age 65.....	55	58	63	64	59	62	55	52	52	52
Early retirement available.....	98	97	97	98	98	97	98	95	96	95
Ad hoc pension increase in last 5 years.....	-	-	47	35	26	22	7	6	4	10
Terminal earnings formula.....	53	52	54	57	55	64	56	61	58	56
Benefit coordinated with Social Security.....	45	45	56	62	62	63	54	48	51	49
Participants in defined contribution plans.....	-	-	-	60	45	48	48	49	55	57
Participants in plans with tax-deferred savings arrangements.....	-	-	-	33	36	41	44	43	54	55
Other benefits										
Employees eligible for:										
Flexible benefits plans.....	-	-	-	2	5	9	10	12	12	13
Reimbursement accounts ²	-	-	-	5	12	23	36	52	38	32
Premium conversion plans.....	-	-	-	-	-	-	-	-	5	7

¹ The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1995 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-term disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability bene-

fits at less than full pay.

² Prior to 1995, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

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

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

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

² The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1996 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-term disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as

sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

³ Prior to 1996, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

27. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1999	2000											
	1999	2000	Dec.	Jan. ^P	Feb. ^P	Mar. ^P	Apr. ^P	May ^P	June ^P	July ^P	Aug. ^P	Sept. ^P	Oct. ^P	Nov. ^P	Dec. ^P
Number of stoppages:															
Beginning in period.....	17	39	0	0	1	2	6	2	5	3	6	5	7	0	2
In effect during period.....	21	40	1	1	2	4	7	4	8	6	8	10	12	3	3
Workers involved:															
Beginning in period (in thousands)....	73	394	.0	.0	17.0	5.7	26.7	136.9	11.4	7.2	99.2	17.8	60.3	.0	8.7
In effect during period (in thousands).	80	397	3.0	3.0	20.0	25.7	29.7	141.3	150.8	146.9	237.2	167.8	211.6	4.5	10.3
Days idle:															
Number (in thousands).....	1,995	20,419	63.0	60.0	298.0	327.6	272.2	3,095.3	3,134.0	2,804.4	4,186.6	3,029.3	3,088.6	64.5	58.9
Percent of estimated working time ¹....	.01	.06	(²)	(²)	.01	.01	.01	.10	.10	.10	.13	.11	.11	(²)	(²)

¹ Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "Total economy" measures of strike idleness, *Monthly Labor Review*, October 1968, pp. 54-56.

² Less than 0.005.

^P = preliminary.

28. 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		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CONSUMER PRICE INDEX															
FOR ALL URBAN CONSUMERS															
All items.....	166.6	172.2	172.4	172.8	172.8	173.7	174.0	174.1	174.0	175.1	175.8	176.2	176.9	177.7	178.0
All items (1967 = 100).....	499.0	515.8	516.5	517.5	517.6	520.3	521.2	521.5	521.1	524.5	526.7	528.0	529.9	532.2	533.3
Food and beverages.....	164.6	168.4	167.9	168.7	169.2	169.4	169.6	169.5	170.5	171.4	171.8	172.2	172.4	172.9	173.4
Food.....	164.1	167.8	167.3	168.1	168.7	168.9	169.0	169.1	168.8	170.0	170.9	171.3	171.9	172.5	173.0
Food at home.....	164.2	167.9	167.3	168.3	168.9	169.0	169.1	168.8	170.2	171.3	171.8	172.0	172.2	172.8	173.0
Cereals and bakery products.....	185.0	188.3	187.7	189.6	189.9	188.6	190.1	189.0	190.7	191.1	191.9	191.9	192.5	193.2	194.2
Meats, poultry, fish, and eggs.....	147.9	154.5	154.9	155.8	156.8	156.9	156.8	155.5	156.6	158.0	159.5	160.1	160.7	160.8	161.7
Dairy and related products ¹	159.6	160.7	159.5	160.5	161.0	161.6	161.9	161.4	161.5	163.6	163.6	163.2	163.4	164.7	166.9
Fruits and vegetables.....	203.1	204.6	199.9	201.0	202.5	204.6	206.2	207.3	215.1	212.6	211.5	211.5	213.3	213.1	211.8
Nonalcoholic beverages and beverage materials.....	134.3	137.8	137.5	138.5	138.2	138.0	137.4	137.9	136.7	139.4	139.9	139.5	138.9	138.1	138.6
Other foods at home.....	153.5	155.6	156.2	156.6	156.9	156.7	155.8	156.0	156.3	157.8	157.9	158.6	157.6	159.6	159.5
Sugar and sweets.....	152.3	154.0	154.0	154.1	154.6	154.6	153.9	153.0	153.5	155.7	155.8	155.7	154.0	155.8	155.7
Fats and oils.....	148.3	147.4	146.6	148.1	148.9	148.7	149.7	146.5	150.2	150.0	152.6	153.1	151.5	154.7	156.7
Other foods.....	168.9	172.2	173.4	173.5	173.7	173.4	172.0	173.3	172.7	173.8	174.0	175.1	174.4	176.4	175.7
Other miscellaneous foods ^{1,2}	104.9	107.5	108.4	108.8	109.5	107.7	106.8	110.0	108.9	109.0	108.7	108.4	108.5	108.8	107.7
Food away from home ¹	165.1	169.0	168.6	169.1	169.5	170.0	170.3	170.4	170.8	171.4	171.8	172.3	172.7	173.1	173.6
Other food away from home ^{1,2}	105.2	109.0	108.1	108.7	109.3	110.0	110.5	111.0	111.1	111.3	111.4	111.6	111.8	112.4	112.6
Alcoholic beverages.....	169.7	174.7	174.4	175.2	175.6	175.5	175.9	176.4	176.5	177.2	177.7	177.8	178.1	178.5	179.1
Housing.....	163.9	169.6	169.6	170.6	170.9	171.4	171.7	171.6	171.9	174.1	174.7	175.4	175.4	175.9	177.3
Shelter.....	187.3	193.4	193.3	194.1	194.7	194.6	195.2	195.2	195.1	196.4	197.6	198.9	199.2	199.6	200.7
Rent of primary residence.....	177.5	183.9	183.2	183.9	184.6	185.3	186.1	186.8	187.6	188.2	188.9	189.6	190.2	191.0	191.6
Lodging away from home.....	112.3	117.5	120.5	122.8	123.0	118.1	118.5	113.9	108.8	114.1	119.1	124.2	121.8	120.0	123.7
Owners' equivalent rent of primary residence ³	192.9	198.7	198.2	198.6	199.2	199.9	200.5	201.2	201.8	202.4	205.4	203.6	204.2	204.9	205.7
Tenants' and household insurance ^{1,2}	101.3	103.7	103.9	104.2	104.0	104.2	104.2	104.5	104.7	105.0	105.1	105.4	105.5	106.8	107.0
Fuels and utilities.....	128.8	137.9	138.9	141.3	140.9	143.8	143.1	142.7	145.3	153.8	152.3	150.8	149.7	151.3	155.7
Fuels.....	113.5	122.8	124.0	126.5	125.9	129.1	128.3	127.7	130.6	139.8	138.0	136.3	135.1	136.8	141.6
Fuel oil and other fuels.....	91.4	129.7	120.9	120.8	120.8	133.7	137.6	140.3	144.9	149.1	144.6	138.1	134.4	131.9	129.6
Gas (piped) and electricity.....	120.9	128.0	130.2	133.0	132.4	134.8	133.6	132.7	135.6	145.7	144.0	142.6	141.6	143.8	149.4
Household furnishings and operations.....	126.7	128.2	128.1	128.6	128.6	129.0	128.7	128.9	128.6	128.8	129.1	129.1	129.1	128.9	129.2
Apparel.....	131.3	129.6	128.3	124.5	125.3	130.4	132.8	131.8	127.8	125.4	128.4	132.2	131.9	129.8	126.3
Men's and boys' apparel.....	131.1	129.7	129.4	126.4	126.8	129.1	130.4	131.3	128.0	125.5	126.6	127.5	128.2	129.1	125.8
Women's and girls' apparel.....	123.3	121.5	119.2	113.9	115.6	124.2	127.9	124.8	119.7	115.5	121.0	127.8	127.0	122.3	117.5
Infants' and toddlers' apparel ¹	129.0	130.6	130.5	128.1	126.7	127.4	130.8	130.7	128.2	127.4	129.3	1316.0	131.4	130.6	127.3
Footwear.....	125.7	123.8	123.9	120.3	120.7	124.9	125.3	125.4	123.8	121.4	122.6	125.2	124.9	124.4	122.1
Transportation.....	144.4	153.3	155.7	155.0	153.2	154.7	154.4	155.2	154.4	154.4	154.9	153.9	156.1	159.2	158.3
Private transportation.....	140.5	149.1	151.4	150.6	148.6	150.4	150.4	151.1	150.3	150.3	150.7	149.7	152.1	155.3	154.0
New and used motor vehicles ²	100.1	100.8	100.8	100.6	100.4	100.4	100.8	101.5	102.1	102.3	102.2	101.9	101.8	101.4	101.1
New vehicles.....	142.9	142.8	142.9	142.5	141.9	141.4	141.6	142.7	143.6	143.7	143.3	142.8	142.7	142.3	141.7
Used cars and trucks ¹	152.0	155.8	155.7	155.3	155.2	156.2	157.9	159.3	160.2	160.4	160.4	159.9	159.7	159.1	158.9
Motor fuel.....	100.7	129.3	139.0	136.1	128.4	135.2	133.1	133.0	127.8	126.6	127.5	124.1	133.6	146.8	142.0
Gasoline (all types).....	100.1	128.6	138.3	135.4	127.7	134.3	132.3	132.2	127.0	125.8	126.8	123.3	132.8	146.0	141.3
Motor vehicle parts and equipment.....	100.5	101.5	101.2	101.5	101.5	101.7	101.7	102.5	103.1	103.6	104.0	104.7	104.2	104.4	104.4
Motor vehicle maintenance and repair.....	171.9	177.3	176.8	177.2	178.2	178.7	179.4	179.9	179.9	180.6	181.5	181.7	181.9	182.5	182.7
Public transportation.....	197.7	209.6	212.6	213.7	215.7	213.0	208.0	209.1	209.5	210.2	212.1	210.0	208.3	209.3	216.3
Medical care.....	250.6	260.8	260.5	261.4	262.6	263.1	263.7	264.1	264.8	267.1	268.9	270.0	270.8	271.4	272.5
Medical care commodities.....	230.7	238.1	238.2	238.6	239.2	239.4	239.6	240.0	241.1	242.3	243.8	244.9	245.7	246.6	248.1
Medical care services.....	255.1	266.0	265.6	266.7	268.0	268.7	269.4	269.8	270.4	273.0	274.9	275.9	276.8	277.3	278.3
Professional services.....	229.2	137.7	237.9	238.3	238.9	239.3	239.7	239.8	240.3	242.6	244.1	244.8	245.6	245.8	246.5
Hospital and related services.....	299.5	317.3	315.6	318.1	321.3	322.5	323.6	324.7	325.3	328.5	331.0	332.8	333.6	335.1	336.6
Recreation ²	102.1	103.3	103.4	103.7	103.9	103.8	103.8	103.7	103.7	104.1	104.3	104.3	105.0	105.0	104.8
Video and audio ^{1,2}	100.7	101.0	101.5	101.3	101.6	101.5	101.0	100.9	100.7	101.2	101.6	101.6	101.7	101.6	101.3
Education and communication ²	101.2	102.5	101.5	102.0	102.8	102.9	103.6	103.2	103.6	103.9	104.0	104.3	104.1	104.0	104.4
Education ²	107.0	112.5	111.5	111.8	113.0	114.9	115.3	115.4	115.5	115.8	116.0	116.1	116.1	116.4	116.9
Educational books and supplies.....	261.7	279.9	277.5	278.1	280.2	284.8	285.2	284.8	285.4	289.2	290.4	290.8	290.8	290.7	293.9
Tuition, other school fees, and child care.....	308.4	324.0	320.9	321.7	325.4	330.8	332.1	332.5	332.7	333.3	333.7	334.0	334.1	335.0	336.2
Communication ^{1,2}	96.0	93.6	92.6	93.3	93.7	92.1	93.1	92.3	93.0	93.3	93.2	93.7	93.3	92.9	93.1
Information and information processing ^{1,2}	95.5	92.8	91.8	92.5	93.0	91.3	92.3	91.5	92.2	92.4	92.2	92.7	92.3	91.8	92.1
Telephone services ^{1,2}	100.1	98.5	97.2	98.2	98.9	97.0	98.3	97.5	98.4	98.8	98.7	99.4	99.0	98.7	99.0
Information and information processing other than telephone services ^{1,4}	30.5	25.9	26.0	25.7	25.2	25.0	24.7	24.2	23.8	23.2	22.9	22.5	22.1	21.7	21.4
Personal computers and peripheral equipment ^{1,2}	53.5	41.1	41.2	40.3	39.5	38.9	38.3	37.3	36.5	35.0	33.9	32.4	31.7	30.4	29.8
Other goods and services.....	258.3	271.1	269.6	272.2	271.6	274.7	273.0	276.2	274.0	275.9	277.2	277.7	277.7	281.3	281.2
Tobacco and smoking products.....	355.8	394.9	388.5	400.7	394.1	408.0	396.7	411.0	396.6	404.3	408.5	407.7	424.2	418.7	421.0
Personal care ¹	161.1	165.6	165.4	165.7	166.2	166.6	167.0	167.4	167.8	168.2	168.6	169.1	169.6	169.5	170.0
Personal care products ¹	151.8	153.7	153.6	153.7	154.3	154.3	153.4	153.9	155.5	155.3	155.3	155.7	155.8	153.2	154.6
Personal care services ¹	171.4	178.1	177.9	178.2	179										

28. 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		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Miscellaneous personal services.....	243.0	252.3	252.0	252.9	253.6	254.0	255.1	255.7	255.7	257.3	258.6	259.5	260.2	261.0	261.8
Commodity and service group:															
Commodities.....	144.4	149.2	149.7	149.3	148.6	150.3	150.4	150.6	150.0	150.0	150.6	150.7	151.9	152.9	152.1
Food and beverages.....	164.6	168.4	167.9	169.4	169.2	169.4	169.6	169.5	170.5	171.4	171.8	172.2	172.4	172.9	173.4
Commodities less food and beverages.....	132.5	137.7	138.6	137.7	136.4	138.8	138.9	139.3	137.8	137.4	138.1	138.0	139.7	140.8	139.4
Nondurables less food and beverages.....	137.5	147.4	149.1	147.5	145.6	149.9	149.9	150.2	147.2	146.4	147.7	147.9	151.0	153.5	151.3
Apparel.....	131.3	129.6	128.3	124.5	125.3	130.4	132.8	131.8	127.8	125.4	128.4	132.2	131.9	129.8	126.3
Nondurables less food, beverages, and apparel.....	146.0	162.5	165.8	165.4	162.0	165.9	164.7	165.7	163.1	163.2	163.7	161.9	167.0	172.0	170.4
Durables.....	126.0	125.4	125.4	125.2	124.7	124.8	125.0	125.5	125.9	125.9	125.9	125.5	125.4	124.9	124.5
Services.....	188.8	195.3	195.3	196.3	197.0	197.2	197.6	197.6	198.0	200.2	201.0	201.8	201.9	202.5	204.0
Rent of shelter ³	195.0	201.3	201.2	202.1	202.7	202.6	203.3	203.2	203.1	204.5	205.7	207.2	207.4	207.8	209.0
Transportation services.....	190.7	196.1	196.1	196.5	197.4	197.2	197.0	198.0	198.3	199.1	200.3	200.2	200.1	200.4	202.0
Other services.....	223.1	229.9	228.7	229.9	231.3	231.5	232.6	232.4	233.0	234.1	234.8	235.4	236.2	236.4	236.7
Special indexes:															
All items less food.....	167.0	173.0	173.3	173.6	173.5	174.6	174.9	175.0	174.7	175.9	176.6	177.1	177.8	178.6	179.0
All items less shelter.....	160.2	165.7	166.0	166.2	166.0	167.4	167.5	167.7	167.5	168.6	169.1	169.2	170.1	170.9	171.0
All items less medical care.....	162.0	167.3	167.6	167.9	167.9	168.8	169.1	169.2	169.0	170.1	170.8	171.2	171.8	172.6	172.9
Commodities less food.....	134.0	139.2	140.1	139.2	138.0	140.3	140.4	140.8	139.3	139.0	139.7	139.6	141.2	142.4	141.0
Nondurables less food.....	139.4	149.1	150.7	149.3	147.5	151.5	151.6	151.8	149.0	148.3	149.6	149.8	152.8	155.1	153.1
Nondurables less food and apparel.....	147.5	162.9	166.0	165.7	162.6	166.2	165.1	166.0	163.6	163.9	164.3	162.7	167.4	170.6	
Nondurables.....	151.2	158.2	158.8	158.4	157.6	160.0	160.1	160.2	159.1	159.1	160.0	160.3	162.0	163.6	162.7
Services less rent of shelter ³	195.8	202.9	202.9	204.2	205.0	205.7	205.8	205.9	206.9	210.0	210.5	210.6	210.6	211.4	213.3
Services less medical care services.....	182.7	188.9	188.9	189.9	190.5	190.7	191.1	191.1	191.5	193.6	194.3	195.1	195.2	195.7	197.2
Energy.....	106.6	124.6	129.6	129.7	125.9	130.6	129.3	129.0	128.1	132.5	132.0	129.5	133.1	140.1	140.5
All items less energy.....	174.4	178.6	178.3	178.7	179.1	179.6	180.1	180.3	180.2	181.0	181.8	182.6	182.9	182.9	183.3
All items less food and energy.....	177.0	181.3	181.0	181.3	181.7	182.3	182.8	183.0	182.8	183.5	184.4	185.3	185.6	185.5	185.9
Commodities less food and energy.....	144.1	144.9	144.5	143.8	143.7	145.1	145.6	146.0	145.1	144.8	145.9	146.2	146.6	145.7	144.9
Energy commodities.....	100.0	129.5	137.6	135.0	127.9	135.2	133.6	133.8	129.3	128.6	129.1	125.4	133.8	145.6	141.1
Services less energy.....	195.7	202.1	201.9	202.7	203.5	203.5	204.1	204.2	204.4	205.7	206.8	207.7	208.0	208.4	209.4
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items.....	163.2	168.9	169.2	169.4	169.3	170.4	170.6	170.9	170.7	171.7	172.4	172.6	173.5	174.4	174.6
All items (1967 = 100).....	486.2	503.1	504.1	504.7	504.2	507.6	508.2	509.0	508.5	511.6	513.4	514.2	516.7	519.4	520.0
Food and beverages.....	163.8	167.7	167.3	168.0	168.6	168.8	169.0	168.8	169.8	170.8	171.2	171.6	171.9	172.3	172.8
Food.....	163.4	167.2	166.8	167.6	168.9	168.3	168.5	168.3	169.3	170.3	170.8	171.1	171.4	171.9	172.4
Food at home.....	163.0	166.8	166.3	167.3	166.8	168.1	168.1	167.8	169.1	170.3	170.8	171.1	171.3	171.8	172.4
Cereals and bakery products.....	184.7	188.0	187.3	189.2	161.0	188.4	189.9	188.6	190.4	190.9	191.7	191.7	192.2	192.9	193.9
Meats, poultry, fish, and eggs.....	147.6	154.1	154.6	155.4	202.5	156.6	156.4	155.3	156.3	157.9	159.2	160.0	160.7	160.6	161.4
Dairy and related products ¹	159.4	160.5	159.4	160.5	138.2	161.6	161.9	161.4	161.5	163.8	163.5	163.1	163.5	164.7	166.9
Fruits and vegetables.....	201.8	203.4	198.9	200.0	201.5	203.6	204.7	205.8	213.3	210.9	210.1	209.8	211.7	211.5	210.5
Nonalcoholic beverages and beverage materials.....	133.2	136.9	136.7	137.5	137.4	137.1	136.6	137.1	135.8	138.7	139.3	138.8	138.2	137.2	137.8
Other foods at home.....	152.8	155.1	155.6	156.0	156.2	156.1	155.3	155.4	155.8	157.3	157.3	158.2	157.1	159.1	159.1
Sugar and sweets.....	152.2	153.9	153.9	154.2	154.4	154.4	153.8	152.7	153.3	155.4	155.6	155.6	153.7	155.8	155.5
Fats and oils.....	147.9	147.2	146.4	147.9	148.6	148.5	149.4	146.3	149.9	152.8	152.4	153.0	151.4	154.3	156.4
Other foods.....	168.8	172.3	173.4	173.5	173.6	173.5	172.0	173.4	173.0	174.0	174.1	175.4	174.6	176.5	176.0
Other miscellaneous foods ^{1,2}	104.6	107.1	108.0	108.4	109.0	107.5	106.3	109.6	108.6	108.5	108.5	108.5	108.4	108.7	108.0
Food away from home ¹	165.0	169.0	168.6	169.1	169.5	170.0	170.3	170.5	170.8	171.4	171.8	172.3	172.7	173.1	173.5
Other food away from home ^{1,2}	105.1	109.2	108.4	108.8	109.6	110.4	110.9	111.2	111.4	111.5	111.6	111.8	112.0	112.5	112.8
Alcoholic beverages.....	168.8	173.8	173.6	174.4	174.7	174.4	174.8	175.6	175.8	176.5	177.0	177.2	177.6	178.0	178.4
Housing.....	160.0	165.4	165.5	166.4	166.6	167.3	167.5	167.6	168.1	170.2	170.5	171.0	171.0	171.7	173.0
Shelter.....	181.6	187.4	187.2	187.9	188.4	188.7	189.3	189.5	189.6	190.6	191.5	192.6	192.9	193.5	194.4
Rent of primary residence.....	177.1	183.4	182.7	183.4	184.1	184.8	185.6	186.2	187.0	187.7	188.3	189.0	189.6	190.4	191.0
Lodging away from home ²	122.2	117.3	120.9	123.1	122.5	118.3	118.6	113.9	108.7	113.8	118.5	123.8	121.2	119.9	123.2
Owners' equivalent rent of primary residence ³	175.7	180.8	180.4	180.8	181.3	181.9	182.4	183.0	183.5	184.1	184.5	185.2	185.7	186.3	187.0
Tenants' and household insurance ^{1,2}	101.6	103.9	104.1	104.4	104.2	104.4	104.4	104.7	104.9	105.2	105.3	105.6	105.8	106.9	107.2
Fuels and utilities.....	128.7	137.4	138.7	141.0	140.4	143.4	142.5	142.0	144.6	153.2	151.5	149.9	148.8	150.8	155.2
Fuels.....	113.0	121.8	123.3	125.7	125.0	128.2	127.2	126.5	129.3	138.6	136.6	134.8	133.6	135.7	140.5
Fuel oil and other fuels.....	91.7	128.8	120.2	120.1	120.1	133.1	136.7	139.3	144.1	150.1	145.0	138.0	133.9	131.5	129.2
Gas (piped) and electricity.....	120.4	127.5	129.9	132.5	131.8	134.4	133.0	132.1	134.8	144.8	143/0	141.5	140.4	142.9	148.5
Household furnishings and operations.....	124.7	125.5	125.3	125.7	125.7	126.1	125.8	126.0	125.6	125.7	125.9	125.9	126.0	125.7	125.9
Apparel.....	130.1	128.3	127.3	123.6	124.0	128.7	131.3	130.5	126.6	124.1	127.0	130.6	130.5	128.5	125.2
Men's and boys' apparel.....	131.2	129.7	129.5	126.6	126.8	128.8	130.3	131.3	128.0	125.8	126.9	127.6	128.3	129.2	126.3
Women's and girls' apparel.....	121.3	119.3	117.4	112.2	113.2	121.5	125.5	122.6	117.5	113.2	118.4	125.2	124.7	120.2	115.6
Infants' and toddlers' apparel ¹	130.3	132.3	132.0	129.8	128.4	129.0	132.6	132.7	130.0	129.0	131.0	133.3	133.2	132.0	128.6
Footwear.....	126.2	124.2	124.6	120.9	121.5	124.8	125.5	125.7	124.0	121.5	122.4	125.2	125.2	124.5	122.1
Transportation.....	143.4	152.8	155.5	154.4	152.3	154.2	154.0	154.9	153.9	154.0	154.5	153.3	155.8	159.2	157.9
Private transportation.....	140.7	150.1	152.8	151.6	149.3	151.4	151.3	152.2	151.2	151.2	151.7	150.5	153.2	156.6	155.1
New and used motor vehicles ²	100.4	101.4	101.4	101.1	100.9	101.0	101.4	102.2	102.8	102.9	102.8	102.5	102.4	102.0	

28. 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		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
New vehicles.....	144.0	143.9	144.1	143.7	143.1	142.5	142.7	143.7	144.6	144.8	144.5	143.8	143.8	143.4	142.7
Used cars and trucks ¹	153.3	157.1	157.1	156.6	156.5	157.5	159.3	160.7	161.6	161.7	161.7	161.1	160.9	160.2	160.0
Motor fuel.....	100.8	129.5	140.1	136.2	128.0	135.3	133.1	133.2	127.7	126.9	127.8	124.1	134.0	147.4	142.1
Gasoline (all types).....	100.2	128.8	139.4	135.5	127.3	134.6	132.3	132.4	126.9	126.2	127.1	123.4	133.3	146.7	141.1
Motor vehicle parts and equipment.....	100.0	100.9	100.5	100.8	100.7	100.9	101.0	101.8	102.3	103.0	103.4	104.0	103.5	103.6	103.6
Motor vehicle maintenance and repair.....	173.3	178.8	178.3	178.7	179.6	180.2	180.9	181.4	181.5	182.1	183.1	183.3	183.4	184.1	184.4
Public transportation..... ¹	193.1	203.4	205.5	206.9	208.7	206.4	202.4	203.2	203.7	204.3	205.8	204.2	202.7	203.5	209.5
Medical care.....	249.7	259.9	259.7	260.6	261.7	262.2	262.8	263.1	263.8	266.3	268.1	269.1	269.9	270.4	271.5
Medical care commodities.....	226.8	233.6	233.7	234.2	234.6	235.0	235.2	235.5	236.5	237.8	239.1	240.2	241.0	241.7	243.2
Medical care services.....	254.9	265.9	265.6	266.6	267.9	268.5	269.2	269.4	270.1	272.8	274.7	275.7	276.5	277.0	278.0
Professional services.....	230.8	239.6	239.9	240.3	240.9	241.3	241.8	241.7	242.3	244.9	246.4	247.0	247.8	248.0	248.7
Hospital and related services.....	295.5	313.2	311.7	314.2	317.1	318.2	319.2	320.3	320.9	323.9	326.6	328.3	329.1	330.6	332.0
Recreation ²	101.3	102.4	102.5	102.7	102.9	102.8	102.8	102.7	102.6	103.0	103.1	103.0	103.7	103.7	103.5
Video and audio ^{1,2}	100.5	100.7	101.2	100.9	101.3	101.1	100.7	100.6	100.3	100.8	101.2	101.0	101.2	101.1	100.7
Education and communication ²	101.5	102.7	101.7	102.2	103.0	102.9	103.7	103.2	103.7	104.0	104.1	104.4	104.2	104.1	104.5
Education ²	107.2	112.8	111.8	112.1	113.2	115.1	115.4	115.6	115.7	116.0	116.2	116.3	116.4	116.7	117.2
Educational books and supplies.....	264.1	283.3	280.9	281.5	283.6	288.6	289.0	288.6	289.2	292.9	294.1	294.7	294.7	294.5	298.2
Tuition, other school fees, and child care.....	302.8	318.2	315.4	316.2	319.2	324.7	325.7	326.3	326.5	327.0	327.4	327.9	328.2	329.1	330.3
Communication ^{1,2}	96.9	94.6	93.6	94.3	94.8	93.1	94.2	93.3	94.1	94.4	94.4	94.8	94.4	94.0	94.3
Information and information processing ^{1,2}	96.5	94.1	93.0	93.9	94.4	92.6	93.8	92.8	93.6	93.8	93.7	94.1	93.8	93.4	93.6
Telephone services ^{1,2}	100.2	98.7	97.4	98.4	99.1	97.1	98.6	97.6	98.6	99.0	98.9	99.5	99.2	98.8	99.2
Information and information processing other than telephone services ^{1,4}	31.6	26.8	27.0	26.6	26.1	25.9	25.5	25.1	24.6	24.0	23.8	23.3	22.8	22.4	22.2
Personal computers and peripheral equipment ^{1,2}	53.1	40.5	40.7	39.8	39.1	38.5	37.8	36.7	35.9	34.3	33.4	31.8	31.1	29.9	29.4
Other goods and services.....	261.9	276.5	274.5	277.9	276.8	280.9	278.2	282.3	279.2	281.5	283.2	283.5	288.2	286.8	287.9
Tobacco and smoking products.....	356.2	395.2	388.7	400.9	394.2	408.2	397.0	411.3	396.9	404.6	409.2	408.5	424.8	419.8	421.6
Personal care ¹	161.3	165.5	165.3	165.5	166.1	166.5	166.8	167.1	167.7	168.1	168.5	169.0	169.4	169.3	169.9
Personal care products ¹	152.5	154.2	154.0	154.1	155.0	155.1	153.9	154.2	155.8	155.7	155.9	155.9	156.0	153.8	155.4
Personal care services ¹	171.7	178.6	178.3	178.6	179.7	180.3	180.8	181.1	181.7	182.1	182.4	182.8	183.9	184.7	184.8
Miscellaneous personal services.....	243.1	251.9	251.4	252.2	253.0	253.4	254.5	255.1	255.3	257.0	258.4	258.3	260.0	260.7	261.6
Commodity and service group:															
Commodities.....	144.7	149.8	150.6	150.1	149.3	151.0	151.0	151.4	150.6	150.8	151.4	151.4	152.8	153.9	153.0
Food and beverages.....	163.8	167.7	167.3	168.0	168.6	168.8	169.0	168.8	169.8	170.8	171.2	171.6	171.9	172.3	172.8
Commodities less food and beverages.....	133.2	139.0	140.3	139.2	137.7	140.2	140.2	140.8	139.1	138.8	139.5	139.3	141.2	142.6	141.1
Nondurables less food and beverages.....	138.1	149.1	151.5	149.7	147.2	151.8	151.6	152.1	148.6	148.1	149.4	149.3	153.1	156.2	153.6
Apparel.....	130.1	128.3	127.3	123.6	124.0	128.7	131.3	130.5	126.6	124.1	127.0	130.6	130.5	128.5	125.2
Nondurables less food, beverages, and apparel.....	147.2	165.3	169.6	168.7	164.6	169.3	167.6	168.8	165.5	166.0	166.5	164.4	170.5	176.3	174.1
Durables.....	126.0	125.8	125.9	125.6	125.2	125.3	125.6	126.2	126.6	126.6	126.6	126.2	126.0	125.5	125.2
Services.....	185.3	191.6	191.2	192.2	193.0	193.4	193.9	194.0	194.5	196.6	197.2	197.8	198.0	198.7	200.1
Rent of shelter ³	174.9	180.5	180.3	181.0	181.5	181.7	182.3	182.5	182.6	183.6	184.4	185.5	185.8	186.3	187.2
Transportation services.....	187.9	192.9	192.6	193.0	193.8	193.7	193.9	195.0	195.2	196.0	197.2	197.2	197.2	197.6	198.9
Other services.....	219.6	225.9	224.7	225.9	227.3	227.3	228.4	228.1	228.9	229.9	230.6	231.2	231.9	232.2	232.6
Special indexes:															
All items less food.....	163.1	169.1	169.5	169.6	169.4	170.7	170.9	171.3	170.9	171.9	172.5	172.8	173.8	174.7	174.9
All items less shelter.....	158.1	163.8	164.3	164.3	163.9	165.4	165.5	165.7	165.5	166.5	167.0	167.0	168.0	169.1	169.0
All items less medical care.....	159.2	164.7	165.0	165.1	165.0	166.2	166.4	166.6	166.4	167.4	168.0	168.2	169.1	170.0	170.2
Commodities less food.....	134.6	140.4	141.7	140.6	139.1	141.6	141.6	142.2	140.6	140.3	141.0	140.8	142.7	144.1	142.6
Nondurables less food.....	140.0	150.7	152.9	151.2	148.9	153.3	153.1	153.6	150.3	149.9	151.1	151.1	154.7	157.6	155.3
Nondurables less food and apparel.....	148.4	165.4	169.4	168.7	164.9	169.2	167.7	168.8	165.8	166.3	166.8	164.9	170.5	175.9	173.9
Nondurables.....	151.3	158.9	159.9	159.4	158.3	160.8	160.8	161.0	159.7	159.9	160.8	160.9	163.0	164.8	163.8
Services less rent of shelter ³	174.1	180.1	180.2	181.3	181.9	182.5	182.7	182.8	183.7	186.6	186.9	187.0	187.0	187.8	189.6
Services less medical care services.....	179.5	185.4	185.1	186.0	186.6	187.2	187.6	187.7	188.3	190.3	190.8	191.4	191.6	192.3	193.6
Energy.....	106.1	124.8	130.9	130.1	125.7	130.9	129.3	129.0	127.6	131.8	131.3	128.6	132.9	140.6	140.3
All items less energy.....	171.1	175.1	174.6	174.9	175.3	176.0	176.5	176.8	176.8	177.4	178.2	178.8	179.2	179.2	179.5
All items less food and energy.....	173.1	177.1	176.6	176.8	177.2	178.0	178.6	179.0	178.7	179.3	180.1	180.9	181.3	181.2	181.4
Commodities less food and energy.....	144.3	145.4	145.0	144.5	144.2	145.7	146.1	146.7	145.8	145.5	146.2	146.8	147.3	146.4	145.6
Energy commodities.....	100.3	129.7	139.1	135.4	127.7	135.4	133.5	133.8	128.9	128.5	129.1	125.1	134.2	146.6	141.5
Services less energy.....	192.6	198.7	198.0	198.8	199.5	200.0	200.6	200.8	201.1	202.2	203.1	204.0	204.4	204.8	205.7

¹ Not seasonally adjusted.

² Indexes on a December 1997 = 100 base.

³ Indexes on a December 1982 = 100 base.

⁴ Indexes on a December 1988 = 100 base.

Dash indicates data not available.

NOTE: Index applied to a month as a whole, not to any specific date.

29. Consumer Price Index: U.S. city average and available local area data: all items

[1982-84 = 100, unless otherwise indicated]

Area	Pricing schedule ¹	All Urban Consumers						Urban Wage Earners					
		2000		2001				2000		2001			
		May	June	Mar.	Apr.	May	June	May	June	Mar.	Apr.	May	June
U.S. city average.....	M	171.5	172.4	176.2	176.9	177.7	178.0	168.2	169.2	172.6	173.5	174.4	174.6
Region and area size²													
Northeast urban.....	M	178.4	179.0	183.7	184.2	184.6	185.3	175.4	175.9	180.3	180.9	181.6	182.1
Size A—More than 1,500,000.....	M	179.1	179.7	184.6	185.0	185.6	186.4	175.1	175.7	180.2	180.7	181.6	182.3
Size B/C—50,000 to 1,500,000 ³	M	107.4	107.7	110.4	110.7	110.8	111.0	107.0	107.3	109.8	110.2	110.4	110.5
Midwest urban ⁴	M	167.5	169.7	171.7	172.8	174.2	173.8	163.9	166.2	167.8	169.0	170.7	170.1
Size A—More than 1,500,000.....	M	169.2	171.3	173.3	174.4	175.6	175.3	164.6	166.9	168.5	169.6	171.0	170.5
Size B/C—50,000 to 1,500,000 ³	M	107.0	108.4	109.7	110.4	111.6	111.2	107.0	108.7	109.6	110.6	112.0	111.4
Size D—Nonmetropolitan (less than 50,000).....	M	161.4	163.1	165.9	166.7	167.9	167.5	160.0	161.8	164.3	165.1	166.4	165.8
South urban.....	M	166.7	167.5	170.6	171.4	171.7	172.2	165.0	165.8	168.7	169.6	170.0	170.3
Size A—More than 1,500,000.....	M	166.0	167.2	170.9	171.6	171.9	172.7	163.8	165.0	168.4	169.3	169.7	170.5
Size B/C—50,000 to 1,500,000 ³	M	107.2	107.6	109.4	109.9	110.1	110.3	107.0	107.4	109.1	109.7	109.9	110.0
Size D—Nonmetropolitan (less than 50,000).....	M	167.2	167.1	169.5	170.6	171.0	171.4	168.0	168.1	170.4	171.8	172.0	172.3
West urban.....	M	174.0	174.3	180.1	180.4	181.3	182.0	169.6	169.9	175.3	175.8	176.7	177.3
Size A—More than 1,500,000.....	M	175.5	175.8	182.0	182.5	183.4	184.4	169.4	169.6	175.4	176.0	177.0	177.9
Size B/C—50,000 to 1,500,000 ³	M	107.3	107.7	110.7	110.6	111.1	111.2	107.1	107.4	110.4	110.4	110.9	110.9
Size classes:													
A ⁵	M	155.5	156.4	160.3	160.9	161.6	162.1	154.1	155.1	158.6	159.3	160.2	160.6
B/C ³	M	107.2	107.8	109.8	110.2	110.7	110.8	107.0	107.7	109.5	110.1	110.7	110.6
D.....	M	166.9	167.5	170.3	171.2	171.9	172.1	166.2	166.8	169.5	170.5	171.1	171.2
Selected local areas⁶													
Chicago—Gary—Kenosha, IL—IN—WI.....	M	173.7	176.0	177.1	178.4	179.8	179.2	168.1	170.4	171.4	172.6	174.0	173.4
Los Angeles—Riverside—Orange County, CA.....	M	171.1	171.0	176.2	176.6	177.5	178.9	164.4	164.3	169.1	169.6	170.5	171.9
New York, NY—Northern NJ—Long Island, NY—NJ—CT—PA.....	M	181.4	182.0	186.4	186.6	187.3	188.3	177.0	177.6	181.8	181.9	183.0	183.8
Boston—Brockton—Nashua, MA—NH—ME—CT.....	1	181.7	—	190.9	—	190.9	—	180.6	—	189.3	—	190.1	—
Cleveland—Akron, OH.....	1	166.6	—	172.3	—	173.7	—	159.0	—	163.9	—	165.6	—
Dallas—Ft. Worth, TX.....	1	163.2	—	168.9	—	169.4	—	163.1	163.1	168.5	—	169.1	—
Washington—Baltimore, DC—MD—VA—WV ⁷	1	106.7	—	109.7	—	110.1	—	106.7	—	109.4	—	109.9	—
Atlanta, GA.....	2	—	171.3	—	176.6	—	177.8	—	168.9	—	173.8	—	175.4
Detroit—Ann Arbor—Flint, MI.....	2	—	170.9	—	174.5	—	175.8	—	165.8	—	169.1	—	170.4
Houston—Galveston—Brazoria, TX.....	2	—	154.1	—	159.5	—	159.6	—	153.1	—	157.8	—	158.4
Miami—Ft. Lauderdale, FL.....	2	—	168.0	—	172.8	—	173.5	—	165.7	—	170.4	—	171.2
Philadelphia—Wilmington—Atlantic City, PA—NJ—DE—MD.....	2	—	176.6	—	181.2	—	182.5	—	176.1	—	180.7	—	182.1
San Francisco—Oakland—San Jose, CA.....	2	—	179.1	—	189.1	—	190.9	—	175.2	—	184.9	—	186.9
Seattle—Tacoma—Bremerton, WA.....	2	—	179.2	—	184.2	—	186.3	—	174.5	—	179.4	—	181.3

¹ Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M—Every month.
 1—January, March, May, July, September, and November.
 2—February, April, June, August, October, and December.

² Regions defined as the four Census regions.

³ Indexes on a December 1996 = 100 base.

⁴ The "North Central" region has been renamed the "Midwest" region by the Census Bureau. It is composed of the same geographic entities.

⁵ Indexes on a December 1986 = 100 base.

⁶ In addition, the following metropolitan areas are published semiannually and appear in tables 34 and 39 of the January and July issues of the *CPI Detailed Report*: Anchorage, AK; Cincinnati—Hamilton, OH—KY—IN; Denver—Boulder—Greeley, CO; Honolulu, HI; Kansas City,

MO—KS; Milwaukee—Racine, WI; Minneapolis—St. Paul, MN—WI; Pittsburgh, PA; Portland—Salem, OR—WA; St. Louis, MO—IL; San Diego, CA; Tampa—St. Petersburg—Clearwater, FL.

⁷ Indexes on a November 1996 = 100 base.

Dash indicates data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Each local index has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error. As a result, local area indexes show greater volatility than the national index, although their long-term trends are similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in their escalator clauses. Index applies to a month as a whole, not to any specific date.

30. Annual data: Consumer Price Index, U.S. city average, all items and major groups

[1982-84 = 100]

Series	1992	1993	1994	1995	1996	1997	1998	1999	2000
Consumer Price Index for All Urban Consumers:									
All items:									
Index.....	140.3	144.5	148.2	152.4	156.9	160.5	163.0	166.6	172.2
Percent change.....	3.0	3.0	2.6	2.8	3.0	2.3	1.6	2.2	3.4
Food and beverages:									
Index.....	138.7	141.6	144.9	148.9	153.7	157.7	161.1	164.6	168.4
Percent change.....	1.4	2.1	2.3	2.8	3.2	2.6	2.2	2.2	2.3
Housing:									
Index.....	137.5	141.2	144.8	148.5	152.8	156.8	160.4	163.9	169.6
Percent change.....	2.9	2.7	2.5	2.6	2.9	2.6	2.3	2.2	3.5
Apparel:									
Index.....	131.9	133.7	133.4	132.0	131.7	132.9	133.0	131.3	129.6
Percent change.....	2.5	1.4	-2	-1.0	-2	.9	.1	-1.3	-1.3
Transportation:									
Index.....	126.5	130.4	134.3	139.1	143.0	144.3	141.6	144.4	153.3
Percent change.....	2.2	3.1	3.0	3.6	2.8	0.9	-1.9	2.0	6.2
Medical care:									
Index.....	190.1	201.4	211.0	220.5	228.2	234.6	242.1	250.6	260.8
Percent change.....	7.4	5.9	4.8	4.5	3.5	2.8	3.2	3.5	4.1
Other goods and services:									
Index.....	183.3	192.9	198.5	206.9	215.4	224.8	237.7	258.3	271.1
Percent change.....	6.8	5.2	2.9	4.2	4.1	4.4	5.7	8.7	5.0
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index.....	138.2	142.1	145.6	149.8	154.1	157.6	159.7	163.2	168.9
Percent change.....	2.9	2.8	2.5	2.9	2.9	2.3	1.3	2.2	3.5

31. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		2000							2001					
	1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Finished goods.....	133.0	138.0	138.6	138.6	138.2	139.4	140.1	140.0	139.7	141.2	141.5	141.0	141.7	142.5	142.1
Finished consumer goods.....	132.0	138.2	139.1	139.0	138.6	140.1	140.7	140.5	140.1	141.9	142.5	141.9	142.7	143.8	143.3
Finished consumer foods.....	135.1	137.2	137.6	137.5	137.2	137.4	138.0	138.2	137.9	138.4	139.5	140.9	141.6	141.8	141.9
Finished consumer goods excluding foods.....	130.5	138.4	139.6	139.5	139.0	141.1	141.6	141.3	140.8	143.3	143.6	142.1	142.9	144.5	143.7
Nondurable goods less food.....	127.9	138.7	140.5	140.5	140.0	143.0	142.6	142.1	141.5	144.9	145.9	143.8	144.9	147.3	146.5
Durable goods.....	133.0	133.9	133.4	133.1	132.7	132.5	135.3	135.4	135.3	135.2	134.2	134.1	134.2	133.8	133.2
Capital equipment.....	137.6	138.8	138.5	138.6	138.5	138.6	139.8	139.9	139.9	140.2	139.7	139.7	140.0	139.7	139.6
Intermediate materials, supplies, and components.....	123.2	129.2	129.8	130.3	129.9	131.1	130.8	130.5	130.6	131.5	131.3	130.8	130.6	131.2	131.4
Materials and components for manufacturing.....	124.6	128.1	128.6	128.9	128.6	128.5	128.4	128.0	128.1	128.6	128.8	128.9	128.7	128.6	128.3
Materials for food manufacturing.....	120.8	119.2	120.6	120.5	119.4	119.0	119.1	118.9	119.8	120.4	120.3	122.3	122.3	124.6	125.7
Materials for nondurable manufacturing.....	124.9	132.6	133.7	134.5	133.9	133.6	133.7	133.3	133.5	135.0	136.1	135.8	135.2	134.2	133.4
Materials for durable manufacturing.....	125.1	129.0	129.4	129.4	129.0	129.3	128.8	127.5	128.0	127.2	127.0	126.7	126.0	126.9	126.5
Components for manufacturing.....	125.7	126.2	126.2	126.3	126.3	126.4	126.4	126.5	126.1	126.4	126.2	126.4	126.6	126.4	126.4
Materials and components for construction.....	148.9	150.7	151.2	150.8	150.4	150.3	150.2	150.1	149.9	149.6	150.0	150.2	150.4	151.6	151.7
Processed fuels and lubricants.....	84.6	102.0	103.3	105.0	104.5	110.5	109.2	108.8	108.3	111.4	109.9	106.9	105.9	108.1	110.2
Containers.....	142.5	151.6	153.3	153.3	153.0	153.3	153.4	153.0	153.0	153.0	152.8	153.2	153.2	153.9	154.1
Supplies.....	134.2	136.9	137.1	137.3	137.0	137.4	137.7	138.0	138.1	138.9	138.5	138.7	139.0	139.0	138.8
Crude materials for further processing.....	98.2	120.6	125.6	122.7	118.3	126.0	130.3	128.4	136.2	155.0	133.2	131.5	132.9	130.9	122.8
Foodstuffs and feedstuffs.....	98.7	100.2	101.9	99.3	95.5	97.6	99.5	100.4	103.9	105.3	104.5	108.9	109.1	110.3	109.7
Crude nonfood materials.....	94.3	130.4	137.3	134.4	129.7	141.0	146.7	143.0	153.5	183.5	148.2	142.2	144.5	140.4	-
Special groupings:															
Finished goods, excluding foods.....	132.3	138.1	138.8	138.8	138.4	139.9	140.6	140.4	140.1	141.9	142.0	140.9	141.6	142.6	-
Finished energy goods.....	78.8	94.1	97.7	97.3	95.9	100.6	99.6	98.9	97.9	101.9	103.6	99.7	101.2	104.1	102.7
Finished goods less energy.....	143.0	144.9	144.7	144.7	144.7	144.8	146.0	146.1	145.9	146.7	146.6	147.1	147.5	147.7	147.6
Finished consumer goods less energy.....	145.2	147.4	147.3	147.3	147.3	147.5	148.6	148.7	148.5	149.4	149.5	150.2	150.6	151.6	150.9
Finished goods less food and energy.....	146.1	148.0	147.5	147.6	147.7	147.8	149.2	149.2	149.1	150.0	149.4	149.5	149.8	150.0	149.9
Finished consumer goods less food and energy.....	151.7	154.0	153.6	153.5	153.8	154.0	155.5	155.4	155.3	156.5	155.9	156.1	156.4	156.9	156.7
Consumer nondurable goods less food and energy.....	166.3	169.8	169.4	169.6	170.4	170.9	171.3	171.2	171.0	173.2	173.2	173.5	174.0	175.4	175.5
Intermediate materials less foods and feeds.....	123.9	130.1	130.7	131.2	131.0	132.2	131.9	131.5	131.5	132.4	132.3	131.7	131.6	132.1	132.3
Intermediate foods and feeds.....	111.1	111.7	113.4	112.7	110.6	111.1	111.5	111.7	113.5	115.1	113.6	114.1	114.0	114.9	116.3
Intermediate energy goods.....	84.3	101.7	103.0	104.6	104.2	110.1	108.8	107.6	107.9	110.9	109.5	106.4	105.5	107.6	109.7
Intermediate goods less energy.....	131.7	135.0	135.5	135.7	135.3	135.4	135.4	135.2	135.3	135.8	135.8	136.0	136.0	136.1	135.9
Intermediate materials less foods and energy.....	133.1	136.6	137.0	137.2	137.0	137.0	137.0	136.8	136.8	137.1	137.3	137.4	137.4	137.5	137.2
Crude energy materials.....	78.5	122.1	130.6	127.6	122.4	136.7	144.8	140.9	154.7	193.4	148.3	141.0	145.2	139.8	123.1
Crude materials less energy.....	107.9	111.7	113.4	110.8	107.4	109.2	110.1	109.9	112.4	113.7	112.4	115.2	114.3	115.3	114.8
Crude nonfood materials less energy.....	135.2	145.2	146.7	144.3	141.9	142.9	141.0	137.8	137.5	138.7	136.1	134.6	130.8	130.9	130.6

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

[December 1984 = 100, unless otherwise indicated]

SIC	Industry	Annual average		2000							2001					
		1999	2000	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
-	Total mining industries.....	78.0	113.5	118.4	118.1	113.8	124.7	131.8	128.9	139.6	170.8	138.2	130.7	132.2	127.5	115.5
10	Metal mining.....	70.3	73.8	73.7	73.9	73.4	75.2	75.1	73.3	73.5	73.5	72.4	73.1	70.0	71.4	71.0
12	Coal mining (12/85 = 100).....	87.3	84.8	85.1	85.6	83.3	83.5	83.6	84.1	84.8	83.6	90.8	90.3	90.6	92.2	87.7
13	Oil and gas extraction (12/85 = 100).....	78.5	126.8	133.1	132.8	127.4	141.9	151.5	147.7	162.0	204.4	159.4	149.3	151.5	144.9	129.6
14	Mining and quarrying of nonmetallic minerals, except fuels.....	134.0	137.0	137.2	137.6	137.8	138.0	138.0	138.0	138.2	139.3	140.1	140.8	140.8	140.7	141.8
-	Total manufacturing industries.....	128.3	133.5	134.2	133.9	133.5	134.7	134.9	134.9	134.4	134.7	134.6	135.4	136.3	136.0	
20	Food and kindred products.....	126.3	128.5	129.4	129.4	128.7	128.5	128.7	128.8	129.6	130.1	130.4	131.7	132.5	133.2	133.8
21	Tobacco manufactures.....	325.7	345.8	342.2	342.3	350.4	351.1	351.6	351.6	351.8	372.4	372.4	372.3	372.1	391.2	391.7
22	Textile mill products.....	116.3	116.7	116.6	116.7	116.9	116.6	116.8	117.0	117.5	117.4	117.9	117.0	117.0	117.1	117.2
23	Apparel and other finished products made from fabrics and similar materials.....	125.3	125.7	125.6	125.9	125.9	125.9	126.0	125.7	125.9	125.7	125.7	125.7	125.9	125.8	125.7
24	Lumber and wood products, except furniture.....	161.8	158.1	158.7	157.6	155.7	155.3	155.0	154.5	154.2	153.2	153.8	154.5	154.7	160.5	161.3
25	Furniture and fixtures.....	141.3	143.3	143.5	143.5	143.6	143.5	143.7	143.8	143.8	144.2	144.3	144.8	144.7	144.9	145.2
26	Paper and allied products.....	136.4	145.8	147.3	147.3	147.3	147.7	147.6	147.5	147.0	147.4	147.0	147.0	147.0	146.9	146.8
27	Printing, publishing, and allied industries.....	177.6	182.9	183.1	183.2	183.6	183.6	184.9	185.0	185.1	186.8	187.2	187.6	188.4	188.8	188.4
28	Chemicals and allied products.....	149.7	156.7	156.5	157.4	157.5	158.3	158.6	158.3	159.0	160.4	161.6	161.9	161.4	160.4	160.0
29	Petroleum refining and related products.....	76.8	112.8	119.9	115.7	112.6	125.1	121.8	121.9	114.4	112.5	112.0	107.3	114.1	120.9	116.9
30	Rubber and miscellaneous plastics products.....	122.2	124.6	124.4	125.0	124.7	125.4	125.3	126.5	124.8	126.0	126.1	126.8	127.4	126.6	126.4
31	Leather and leather products.....	136.5	137.9	137.2	137.5	137.8	138.4	138.4	138.8	138.9	139.1	140.6	140.9	142.8	142.9	142.6
32	Stone, clay, glass, and concrete products.....	132.6	134.6	135.1	134.8	134.5	134.8	134.5	134.3	134.1	134.4	135.0	135.4	135.6	136.0	135.7
33	Primary metal industries.....	115.8	119.8	120.2	120.3	120.4	120.5	120.2	119.0	119.2	118.5	118.0	117.4	116.8	116.9	116.5
34	Fabricated metal products, except machinery and transportation equipment.....	129.1	130.3	130.3	130.3	130.4	130.5	130.6	130.5	130.5	130.6	130.7	130.8	131.2	131.1	131.1
35	Machinery, except electrical.....	117.3	117.5	117.5	117.6	117.6	117.6	117.6	117.7	117.7	117.7	117.8	117.8	118.0	118.0	118.1
36	Electrical and electronic machinery, equipment, and supplies.....	109.5	108.3	108.5	108.5	108.1	108.1	108.0	107.9	107.7	107.7	107.6	107.5	107.5	107.4	107.3
37	Transportation.....	134.5	136.8	136.0	136.1	135.7	135.7	138.4	138.6	138.4	138.7	137.6	137.9	138.1	137.4	137.1
38	Measuring and controlling instruments; photographic, medical, and optical goods; watches and clocks.....	125.7	126.2	126.2	126.2	126.2	126.3	126.4	121.8	126.4	126.9	127.1	126.9	126.9	127.3	127.4
39	Miscellaneous manufacturing industries (12/85 = 100).....	130.3	130.9	130.7	130.9	131.0	131.0	131.0	131.2	131.3	131.7	131.9	132.3	132.2	132.5	132.5
	Service industries:															
42	Motor freight transportation and warehousing (06/93 = 100).....	114.8	119.4	119.0	118.9	120.1	121.2	121.4	121.8	121.5	121.9	122.5	122.6	122.7	123.0	123.2
43	U.S. Postal Service (06/89 = 100).....	135.3	135.2	135.2	135.2	135.2	135.2	135.2	135.2	135.2	141.3	141.3	141.3	141.3	141.3	141.3
44	Water transportation (12/92 = 100).....	113.0	122.6	124.1	125.2	126.1	127.0	126.5	124.2	126.1	125.8	127.8	126.8	125.9	125.6	130.3
45	Transportation by air (12/92 = 100).....	130.8	147.7	147.2	147.6	147.9	151.5	152.5	152.7	154.2	154.7	154.0	155.4	155.4	156.4	156.6
46	Pipelines, except natural gas (12/92 = 100).....	98.3	102.3	102.1	102.5	102.5	102.4	102.7	102.7	102.7	109.1	109.1	108.9	108.9	109.0	109.0

33. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	1992	1993	1994	1995	1996	1997	1998	1999	2000
Finished goods									
Total.....	123.2	124.7	125.5	127.9	131.3	131.8	130.7	133.0	138.0
Foods.....	123.3	125.7	126.8	129.0	133.6	134.5	134.3	135.1	137.2
Energy.....	77.8	78.0	77.0	78.1	83.2	83.4	75.1	78.8	94.1
Other.....	134.2	135.8	137.1	140.0	142.0	142.4	143.7	146.1	148.0
Intermediate materials, supplies, and components									
Total.....	114.7	116.2	118.5	124.9	125.7	125.6	123.0	123.2	129.2
Foods.....	113.9	115.6	118.5	119.5	125.3	123.2	123.2	120.8	119.2
Energy.....	84.3	84.6	83.0	84.1	89.8	89.0	80.8	84.3	101.7
Other.....	122.0	123.8	127.1	135.2	134.0	134.2	133.5	133.1	136.6
Crude materials for further processing									
Total.....	100.4	102.4	101.8	102.7	113.8	111.1	96.8	98.2	120.6
Foods.....	105.1	108.4	106.5	105.8	121.5	112.2	103.9	98.7	100.2
Energy.....	78.8	76.7	72.1	69.4	85.0	87.3	68.6	78.5	122.1
Other.....	94.2	94.1	97.0	105.8	105.7	103.5	84.5	91.1	118.0

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

[1995 = 100]

SITC Rev. 3	Industry	2000							2001					
		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
0	Food and live animals.....	87.4	85.8	83.6	85.9	87.1	88.5	88.7	89.8	88.6	89.1	88.6	87.9	87.9
01	Meat and meat preparations.....	109.3	108.2	103.7	105.2	107.4	107.6	105.9	105.4	107.1	107.1	109.8	110.8	110.7
04	Cereals and cereal preparations.....	71.6	66.9	64.0	67.8	70.8	74.0	75.8	78.8	76.4	77.2	74.7	74.7	73.5
05	Vegetables, fruit, and nuts, prepared fresh or dry.....	87.8	91.3	88.6	91.9	88.7	89.8	88.9	86.9	86.2	87.8	89.5	87.4	88.4
2	Crude materials, inedible, except fuels.....	84.4	82.9	82.9	83.7	83.5	82.2	82.6	82.0	80.9	79.7	78.4	77.5	76.9
21	Hides, skins, and furskins, raw.....	86.7	89.7	95.4	100.5	104.7	102.1	103.3	105.6	106.5	107.5	119.2	123.2	103.8
22	Oilseeds and oleaginous fruits.....	86.3	80.3	78.0	83.8	81.3	79.3	85.0	83.9	78.1	79.0	75.0	76.0	79.9
24	Cork and wood.....	86.7	86.5	88.4	86.9	87.2	86.5	85.9	85.2	84.3	83.5	81.6	80.9	80.6
25	Pulp and waste paper.....	97.6	95.9	91.7	90.7	89.8	88.6	85.9	85.8	83.6	82.3	80.6	75.2	73.6
26	Textile fibers and their waste.....	69.6	67.7	70.7	72.2	72.0	72.2	73.2	70.4	70.6	67.6	64.8	64.1	63.0
27	Crude fertilizers and crude minerals.....	93.3	93.3	93.1	91.5	90.7	90.6	90.6	90.9	90.9	89.9	89.4	89.2	89.4
28	Metalliferous ores and metal scrap.....	78.2	78.0	78.7	78.7	79.5	76.2	74.7	74.1	74.7	72.5	73.0	72.2	71.7
3	Mineral fuels, lubricants, and related products.....	144.9	151.2	147.6	166.3	157.2	162.1	157.4	157.5	159.5	152.4	156.0	159.0	154.2
32	Coal, coke, and briquettes.....	93.8	93.8	93.1	93.1	93.3	93.1	93.0	93.1	93.1	93.6	100.2	100.4	100.7
33	Petroleum, petroleum products, and related materials.....	168.2	178.3	172.3	203.3	189.0	193.4	183.6	181.1	185.2	172.4	178.4	184.4	1,770.0
4	Animal and vegetable oils, fats, and waxes.....	67.1	64.6	63.2	61.7	60.0	59.0	58.7	61.0	60.8	60.6	61.6	65.0	67.1
5	Chemicals and related products, n.e.s.	95.5	94.7	94.9	94.4	94.9	94.0	93.0	93.1	92.9	93.4	92.8	91.6	90.9
54	Medicinal and pharmaceutical products.....	99.7	100.5	100.3	100.2	100.4	100.2	100.1	99.7	99.6	99.4	99.7	99.6	99.7
55	Essential oils; polishing and cleaning preparations.....	102.8	103.3	103.3	103.4	103.4	103.3	103.2	103.4	103.2	103.4	103.0	102.9	102.9
57	Plastics in primary forms	98.1	97.0	95.4	92.8	92.3	91.2	90.0	90.5	91.5	92.7	91.2	89.9	89.0
58	Plastics in nonprimary forms.....	99.3	99.4	99.4	99.3	98.9	98.3	98.3	96.6	96.5	96.7	96.8	96.1	96.5
59	Chemical materials and products, n.e.s.	99.1	99.3	99.2	99.2	99.2	99.1	99.9	98.4	98.5	98.5	98.6	98.2	98.2
6	Manufactured goods classified chiefly by materials.....	100.3	100.7	100.9	101.1	100.8	100.5	100.4	101.0	100.6	100.4	100.1	99.9	99.7
62	Rubber manufactures, n.e.s.	104.4	104.8	104.7	104.7	104.6	104.1	103.8	104.4	104.3	104.7	104.0	104.0	104.1
64	Paper, paperboard, and articles of paper, pulp, and paperboard.....	89.8	90.4	90.3	90.0	89.9	89.6	89.1	88.6	88.4	87.8	87.7	87.6	87.0
66	Nonmetallic mineral manufactures, n.e.s.	106.5	106.3	106.3	106.1	105.8	105.9	105.6	106.2	106.2	106.0	106.5	106.6	107.0
68	Nonferrous metals.....	100.1	103.0	105.1	105.0	104.9	103.4	104.9	109.1	108.1	106.5	103.1	101.6	99.8
7	Machinery and transport equipment.....	97.3	97.3	97.3	97.4	97.3	97.4	97.4	97.5	97.6	97.9	97.8	97.8	97.7
71	Power generating machinery and equipment.....	112.0	112.4	112.3	112.4	112.4	113.7	113.7	115.2	115.2	14.7	115.0	115.0	114.9
72	Machinery specialized for particular industries.....	106.5	106.4	106.5	106.3	106.3	106.5	106.6	106.8	107.1	106.8	106.7	106.7	106.7
74	General industrial machines and parts, n.e.s., and machine parts.....	108.2	108.3	108.1	108.2	108.3	108.4	108.5	108.6	108.8	109.2	109.5	109.5	109.6
75	Computer equipment and office machines.....	68.2	68.3	67.8	67.8	67.7	67.8	67.6	67.1	67.1	66.8	66.7	66.2	65.6
76	Telecommunications and sound recording and reproducing apparatus and equipment.....	96.9	96.7	96.8	96.8	96.6	96.5	96.3	96.5	96.4	96.4	96.5	96.5	96.6
77	Electrical machinery and equipment.....	85.7	85.7	85.8	85.8	85.4	85.3	85.4	85.2	85.2	84.8	84.8	84.8	84.6
78	Road vehicles.....	103.9	103.9	103.9	104.1	104.0	103.9	104.0	104.1	104.1	104.1	104.1	104.1	104.1
87	Professional, scientific, and controlling instruments and apparatus.....	105.8	106.4	106.4	106.5	106.9	106.9	106.6	107.0	107.0	107.0	106.8	106.9	107.1

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

[1995 = 100]

SITC Rev. 3	Industry	2000						2001						
		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
0	Food and live animals.....	91.3	91.5	91.7	91.2	91.5	90.2	92.4	92.8	91.3	93.0	90.8	89.8	88.5
01	Meat and meat preparations.....	99.1	98.1	98.9	99.0	95.5	95.7	97.3	95.5	96.1	100.4	102.6	104.4	104.3
03	Fish and crustaceans, mollusks, and other aquatic invertebrates.....	109.1	110.7	113.5	112.6	110.7	109.3	109.1	107.4	105.6	102.2	100.1	99.7	98.8
05	Vegetables, fruit, and nuts, prepared fresh or dry.....	95.7	97.2	97.6	97.8	100.9	96.8	104.5	106.1	101.7	109.5	102.3	100.5	97.0
07	Coffee, tea, cocoa, spices, and manufactures thereof.....	59.5	56.8	55.8	54.5	54.1	51.9	50.8	50.5	51.1	51.1	52.1	50.8	49.8
1	Beverages and tobacco.....	113.0	112.5	112.9	113.6	113.5	113.3	113.2	113.2	113.3	113.0	113.2	114.8	114.4
11	Beverages.....	110.1	109.4	109.9	110.7	110.6	110.7	110.6	110.5	110.8	110.4	110.7	112.5	112.1
2	Crude materials, inedible, except fuels.....	90.7	90.7	89.6	88.9	89.8	87.7	88.5	87.5	88.9	86.1	86.6	89.5	94.2
24	Cork and wood.....	110.1	107.0	102.2	99.7	101.6	97.7	101.7	95.6	97.6	97.5	102.9	114.1	133.0
25	Pulp and waste paper.....	80.1	80.7	81.4	82.0	83.4	83.4	83.4	84.3	82.9	80.4	76.8	72.5	68.3
28	Metalliferous ores and metal scrap.....	100.7	101.2	102.1	101.6	102.3	100.1	98.8	100.8	100.9	98.1	98.1	97.0	97.3
29	Crude animal and vegetable materials, n.e.s.	92.7	101.8	101.3	103.0	104.3	99.1	97.1	102.0	115.3	97.7	91.8	100.7	98.6
3	Mineral fuels, lubricants, and related products.....	172.0	170.6	172.1	189.0	186.3	188.4	180.2	177.1	169.9	154.1	153.1	158.2	153.5
33	Petroleum, petroleum products, and related materials....	171.0	168.5	169.9	187.6	181.8	183.3	163.9	152.0	153.9	144.7	143.5	150.6	149.6
34	Gas, natural and manufactured.....	195.4	202.9	205.4	218.1	242.6	249.3	331.8	401.0	316.9	244.5	244.4	233.5	197.8
5	Chemicals and related products, n.e.s.	94.1	95.5	95.9	95.4	95.1	94.7	95.0	95.8	96.3	96.6	96.3	95.7	94.8
52	Inorganic chemicals.....	91.5	92.5	92.6	92.5	93.1	93.7	94.2	98.5	98.9	97.9	95.0	92.4	91.5
53	Dying, tanning, and coloring materials.....	86.1	87.6	88.6	87.9	87.0	86.9	86.9	88.8	89.6	89.1	88.4	87.9	87.7
54	Medicinal and pharmaceutical products.....	96.8	97.5	97.3	96.7	96.0	95.7	95.7	95.1	94.9	94.6	94.0	93.8	93.8
55	Essential oils; polishing and cleaning preparations.....	89.6	89.9	89.4	88.8	87.6	87.2	86.9	87.1	88.2	88.6	88.1	87.7	87.6
57	Plastics in primary forms.....	94.3	95.5	95.4	95.3	96.0	95.9	95.8	95.5	95.5	95.8	95.8	95.7	96.8
58	Plastics in nonprimary forms.....	80.8	81.5	80.9	80.8	80.0	79.5	78.6	80.3	84.5	84.4	83.2	83.1	82.1
59	Chemical materials and products, n.e.s.	99.7	100.2	100.0	101.1	100.4	100.4	100.6	101.8	101.6	101.9	101.4	100.6	100.3
6	Manufactured goods classified chiefly by materials.....	97.6	98.0	98.8	97.9	97.6	97.2	97.3	98.2	98.7	97.3	96.3	95.5	95.3
62	Rubber manufactures, n.e.s.	91.8	92.1	91.9	91.7	91.6	91.5	91.8	91.8	91.9	91.8	91.6	91.5	91.2
64	Paper, paperboard, and articles of paper, pulp, and paperboard.....	89.1	89.5	89.4	91.4	91.6	91.9	92.2	92.1	92.6	92.8	93.7	92.8	91.9
66	Nonmetallic mineral manufactures, n.e.s.	100.5	100.9	100.9	100.8	100.2	100.2	100.2	100.7	100.5	100.5	100.3	100.2	99.9
68	Nonferrous metals.....	110.7	112.5	118.7	114.4	115.7	114.3	114.4	121.0	124.0	116.4	110.9	107.0	106.1
69	Manufactures of metals, n.e.s.	95.7	95.8	95.4	95.4	95.2	94.9	95.0	95.3	95.0	94.9	95.7	95.7	95.6
7	Machinery and transport equipment.....	89.6	89.6	89.5	89.3	89.2	89.1	89.0	88.9	88.8	88.8	88.4	88.2	88.1
72	Machinery specialized for particular industries.....	96.1	96.7	96.5	95.9	95.7	95.4	95.3	95.9	96.6	96.3	96.0	95.8	95.7
74	General industrial machines and parts, n.e.s., and machine parts.....	96.2	96.7	96.4	96.1	95.5	95.3	95.4	95.9	95.9	95.6	95.1	94.7	94.6
75	Computer equipment and office machines.....	60.0	59.9	59.9	59.8	58.8	58.8	58.7	58.3	57.8	57.5	56.5	56.4	56.3
76	Telecommunications and sound recording and reproducing apparatus and equipment.....	84.6	84.3	84.2	84.1	83.9	83.7	83.6	83.0	82.8	82.8	82.1	82.0	82.1
77	Electrical machinery and equipment.....	83.3	82.8	82.7	82.6	82.7	82.5	82.2	82.1	81.8	82.5	82.1	82.0	81.7
78	Road vehicles.....	102.8	102.8	102.7	102.6	102.9	102.9	102.9	102.9	102.8	102.8	102.6	102.4	102.6
85	Footwear.....	100.3	100.9	101.0	100.9	100.8	100.7	100.6	101.0	101.2	101.5	101.1	101.0	100.8
88	Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.	91.6	92.5	92.1	91.4	91.4	91.0	90.7	91.2	91.3	91.4	90.6	90.6	90.3

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

[1995 = 100]

Category	2000							2001					
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
ALL COMMODITIES	96.3	96.2	96.0	96.6	96.5	96.5	96.3	96.5	96.5	96.2	96.1	95.9	95.7
Foods, feeds, and beverages.....	87.1	85.1	82.8	85.3	85.8	86.7	87.4	88.2	86.6	87.3	86.6	86.2	86.8
Agricultural foods, feeds, and beverages.....	86.2	84.0	81.3	84.3	84.6	85.7	86.7	87.3	85.7	86.4	85.9	85.9	86.5
Nonagricultural (fish, beverages) food products.....	98.1	97.9	99.7	97.9	99.5	98.2	96.3	98.6	97.0	97.6	95.3	91.0	90.9
Industrial supplies and materials.....	95.2	95.5	95.4	96.6	96.2	95.8	95.0	95.0	94.9	93.9	93.8	93.1	92.3
Agricultural industrial supplies and materials.....	78.2	77.9	80.3	81.9	82.3	82.0	82.9	82.4	82.6	80.7	80.7	81.0	78.6
Fuels and lubricants.....	135.6	141.1	137.9	155.0	146.9	150.7	146.2	145.2	147.1	139.8	144.8	147.7	143.4
Nonagricultural supplies and materials, excluding fuel and building materials.....	91.9	91.7	91.7	91.4	91.6	90.7	90.1	90.4	90.1	89.8	89.2	88.0	87.6
Selected building materials.....	89.9	89.6	90.5	89.4	89.8	89.0	89.0	88.8	88.2	87.4	86.8	86.3	87.0
Capital goods.....	96.1	96.1	96.1	96.2	96.1	96.2	96.3	96.4	96.5	96.7	96.6	96.6	96.5
Electric and electrical generating equipment.....	99.2	99.1	99.7	99.9	99.5	99.6	99.7	100.0	100.5	100.1	100.5	100.9	100.9
Nonelectrical machinery.....	91.7	91.6	91.6	91.5	91.5	91.5	91.5	91.5	91.5	915.0	91.3	91.1	90.9
Automotive vehicles, parts, and engines.....	104.1	104.4	104.4	104.5	104.5	104.4	104.4	104.6	104.5	104.6	104.7	104.7	104.7
Consumer goods, excluding automotive.....	102.3	102.5	102.4	102.2	102.3	102.2	102.0	102.1	102.0	101.9	101.8	101.7	101.8
Nondurables, manufactured.....	102.1	102.4	102.4	102.2	102.4	102.2	102.0	102.0	101.5	101.3	101.2	101.2	101.3
Durables, manufactured.....	101.3	101.5	101.4	101.3	101.2	101.2	101.1	101.3	101.5	101.5	101.3	101.2	101.3
Agricultural commodities.....	84.4	82.6	80.9	83.5	83.9	84.7	85.7	86.1	84.9	85.1	84.7	84.7	84.8
Nonagricultural commodities.....	97.6	97.8	97.7	98.0	97.9	97.8	97.5	97.7	97.7	97.5	97.4	97.1	96.9

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

[1995 = 100]

Category	2000							2001					
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
ALL COMMODITIES	99.6	99.7	99.9	101.0	100.6	100.6	100.0	100.0	99.3	97.8	97.2	97.5	97.1
Foods, feeds, and beverages.....	91.1	91.1	91.3	90.7	90.7	89.4	91.0	90.8	89.8	90.6	88.9	88.7	87.6
Agricultural foods, feeds, and beverages.....	84.1	83.7	83.2	82.5	83.0	81.9	84.2	84.3	83.4	85.6	83.8	83.5	82.3
Nonagricultural (fish, beverages) food products.....	109.7	110.5	112.9	112.5	111.2	109.5	109.1	107.9	106.7	103.9	102.4	102.1	101.4
Industrial supplies and materials.....	121.8	121.8	122.8	127.6	126.6	126.9	124.5	124.4	122.3	116.1	115.4	116.7	115.6
Fuels and lubricants.....	170.6	169.2	170.9	187.4	184.5	186.8	178.7	176.7	169.3	153.3	152.3	157.4	153.1
Petroleum and petroleum products.....	170.4	168.0	169.5	187.1	181.9	183.6	165.6	155.7	156.1	145.9	144.2	151.0	149.8
Paper and paper base stocks.....	87.0	87.5	87.6	89.8	90.4	90.6	91.0	91.0	91.2	90.8	91.1	89.0	87.1
Materials associated with nondurable supplies and materials.....	91.7	92.7	93.4	92.8	92.8	92.6	93.3	94.1	94.3	94.4	93.1	92.1	90.9
Selected building materials.....	105.0	103.4	100.2	98.7	99.3	97.2	99.1	95.3	96.0	96.2	98.3	104.9	116.5
Unfinished metals associated with durable goods.....	105.0	106.5	109.5	105.9	105.6	104.1	103.7	107.2	108.7	103.8	101.1	98.2	97.9
Nonmetals associated with durable goods.....	87.0	87.7	87.6	87.2	87.3	87.1	87.2	87.8	88.7	88.8	88.5	88.2	88.0
Capital goods.....	80.9	80.9	80.7	80.6	80.2	80.1	80.0	79.9	79.7	79.3	79.3	79.1	79.1
Electric and electrical generating equipment.....	94.3	94.1	93.7	93.5	93.4	93.1	93.1	93.1	92.9	95.2	94.5	94.9	95.0
Nonelectrical machinery.....	77.1	77.1	77.0	76.8	76.4	76.3	76.1	76.0	75.8	75.6	75.0	74.8	74.7
Automotive vehicles, parts, and engines.....	102.7	102.8	102.7	102.5	102.6	102.7	102.7	102.7	102.6	102.6	102.5	102.3	102.4
Consumer goods, excluding automotive.....	96.5	96.8	96.8	96.6	96.6	96.5	96.4	96.6	96.6	96.6	96.4	96.4	96.2
Nondurables, manufactured.....	99.5	99.8	100.0	99.8	99.8	99.8	99.6	92.9	99.8	100.1	100.0	100.0	99.8
Durables, manufactured.....	93.2	93.4	93.2	93.0	92.8	92.8	92.8	92.9	92.8	92.8	92.5	92.3	92.1
Nonmanufactured consumer goods.....	98.0	99.5	99.2	99.6	99.8	99.1	98.8	99.5	101.5	99.1	98.0	99.4	99.0

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

[1995 = 100]

Category	1999			2000				2001	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Air freight (inbound).....	86.2	87.9	90.7	88.9	88.4	88.5	87.4	86.5	84.0
Air freight (outbound).....	92.8	92.7	91.7	91.7	92.8	92.6	92.6	92.6	90.5
Air passenger fares (U.S. carriers).....	112.3	114.2	106.8	107.3	113.3	115.5	111.9	114.2	119.2
Air passenger fares (foreign carriers).....	106.3	108.6	102.2	102.6	107.9	109.1	103.2	106.4	109.7
Ocean liner freight (inbound).....	133.7	148.0	139.4	136.3	143.0	142.8	142.8	145.1	142.3

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

[1992 = 100]

Item	Quarterly indexes												
	1998			1999				2000				2001	
	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
Business													
Output per hour of all persons.....	110.3	110.8	111.8	112.5	112.7	114.0	116.1	115.0	117.1	117.4	118.2	118.2	119.0
Compensation per hour.....	118.9	120.3	121.6	123.0	124.3	125.9	127.1	129.0	131.7	133.8	136.8	138.2	140.4
Real compensation per hour.....	104.1	105.0	105.7	106.4	106.8	107.4	107.6	108.1	109.6	110.3	112.0	112.3	112.9
Unit labor costs.....	107.8	108.6	108.8	109.3	110.4	110.5	109.5	112.1	112.5	114.0	115.7	117.2	117.9
Unit nonlabor payments.....	115.1	114.5	114.6	115.1	114.2	114.4	116.9	114.2	115.2	113.9	112.1	111.8	112.1
Implicit price deflator.....	110.5	110.7	110.9	111.4	111.8	111.9	112.2	112.9	113.5	113.9	114.4	115.2	115.8
Nonfarm business													
Output per hour of all persons.....	110.1	110.5	111.4	111.9	112.0	113.4	115.6	114.5	116.3	116.7	117.4	117.4	118.1
Compensation per hour.....	118.3	119.8	120.9	122.1	123.4	125.0	126.3	128.4	130.7	133.0	135.9	137.6	139.1
Real compensation per hour.....	103.6	104.5	105.1	105.6	106.0	106.6	107.0	107.6	108.8	109.7	111.3	111.5	111.9
Unit labor costs.....	107.5	108.4	108.6	109.0	110.2	110.2	109.3	112.1	112.4	114.0	115.8	117.2	117.8
Unit nonlabor payments.....	116.2	115.7	115.8	116.7	115.8	116.1	118.6	116.0	116.7	115.4	113.5	113.1	113.4
Implicit price deflator.....	110.7	111.0	111.2	111.8	112.2	112.4	112.7	113.5	114.0	114.5	114.9	115.7	116.2
Nonfinancial corporations													
Output per hour of all employees.....	111.7	113.1	113.7	114.6	115.3	116.6	118.3	117.7	119.7	120.9	121.4	121.5	-
Compensation per hour.....	115.2	116.7	117.8	119.0	120.3	121.8	123.0	124.7	127.2	129.3	132.3	134.1	-
Real compensation per hour.....	100.9	101.8	102.4	103.0	103.3	103.9	104.2	104.5	105.8	106.6	108.3	108.7	-
Total unit costs.....	102.6	102.5	103.2	103.2	103.7	104.0	103.9	105.9	106.0	106.6	108.2	109.6	-
Unit labor costs.....	103.1	103.2	103.6	103.9	104.3	104.5	104.0	106.0	106.2	106.9	109.0	110.3	-
Unit nonlabor costs.....	101.2	100.7	102.1	101.3	102.2	102.9	103.4	105.5	105.3	105.6	106.0	107.5	-
Unit profits.....	147.7	152.0	145.3	150.6	148.6	144.4	147.0	134.3	137.8	133.8	118.5	109.2	-
Unit nonlabor payments.....	113.0	113.8	113.1	113.9	114.0	113.5	114.5	112.9	113.6	112.8	109.2	107.9	-
Implicit price deflator.....	106.4	106.7	106.8	107.2	107.5	107.5	107.5	108.3	108.7	108.9	109.0	109.5	-
Manufacturing													
Output per hour of all persons.....	123.2	125.7	126.8	128.9	130.2	131.9	135.0	135.2	137.3	139.4	141.3	140.0	139.9
Compensation per hour.....	116.8	118.0	119.0	119.9	121.2	122.8	124.1	125.9	128.1	131.2	135.2	137.2	139.3
Real compensation per hour.....	102.2	103.0	103.4	103.7	104.1	104.7	105.2	105.5	106.6	108.3	110.7	111.3	112.1
Unit labor costs.....	94.8	93.9	93.9	93.0	93.1	93.1	91.9	93.2	93.3	94.1	95.7	98.0	99.6

NOTE Dash indicates data not available.

40. Annual indexes of multifactor productivity and related measures, selected years

[1996 = 100, unless otherwise indicated]

Item	1960	1970	1980	1990	1991	1992	1993	1994	1995	1996	1997	1998
Private business												
Productivity:												
Output per hour of all persons.....	45.6	63.0	75.8	90.2	91.3	94.8	95.4	96.6	97.3	100.0	102.0	104.8
Output per unit of capital services.....	110.4	111.1	101.5	99.3	96.1	97.7	98.5	100.3	99.7	100.0	100.5	100.1
Multifactor productivity.....	65.2	80.0	88.3	95.3	94.4	96.6	97.1	98.1	98.4	100.0	101.1	102.6
Output.....	27.5	42.0	59.4	83.6	82.6	85.7	88.5	92.8	95.8	100.0	105.2	110.6
Inputs:												
Labor input.....	54.0	61.0	71.9	89.4	88.3	89.3	91.8	95.6	98.0	100.0	103.7	106.4
Capital services.....	24.9	37.8	58.6	84.2	86.0	87.7	89.8	92.6	96.0	100.0	104.7	110.4
Combined units of labor and capital input.....	42.3	52.4	67.3	87.7	87.5	88.8	91.1	94.6	97.3	100.0	104.0	107.7
Capital per hour of all persons.....	41.3	56.7	74.7	90.8	95.0	97.0	96.8	96.3	97.6	100.0	101.5	104.7
Private nonfarm business												
Productivity:												
Output per hour of all persons.....	48.7	64.9	77.3	90.3	91.4	94.8	95.3	96.5	97.5	100.0	101.7	104.5
Output per unit of capital services.....	120.1	118.3	105.7	100.0	96.6	97.9	98.8	100.3	99.9	100.0	100.2	99.8
Multifactor productivity.....	69.1	82.6	90.5	95.6	94.7	96.6	97.1	98.1	98.6	100.0	100.9	102.4
Output.....	27.2	41.9	59.6	83.5	82.5	85.5	88.4	92.6	95.8	100.0	105.1	110.6
Inputs:												
Labor input.....	50.1	59.3	70.7	89.2	88.0	89.0	91.8	95.4	97.8	100.0	103.8	106.6
Capital services.....	22.6	35.5	56.4	83.5	85.4	87.3	89.5	92.3	95.9	100.0	104.9	110.8
Combined units of labor and capital input.....	39.3	50.7	65.9	87.3	87.1	88.4	91.0	94.4	97.2	100.0	104.2	108.0
Capital per hour of all persons.....	40.5	54.8	73.1	90.3	94.7	96.8	96.5	96.3	97.6	100.0	101.5	104.7
Manufacturing (1992 = 100)												
Productivity:												
Output per hour of all persons.....	41.8	54.2	70.1	92.8	95.0	100.0	101.9	105.0	109.0	112.8	117.1	124.3
Output per unit of capital services.....	124.3	116.5	100.9	101.6	97.5	100.0	101.1	104.0	105.0	104.5	105.6	106.5
Multifactor productivity.....	72.7	84.4	86.6	99.3	98.3	100.0	100.4	102.6	105.0	106.1	109.8	113.2
Output.....	38.5	56.5	75.3	97.3	95.4	100.0	103.3	108.7	113.4	116.9	123.5	130.7
Inputs:												
Hours of all persons.....	92.0	104.2	107.5	104.8	100.4	100.0	101.4	103.6	104.0	103.7	105.5	105.2
Capital services.....	30.9	48.5	74.7	95.8	97.9	100.0	102.2	104.5	108.0	111.9	116.9	122.8
Energy.....	51.3	85.4	92.5	99.9	100.1	100.0	103.7	107.3	109.5	107.0	103.9	109.2
Nonenergy materials.....	38.2	44.8	75.0	92.5	93.6	100.0	105.7	111.3	112.8	120.4	120.4	127.2
Purchased business services.....	28.2	48.8	73.7	92.5	92.1	100.0	103.0	105.1	110.0	108.9	114.2	116.8
Combined units of all factor inputs.....	52.9	67.0	87.0	98.0	97.0	100.0	102.9	106.0	107.9	110.2	112.5	115.5

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

[1992 = 100]

Item	1960	1970	1980	1990	1991	1993	1994	1995	1996	1997	1998	1999	2000
Business													
Output per hour of all persons.....	48.8	67.0	80.4	95.2	96.3	100.5	101.9	102.6	105.4	107.8	110.8	113.8	116.9
Compensation per hour.....	13.7	23.5	54.2	90.7	95.0	102.5	104.5	106.7	110.1	113.5	119.6	125.1	132.8
Real compensation per hour.....	60.0	78.9	89.4	96.5	97.5	99.9	99.7	99.3	99.7	100.6	104.6	107.1	110.1
Unit labor costs.....	28.0	35.1	67.4	95.3	98.7	101.9	102.6	104.1	104.5	105.3	108.0	109.9	113.6
Unit nonlabor payments.....	25.2	31.6	61.5	93.9	97.0	102.5	106.4	109.4	113.3	117.1	115.1	115.1	113.9
Implicit price deflator.....	27.0	33.9	65.2	94.8	98.1	102.2	104.0	106.0	107.7	109.7	110.6	111.8	113.7
Nonfarm business													
Output per hour of all persons.....	51.9	68.9	82.0	95.3	96.4	100.5	101.8	102.8	105.4	107.5	110.4	113.2	116.2
Compensation per hour.....	14.3	23.7	54.6	90.5	95.0	102.2	104.3	106.6	109.8	113.1	119.0	124.2	132.0
Real compensation per hour.....	62.8	79.5	90.0	96.3	97.5	99.6	99.5	99.2	99.4	100.2	104.0	106.4	109.4
Unit labor costs.....	27.5	34.4	66.5	95.0	98.5	101.7	102.5	103.7	104.2	105.2	107.7	109.7	113.6
Unit nonlabor payments.....	24.6	31.3	60.5	93.6	97.1	103.0	106.9	110.4	113.5	118.0	116.3	116.8	115.4
Implicit price deflator.....	26.5	33.3	64.3	94.5	98.0	102.2	104.1	106.1	107.6	109.8	110.8	112.3	114.2
Nonfinancial corporations													
Output per hour of all employees.....	55.4	70.4	81.1	95.4	97.7	100.7	103.1	104.2	107.5	108.4	112.3	116.2	119.9
Compensation per hour.....	15.6	25.3	56.4	90.8	95.3	102.0	104.2	106.2	109.0	110.3	115.9	121.1	128.3
Real compensation per hour.....	68.3	84.7	93.1	96.7	97.8	99.5	99.4	98.8	98.7	97.8	101.3	103.7	106.4
Total unit costs.....	26.8	34.8	68.4	95.9	98.8	101.0	101.1	102.0	101.2	101.5	102.6	103.7	106.7
Unit labor costs.....	28.1	35.9	69.6	95.2	97.5	101.3	101.0	101.9	101.4	101.8	103.2	104.2	107.0
Unit nonlabor costs.....	23.3	31.9	65.1	98.0	102.1	100.2	101.3	102.2	100.6	100.9	101.2	102.5	105.6
Unit profits.....	50.2	44.4	68.8	94.3	93.0	113.2	131.7	139.0	152.2	156.9	148.9	147.6	131.0
Unit nonlabor payments.....	30.2	35.1	66.0	97.1	99.7	103.5	109.0	111.6	113.8	115.2	113.4	114.0	112.1
Implicit price deflator.....	28.8	35.6	68.4	95.8	98.3	102.1	103.7	105.1	105.5	106.2	106.6	107.4	108.7
Manufacturing													
Output per hour of all persons.....	41.8	54.2	70.1	92.8	95.0	101.9	105.0	109.0	112.8	117.1	124.3	129.6	46.3
Compensation per hour.....	14.9	23.7	55.6	90.8	95.6	102.7	105.6	107.9	109.3	111.4	117.3	122.0	130.1
Real compensation per hour.....	65.2	79.5	91.7	96.6	98.1	100.2	100.8	100.4	99.0	98.8	102.6	104.5	107.8
Unit labor costs.....	35.6	43.8	79.3	97.8	100.6	100.8	100.7	99.0	96.9	95.1	94.4	94.1	94.1
Unit nonlabor payments.....	26.8	29.3	80.2	99.7	99.0	100.9	102.8	106.9	109.9	109.6	104.4	105.5	—
Implicit price deflator.....	30.2	34.9	79.8	99.0	99.6	100.9	102.0	103.9	104.9	104.0	100.5	101.1	—

Dash indicates data not available.

42. Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Mining											
Copper ores.....	102	102.7	100.5	115.2	118.1	126.0	117.2	116.5	118.9	118.3	105.5
Gold and silver ores.....	104	122.3	127.4	141.6	159.8	160.8	144.2	138.3	158.5	187.6	200.0
Bituminous coal and lignite mining.....	122	118.7	122.4	133.0	141.2	148.1	155.9	168.0	176.6	188.0	192.2
Crude petroleum and natural gas.....	131	97.0	97.9	102.1	105.9	112.4	119.4	123.9	125.2	127.4	132.3
Crushed and broken stone.....	142	102.2	99.8	105.0	103.6	108.7	105.4	107.2	112.6	110.2	104.8
Manufacturing											
Meat products.....	201	97.1	99.6	104.6	104.3	101.2	102.3	97.4	102.5	102.3	102.2
Dairy products.....	202	107.3	108.3	111.4	109.6	111.8	116.4	116.0	119.3	119.3	114.1
Preserved fruits and vegetables.....	203	95.6	99.2	100.5	106.8	107.6	109.1	109.2	110.7	117.8	120.0
Grain mill products.....	204	105.4	104.9	107.8	109.2	108.4	115.4	108.0	118.2	126.2	130.4
Bakery products.....	205	92.7	90.6	93.8	94.4	96.4	97.3	95.6	99.1	100.8	107.5
Sugar and confectionery products.....	206	103.2	102.0	99.8	104.5	106.2	108.3	113.8	116.7	123.0	130.0
Fats and oils.....	207	118.1	120.1	114.1	112.6	111.8	120.3	110.1	120.2	137.3	156.1
Beverages.....	208	117.0	120.0	127.1	126.4	130.1	133.5	135.0	135.5	136.4	132.4
Miscellaneous food and kindred products.....	209	99.2	101.7	101.5	105.2	100.9	102.9	109.1	104.1	112.7	116.3
Cigarettes.....	211	113.2	107.6	111.6	106.5	126.6	142.9	147.2	147.2	152.2	135.8
Broadwoven fabric mills, cotton.....	221	103.1	111.2	110.3	117.8	122.1	134.0	137.3	131.2	136.2	138.7
Broadwoven fabric mills, manmade.....	222	111.3	116.2	126.2	131.7	142.5	145.3	147.6	162.2	168.6	171.9
Narrow fabric mills.....	224	96.5	99.6	112.9	111.4	120.1	118.9	126.3	110.8	117.7	122.4
Knitting mills.....	225	107.5	114.0	119.3	127.9	134.1	138.3	150.3	138.0	135.9	144.8
Textile finishing, except wool.....	226	83.4	79.9	78.6	79.3	81.2	78.5	79.2	94.3	99.1	101.0
Carpets and rugs.....	227	93.2	89.2	96.1	97.1	93.3	95.8	100.2	100.3	102.3	97.8
Yarn and thread mills.....	228	110.2	111.4	119.6	126.6	130.7	137.4	147.4	150.4	153.0	169.5
Miscellaneous textile goods.....	229	109.2	104.6	106.5	110.4	118.5	123.7	123.1	118.7	120.1	127.0
Men's and boys' furnishings.....	232	102.1	108.4	109.1	108.4	111.7	123.4	134.7	162.1	174.7	187.0
Women's and misses' outerwear.....	233	104.1	104.3	109.4	121.8	127.4	135.5	141.6	149.9	151.9	174.5
Women's and children's undergarments.....	234	102.1	113.7	117.4	124.5	138.0	161.3	174.5	208.9	216.4	293.0
Hats, caps, and millinery.....	235	89.2	91.1	93.6	87.2	77.7	84.3	82.2	87.1	99.5	108.7
Miscellaneous apparel and accessories.....	238	90.6	91.8	91.3	94.0	105.5	116.8	120.1	101.4	107.7	105.8
Miscellaneous fabricated textile products.....	239	99.9	100.7	107.5	108.5	107.8	109.2	105.6	119.2	117.2	129.2
Sawmills and planing mills.....	242	99.8	102.6	108.1	101.9	103.3	110.2	115.6	116.9	118.7	125.4
Millwork, plywood, and structural members.....	243	98.0	98.0	99.9	97.0	94.5	92.7	92.4	89.1	91.3	90.7
Wood containers.....	244	111.2	113.1	109.4	100.1	100.9	106.1	106.7	106.2	106.6	105.0
Wood buildings and mobile homes.....	245	103.1	103.0	103.1	103.8	98.3	97.0	96.7	100.3	99.2	96.8
Miscellaneous wood products.....	249	107.7	110.5	114.2	115.3	111.8	115.4	114.4	123.4	131.2	141.3
Household furniture.....	251	104.5	107.1	110.5	110.6	112.5	116.9	121.6	121.3	125.8	128.7
Office furniture.....	252	95.0	94.1	102.5	103.2	100.5	101.1	106.4	118.3	113.1	109.8
Public building and related furniture.....	253	119.8	120.2	140.6	161.0	157.4	173.3	181.5	214.9	207.6	210.9
Partitions and fixtures.....	254	95.6	93.0	102.7	107.4	98.9	101.2	97.5	121.1	125.6	127.0
Miscellaneous furniture and fixtures.....	259	103.5	102.1	99.5	103.6	104.7	110.0	113.2	110.7	121.9	122.7
Pulp mills.....	261	116.7	128.3	137.3	122.5	128.9	131.9	132.6	82.3	86.6	88.4
Paper mills.....	262	102.3	99.2	103.3	102.4	110.2	118.6	111.6	112.0	114.9	122.7
Paperboard mills.....	263	100.6	101.4	104.4	108.4	114.9	119.5	118.0	126.7	127.8	131.0
Paperboard containers and boxes.....	265	101.3	103.4	105.2	107.9	108.4	105.1	106.3	109.7	113.5	113.5
Miscellaneous converted paper products.....	267	101.4	105.3	105.5	107.9	110.6	113.3	113.6	119.5	122.9	127.3
Newspapers.....	271	90.6	85.8	81.5	79.4	79.9	79.0	77.4	79.0	83.6	86.3
Periodicals.....	272	93.9	89.5	92.9	89.5	81.9	87.8	89.1	100.1	115.0	115.1
Books.....	273	96.6	100.8	97.7	103.5	103.0	101.6	99.3	102.6	101.0	105.4
Miscellaneous publishing.....	274	92.2	95.9	105.8	104.5	97.5	94.8	93.6	114.5	119.5	128.3
Commercial printing.....	275	102.5	102.0	108.0	106.9	106.5	107.2	108.3	108.8	109.9	115.2
Manifold business forms.....	276	93.0	89.1	94.5	91.1	82.0	76.9	75.2	77.9	76.7	73.6
Greeting cards.....	277	100.6	92.7	96.7	91.4	89.0	92.5	90.8	92.2	104.2	103.9
Blankbooks and bookbinding.....	278	99.4	96.1	103.6	98.7	105.4	108.7	114.5	114.2	116.4	123.3
Printing trade services.....	279	99.3	100.6	112.0	115.3	111.0	116.7	126.2	123.3	126.7	120.5
Industrial inorganic chemicals.....	281	106.8	109.7	109.7	105.6	102.3	109.3	110.1	116.8	145.8	170.7
Plastics materials and synthetics.....	282	100.9	100.0	107.5	112.0	125.3	128.3	125.3	135.4	142.2	145.7
Drugs.....	283	103.8	104.5	99.5	99.7	104.6	108.7	112.5	112.4	104.3	104.8
Soaps, cleaners, and toilet goods.....	284	103.8	105.3	104.4	108.7	111.2	118.6	120.9	126.4	122.7	116.8
Paints and allied products.....	285	106.3	104.3	102.9	108.8	116.7	118.0	125.6	126.4	126.8	125.6
Industrial organic chemicals.....	286	101.4	95.8	94.6	92.2	99.9	98.6	99.0	111.2	105.7	111.3
Agricultural chemicals.....	287	104.7	99.5	99.5	103.8	105.0	108.5	110.0	119.8	117.5	106.9

See footnotes at end of table.

42. Continued—Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Miscellaneous chemical products.....	289	97.3	96.1	101.8	107.1	105.7	107.8	110.1	120.3	120.6	128.1
Petroleum refining.....	291	109.2	106.6	111.3	120.1	123.8	132.3	142.0	149.2	155.7	169.5
Asphalt paving and roofing materials.....	295	98.0	94.1	100.4	108.0	104.9	111.2	113.1	123.1	124.7	115.7
Miscellaneous petroleum and coal products.....	299	94.8	90.6	101.5	104.2	96.3	87.4	87.1	96.5	98.5	90.7
Tires and inner tubes.....	301	103.0	102.4	107.8	116.5	124.1	131.1	138.8	149.1	144.2	145.5
Hose and belting and gaskets and packing.....	305	96.1	92.4	97.8	99.7	102.7	104.6	107.4	113.5	112.7	114.0
Fabricated rubber products, n.e.c.....	306	109.0	109.9	115.2	123.1	119.1	121.5	121.0	125.3	132.3	140.8
Miscellaneous plastics products, n.e.c.....	308	105.7	108.3	114.4	116.7	120.8	121.0	124.7	129.9	133.8	141.2
Footwear, except rubber.....	314	101.1	94.4	104.2	105.2	113.0	117.1	126.1	121.4	110.9	131.6
Flat glass.....	321	84.5	83.6	92.7	97.7	97.6	99.6	101.5	107.6	114.0	127.7
Glass and glassware, pressed or blown.....	322	104.8	102.3	108.9	108.7	112.9	115.7	121.4	128.3	135.2	143.6
Products of purchased glass.....	323	92.6	97.7	101.5	106.2	105.9	106.1	122.0	125.1	122.0	134.0
Cement, hydraulic.....	324	112.4	108.3	115.1	119.9	125.6	124.3	128.7	133.1	134.1	139.6
Structural clay products.....	325	109.6	109.8	111.4	106.8	114.0	112.6	119.6	111.9	114.8	124.0
Pottery and related products.....	326	98.6	95.8	99.5	100.3	108.4	109.3	119.3	123.2	127.1	120.8
Concrete, gypsum, and plaster products.....	327	102.3	101.2	102.5	104.6	101.5	104.5	107.3	107.6	112.8	114.4
Miscellaneous nonmetallic mineral products.....	329	95.4	94.0	104.3	104.5	106.3	107.8	110.4	114.6	114.7	114.6
Blast furnace and basic steel products.....	331	109.7	107.8	117.0	133.6	142.4	142.6	147.5	155.0	151.0	148.9
Iron and steel foundries.....	332	106.1	104.5	107.2	112.1	113.0	112.7	116.2	120.8	121.1	126.2
Primary nonferrous metals.....	333	102.3	110.7	101.9	107.9	105.3	111.0	110.8	112.0	125.8	131.2
Nonferrous rolling and drawing.....	335	92.7	91.0	96.0	98.3	101.2	99.2	104.0	111.3	115.2	122.7
Nonferrous foundries (castings).....	336	104.0	103.6	103.6	108.5	112.1	117.8	122.3	127.0	131.5	130.8
Miscellaneous primary metal products.....	339	113.7	109.1	114.5	111.3	134.5	152.2	149.6	136.2	140.0	150.4
Metal cans and shipping containers.....	341	117.6	122.9	127.8	132.3	140.9	144.2	155.2	160.3	163.8	160.3
Cutlery, handtools, and hardware.....	342	97.3	96.8	100.1	104.0	109.2	111.3	118.2	114.6	115.7	123.9
Plumbing and heating, except electric.....	343	102.6	102.0	98.4	102.0	109.1	109.2	118.6	127.3	130.3	126.9
Fabricated structural metal products.....	344	98.8	100.0	103.9	104.8	107.7	105.8	106.5	111.9	112.7	112.7
Metal forgings and stampings.....	346	95.6	92.9	103.7	108.7	108.5	109.3	113.6	120.2	125.9	130.3
Metal services, n.e.c.....	347	104.7	99.4	111.6	120.6	123.0	127.7	128.4	124.4	127.3	127.9
Ordnance and accessories, n.e.c.....	348	82.1	81.5	88.6	84.6	83.6	87.6	87.5	93.7	96.6	92.2
Miscellaneous fabricated metal products.....	349	97.5	97.4	101.1	102.0	103.2	106.6	108.3	107.7	111.5	110.3
Engines and turbines.....	351	106.5	105.8	103.3	109.2	122.3	122.7	136.6	136.9	145.9	151.2
Farm and garden machinery.....	352	116.5	112.9	113.9	118.6	125.0	134.7	137.2	141.2	148.5	125.5
Construction and related machinery.....	353	107.0	99.1	102.0	108.2	117.7	122.1	123.3	132.5	137.5	137.2
Metalworking machinery.....	354	101.1	96.4	104.3	107.4	109.9	114.8	114.9	119.2	119.8	123.5
Special industry machinery.....	355	107.5	108.3	106.0	113.6	121.2	132.3	134.0	131.7	125.1	139.3
General industrial machinery.....	356	101.5	101.6	101.6	104.8	106.7	109.0	109.4	110.0	111.2	111.4
Computer and office equipment.....	357	138.1	149.6	195.7	258.6	328.6	469.4	681.3	960.2	1350.6	1840.2
Refrigeration and service machinery.....	358	103.6	100.7	104.9	108.6	110.7	112.7	114.7	115.0	121.4	123.2
Industrial machinery, n.e.c.....	359	107.3	109.0	117.0	118.5	127.4	138.8	141.4	129.3	127.5	134.3
Electric distribution equipment.....	361	106.3	106.5	119.6	122.2	131.8	143.0	143.9	142.8	147.5	146.6
Electrical industrial apparatus.....	362	107.7	107.1	117.1	132.9	134.9	150.8	154.3	164.2	162.3	162.9
Household appliances.....	363	105.8	106.5	115.0	123.4	131.4	127.3	127.4	142.9	150.3	150.2
Electric lighting and wiring equipment.....	364	99.9	97.5	105.7	107.8	113.4	113.7	116.9	121.8	129.2	132.4
Communications equipment.....	366	123.8	129.1	154.9	163.0	186.4	200.6	229.5	275.3	276.0	327.1
Electronic components and accessories.....	367	133.4	154.7	189.3	217.9	274.1	401.5	514.9	613.4	768.0	107.0
Miscellaneous electrical equipment & supplies.....	369	90.6	98.6	101.3	108.2	110.5	114.1	123.1	128.3	135.3	140.7
Motor vehicles and equipment.....	371	102.4	96.6	104.2	106.2	108.8	106.7	107.2	116.3	125.2	136.5
Aircraft and parts.....	372	98.9	108.2	112.3	115.2	109.6	107.9	113.0	114.7	140.1	139.6
Ship and boat building and repairing.....	373	103.7	96.3	102.7	106.2	103.8	98.0	99.2	105.3	102.0	112.6
Railroad equipment.....	374	141.1	146.9	147.9	151.0	152.5	150.0	148.3	184.2	189.1	205.1
Motorcycles, bicycles, and parts.....	375	93.8	99.8	108.4	130.9	125.1	120.3	125.5	120.4	127.7	121.4
Guided missiles, space vehicles, parts.....	376	116.5	110.5	110.5	122.1	118.9	121.0	129.4	136.5	142.4	158.2
Search and navigation equipment.....	381	112.7	118.9	122.1	129.1	132.1	149.5	142.2	149.5	149.1	139.7
Measuring and controlling devices.....	382	106.4	113.1	119.9	124.0	133.8	146.4	150.5	142.4	143.5	152.9
Medical instruments and supplies.....	384	116.9	118.7	123.5	127.3	126.7	131.5	139.8	147.4	158.6	160.2
Ophthalmic goods.....	385	121.2	125.1	144.5	157.8	160.6	167.2	188.2	196.3	199.1	229.5
Photographic equipment & supplies.....	386	107.8	110.2	116.4	126.9	132.7	129.5	128.7	121.5	124.8	147.2
Jewelry, silverware, and plated ware.....	391	99.3	95.8	96.7	96.7	99.5	100.2	102.6	114.2	113.1	133.9
Musical instruments.....	393	97.1	96.9	96.0	95.6	88.7	86.9	78.8	82.9	81.4	86.4

See footnotes at end of table.

42. Continued—Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Toys and sporting goods.....	394	108.1	109.7	104.9	114.2	109.7	113.6	119.9	125.7	131.6	124.0
Pens, pencils, office, and art supplies.....	395	118.2	116.8	111.3	111.6	129.9	135.2	144.1	127.5	132.5	129.3
Costume jewelry and notions.....	396	105.3	106.7	110.8	115.8	129.0	143.7	142.2	118.0	131.2	150.2
Miscellaneous manufactures.....	399	106.5	109.2	109.5	107.7	106.1	108.1	112.8	109.4	108.5	111.2
Transportation											
Railroad transportation.....	4011	118.5	127.8	139.6	145.4	150.3	156.2	167.0	169.8	173.3	182.3
Trucking, except local ¹	4213	111.1	116.9	123.4	126.6	129.5	125.4	130.9	132.4	129.9	131.6
U.S. postal service ²	431	104.0	103.7	104.5	107.1	106.6	106.5	104.7	108.3	109.7	110.3
Air transportation ¹	4512,13,22 (pts.)	92.9	92.5	96.9	100.2	105.7	108.6	111.1	111.6	110.7	108.3
Utilities											
Telephone communications.....	481	113.3	119.8	127.7	135.5	142.2	148.1	159.5	160.9	170.3	189.1
Radio and television broadcasting.....	483	104.9	106.1	108.3	106.7	110.1	109.6	105.8	101.1	100.7	101.8
Cable and other pay TV services.....	484	92.6	87.6	88.5	85.3	83.4	84.5	81.9	84.7	83.5	81.5
Electric utilities.....	491,3 (pt.)	110.1	113.4	115.2	120.6	126.8	135.0	146.5	150.5	160.1	162.7
Gas utilities.....	492,3 (pt.)	105.8	109.6	111.1	121.8	125.6	137.1	145.9	158.6	144.4	145.0
Trade											
Lumber and other building materials dealers.....	521	104.3	102.3	106.4	111.4	118.9	117.8	121.6	121.8	134.2	142.3
Paint, glass, and wallpaper stores.....	523	106.8	100.4	107.6	114.2	127.8	130.9	133.5	134.8	163.5	163.2
Hardware stores.....	525	115.3	108.7	115.2	113.9	121.2	115.5	119.5	119.0	137.8	149.3
Retail nurseries, lawn and garden supply stores.....	526	84.7	89.3	101.2	107.1	117.0	117.4	136.4	127.5	133.7	151.2
Department stores.....	531	96.8	102.0	105.4	110.4	113.4	115.9	123.5	128.8	135.5	147.4
Variety stores.....	533	154.4	158.8	173.7	191.5	197.4	211.3	238.4	257.7	268.7	319.5
Miscellaneous general merchandise stores.....	539	118.6	124.8	140.4	164.2	164.8	167.3	167.6	170.3	185.7	195.2
Grocery stores.....	541	96.6	96.3	96.5	96.0	95.4	93.9	92.1	91.7	92.2	95.4
Meat and fish (seafood) markets.....	542	98.9	90.8	99.2	97.7	95.7	94.4	86.4	90.8	95.7	99.3
Retail bakeries.....	546	91.2	96.7	96.5	86.5	85.3	83.0	75.9	67.6	68.1	83.8
New and used car dealers.....	551	106.7	104.9	107.4	108.6	109.7	108.1	109.1	108.8	108.7	111.9
Auto and home supply stores.....	553	103.6	100.2	101.6	100.8	105.3	109.1	108.2	108.1	113.0	116.0
Gasoline service stations.....	554	103.0	104.8	110.2	115.9	121.1	127.2	126.1	126.1	133.9	140.6
Men's and boy's wear stores.....	561	115.6	121.9	122.3	119.5	121.8	121.4	129.8	136.3	145.2	154.6
Women's clothing stores.....	562	106.6	111.2	123.6	130.0	130.4	139.9	154.2	157.3	176.1	190.5
Family clothing stores.....	565	107.8	111.5	118.6	121.5	127.7	141.8	146.9	150.2	153.1	156.5
Shoe stores.....	566	107.9	107.8	115.5	117.3	130.7	139.2	151.9	148.4	145.0	151.1
Furniture and homefurnishings stores.....	571	104.6	105.4	113.9	113.3	114.7	117.4	123.6	124.2	127.2	134.1
Household appliance stores.....	572	104.3	106.7	115.5	118.0	121.5	138.4	140.7	153.5	181.4	183.9
Radio, television, computer, and music stores.....	573	121.1	129.8	139.9	154.5	179.1	199.3	208.1	218.4	260.3	314.6
Eating and drinking places.....	581	104.5	103.8	103.4	103.8	102.1	102.0	100.6	101.6	102.0	104.3
Drug and proprietary stores.....	591	106.3	108.0	107.6	109.5	109.9	111.1	113.9	119.7	125.6	129.8
Liquor stores.....	592	105.9	106.9	109.6	101.8	100.1	104.7	113.8	109.9	116.5	114.6
Used merchandise stores.....	593	103.0	102.3	115.7	116.8	119.5	120.6	132.7	140.3	163.6	181.9
Miscellaneous shopping goods stores.....	594	107.2	109.0	107.5	111.5	117.1	123.1	125.3	129.1	138.8	145.2
Nonstore retailers.....	596	111.1	112.5	126.5	132.2	149.0	152.4	173.3	186.5	208.0	222.2
Fuel dealers.....	598	84.5	85.3	84.2	91.8	99.0	111.4	112.4	109.0	105.8	115.1
Retail stores, n.e.c.....	599	114.5	104.0	112.5	118.1	125.8	127.0	140.2	147.8	157.3	161.0
Finance and services											
Commercial banks.....	602	107.7	110.1	111.0	118.5	121.7	126.4	129.7	133.0	132.6	135.2
Hotels and motels.....	701	96.2	99.3	108.0	106.5	109.9	110.5	110.0	108.2	111.6	113.5
Laundry, cleaning, and garment services.....	721	102.3	99.9	99.3	99.9	105.0	106.6	109.8	109.0	116.2	121.8
Photographic studios, portrait.....	722	98.2	92.1	95.8	101.8	108.3	116.2	110.7	114.1	121.6	105.1
Beauty shops.....	723	97.5	95.8	100.9	97.0	101.1	104.8	107.6	108.5	110.5	113.3
Barber shops.....	724	100.7	94.9	113.2	121.9	118.8	115.7	128.8	150.4	157.4	138.0
Funeral services and crematories.....	726	91.2	89.9	103.8	98.7	104.3	100.2	97.6	101.9	104.2	99.7
Automotive repair shops.....	753	107.9	100.1	105.1	105.7	114.3	121.6	116.1	117.2	124.9	127.6
Motion picture theaters.....	783	118.1	118.2	114.8	113.8	110.4	105.0	104.1	103.4	106.1	110.5

¹ Refers to output per employee

n.e.c. = not elsewhere classified

² Refers to output per full-time equivalent employee year on fiscal basis.

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

Country	Annual average		1999				2000			
	1999	2000	I	II	III	IV	I	II	III	IV
United States.....	4.2	4.0	4.3	4.3	4.2	4.1	4.1	4.0	4.0	4.0
Canada.....	6.8	5.8	7.1	7.1	6.8	6.2	6.0	5.8	5.8	5.7
Australia.....	7.2	6.6	7.5	7.4	7.1	7.0	6.8	6.7	6.3	6.5
Japan ¹	4.7	4.8	4.7	4.8	4.8	4.7	4.8	4.7	4.7	4.8
France ¹	11.2	9.7	11.4	11.3	11.2	10.8	10.2	9.7	9.6	9.2
Germany ¹	8.7	8.3	8.8	8.8	8.8	8.7	8.4	8.3	8.2	8.1
Italy ^{1,2}	11.5	10.7	11.8	11.7	11.5	11.2	11.3	10.8	10.6	10.1
Sweden ¹	7.1	5.9	7.1	7.0	7.1	7.1	6.7	6.0	5.6	5.2
United Kingdom ¹	6.1	—	6.2	6.1	5.9	5.9	5.8	5.5	5.4	—

¹ Preliminary for 2000 for Japan, France, Germany (unified), Italy, and Sweden and for 1999 onward for the United Kingdom.

² Quarterly rates are for the first month of the quarter.

NOTE: Quarterly figures for France and Germany are calculated by applying annual adjustment factors to current published data, and therefore should be viewed as less precise in-

dicators of unemployment under U.S. concepts than the annual figures. See "Notes on the data" for information on breaks in series. For further qualifications and historical data, see *Comparative Civilian Labor Force Statistics, Ten Countries, 1959–2000* (Bureau of Labor Statistics, Mar. 16, 2001).

Dash indicates data not available.

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

[Numbers in thousands]

Employment status and country	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Civilian labor force										
United States ¹	126,346	128,105	129,200	131,056	132,304	133,943	136,297	137,673	139,368	140,863
Canada	14,128	14,168	14,299	14,387	14,500	14,650	14,936	15,216	15,513	15,745
Australia	8,490	8,562	8,619	8,776	9,001	9,127	9,221	9,347	9,470	9,682
Japan	64,280	65,040	65,470	65,780	65,990	66,450	67,200	67,240	67,090	66,990 ^p
France	24,470	24,570	24,640	24,780	24,830	25,090	25,210	25,540	25,860	—
Germany ²	39,130	39,040	39,140	39,210	39,100	39,180	39,480	39,520	39,630	—
Italy	22,940	22,910	22,570	22,450	22,460	22,570	22,680	22,960	23,130	—
Netherlands	6,780	6,940	7,050	7,200	7,230	7,440	7,510	7,670	7,750	—
Sweden	4,591	4,520	4,443	4,418	4,460	4,459	4,418	4,402	4,430	—
United Kingdom	28,610	28,410	28,310	28,280	28,480	28,620	28,760	28,870	29,090 ^p	—
Participation rate³										
United States ¹	66.2	66.4	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.2
Canada	66.7	65.9	65.5	65.2	64.9	64.7	65.0	65.4	65.8	65.9
Australia	64.1	63.9	63.6	63.9	64.6	64.6	64.3	64.4	64.2	64.7
Japan	63.2	63.4	63.3	63.1	62.9	63.0	63.2	62.8	62.4	62.0 ^p
France	55.9	55.8	55.6	55.5	55.3	55.5	55.3	55.7	56.0	—
Germany ²	58.9	58.3	58.0	57.6	57.3	57.4	57.7	57.7	57.9	—
Italy	47.7	47.5	47.9	47.3	47.1	47.1	47.2	47.6	47.8	—
Netherlands	56.8	57.7	58.2	59.0	58.9	60.3	60.6	61.4	61.5	—
Sweden	67.0	65.7	64.5	63.7	64.1	64.0	63.3	62.8	63.2 ^p	—
United Kingdom	63.7	63.1	62.8	62.5	62.7	62.7	62.8	62.7	62.9 ^p	—
Employed										
United States ¹	117,718	118,492	120,259	123,060	124,900	126,708	129,558	131,463	133,488	135,208
Canada	12,747	12,672	12,770	13,027	13,271	13,380	13,705	14,068	14,456	14,827
Australia	7,676	7,637	7,680	7,921	8,235	8,344	8,429	8,597	8,785	9,043
Japan	62,920	63,620	63,810	63,860	63,890	64,200	64,900	64,550	63,920	63,790 ^p
France	22,120	22,020	21,740	21,730	21,910	21,960	22,090	22,520	22,970	—
Germany ²	36,920	36,420	36,030	35,890	35,900	35,680	35,570	35,830	36,170	—
Italy	21,360	21,230	20,270	19,940	19,820	19,920	19,990	20,210	20,460	—
Netherlands	6,380	6,540	6,590	6,680	6,730	6,970	7,110	7,360	7,490	—
Sweden	4,447	4,265	4,028	3,992	4,056	4,019	3,973	4,034	4,117	—
United Kingdom	26,090	25,530	25,340	25,550	26,000	26,280	26,740	27,050	27,330 ^p	—
Employment-population ratio⁴										
United States ¹	61.7	61.5	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.5
Canada	60.2	58.9	58.5	59.0	59.4	59.1	59.7	60.4	61.3	62.1
Australia	57.9	57.0	56.6	57.7	59.1	59.1	58.8	59.2	59.6	60.4
Japan	61.8	62.0	61.7	61.3	60.9	60.9	61.0	60.2	59.4	59.0 ^p
France	50.6	50.0	49.0	48.7	48.8	48.5	48.5	49.1	49.8	—
Germany ²	55.5	54.4	53.4	52.8	52.6	52.2	52.0	52.3	52.8 ^p	—
Italy	44.5	44.0	43.0	42.0	41.5	41.6	41.6	41.9	42.3	—
Netherlands	53.4	54.4	54.4	54.8	54.9	56.5	57.4	58.9	59.4	—
Sweden	64.9	62.0	58.5	57.6	58.3	57.7	56.9	57.6	58.7 ^p	—
United Kingdom	58.0	56.7	56.2	56.5	57.2	57.6	58.3	58.7	59.1 ^p	—
Unemployed										
United States ¹	8,628	9,613	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,665
Canada	1,381	1,496	1,530	1,359	1,229	1,271	1,230	1,148	1,058	918
Australia	814	925	939	856	766	783	791	750	685	638
Japan	1,360	1,420	1,660	1,920	2,100	2,250	2,300	2,790	3,170	3,200 ^p
France	2,350	2,550	2,900	3,060	2,920	3,130	3,130	3,020	2,890	—
Germany ²	2,210	2,620	3,110	3,320	3,200	3,500	3,910	3,690	3,460	—
Italy	1,580	1,680	2,300	2,510	2,640	2,650	2,690	2,750	2,670	—
Netherlands	400	390	460	520	510	470	400	310	260	—
Sweden	144	255	415	426	404	440	445	368	313	—
United Kingdom	2,520	2,880	2,970	2,730	2,480	2,340	2,020	1,820	1,760 ^p	—
Unemployment rate										
United States ¹	6.8	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0
Canada	9.8	10.6	10.7	9.4	8.5	8.7	8.2	7.5	6.8	5.8
Australia	9.6	10.8	10.9	9.7	8.5	8.6	8.6	8.0	7.2	6.6
Japan	2.1	2.2	2.5	2.9	3.2	3.4	3.4	4.1	4.7	4.8 ^p
France	9.6	10.4	11.8	12.3	11.8	12.5	12.4	11.8	11.2	9.7 ^p
Germany ²	5.6	6.7	7.9	8.5	8.2	8.9	9.9	9.3	8.7	8.3 ^p
Italy	6.9	7.3	10.2	11.2	11.8	11.7	11.9	12.0	11.5	10.7 ^p
Netherlands	5.9	5.6	6.5	7.2	7.1	6.3	5.3	4.0	3.4	—
Sweden	3.1	5.6	9.3	9.6	9.1	9.9	10.1	8.4	7.1	5.9 ^p
United Kingdom	8.8	10.1	10.5	9.7	8.7	8.2	7.0	6.3	6.1 ^p	—

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 Data from 1991 onward refer to unified Germany. See *Comparative Civilian Labor Force Statistics, Ten Countries, 1959-2000*, Mar. 16, 2001, on the Internet at <http://stats.bls.gov/flsdata.htm>.

³ Labor force as a percent of the working-age population.

⁴ Employment as a percent of the working-age population. NOTE: See Notes on the data for information on breaks in series for the United States, France, Germany, Italy, the Netherlands, and Sweden.

Dash indicates data are not available.

p = preliminary.

45. Annual indexes of manufacturing productivity and related measures, 12 countries

[1992 = 100]

Item and country	1960	1970	1980	1988	1989	1990	1991	1993	1994	1995	1996	1997	1998	1999
Output per hour														
United States.....	—	—	70.5	96.9	95.7	96.9	97.8	102.1	107.3	113.8	117.0	121.1	127.0	134.8
Canada.....	38.7	56.6	75.1	90.9	93.7	95.7	95.3	104.5	109.9	111.0	109.5	112.8	112.5	115.2
Japan.....	14.0	38.0	63.9	84.8	89.5	95.4	99.4	100.5	101.8	109.3	115.8	121.4	120.4	124.1
Belgium.....	18.0	32.9	65.4	92.0	96.9	96.8	99.1	102.5	108.4	113.2	115.5	122.4	123.6	124.5
Denmark.....	29.9	52.7	90.3	94.1	99.6	99.1	99.6	104.5	—	—	—	—	—	—
France.....	21.8	43.0	66.5	87.5	91.9	93.5	96.9	100.6	108.5	114.5	115.0	122.6	124.0	128.9
Germany.....	29.2	52.0	77.2	91.5	94.6	99.0	99.0	101.6	110.1	113.2	116.8	122.4	126.7	128.5
Italy.....	20.2	37.9	65.9	86.7	89.4	92.5	95.2	102.9	105.6	109.3	109.5	111.5	111.1	112.9
Netherlands.....	18.6	38.1	69.2	93.7	97.1	98.6	99.6	101.4	112.7	117.7	119.7	125.7	127.8	—
Norway.....	36.7	57.8	76.7	92.1	94.6	96.6	97.5	100.6	101.4	102.0	102.0	103.0	103.9	103.9
Sweden.....	27.3	52.2	73.1	90.5	93.2	94.6	95.5	107.3	119.4	121.9	124.5	133.0	135.6	139.5
United Kingdom.....	31.2	44.7	56.1	82.3	86.2	88.3	92.2	104.0	106.8	104.8	103.2	104.0	104.6	109.2
Output														
United States.....	—	—	75.8	103.2	102.4	101.6	98.3	103.5	111.1	118.4	121.3	127.7	133.5	139.3
Canada.....	34.2	60.6	86.0	110.1	112.6	108.6	99.0	104.6	113.2	118.1	119.8	128.1	133.1	141.3
Japan.....	10.7	38.8	59.9	84.6	90.2	96.3	101.4	96.0	95.4	100.6	106.7	111.1	103.6	103.9
Belgium.....	30.7	57.6	78.2	93.3	99.1	101.0	100.7	97.0	101.4	104.2	105.1	109.9	111.8	113.8
Denmark.....	40.8	68.0	91.3	100.8	104.3	102.7	101.7	99.0	109.3	114.7	109.7	112.6	115.3	111.5
France.....	31.0	64.1	88.7	92.2	97.2	99.1	99.8	95.7	100.3	104.9	104.6	109.7	111.5	114.2
Germany.....	41.5	70.9	85.3	90.9	94.0	99.1	102.3	92.5	95.2	95.3	93.5	96.3	100.9	102.2
Italy.....	21.9	45.8	80.4	94.5	98.1	99.6	99.2	96.4	102.2	107.2	105.6	108.3	110.3	111.4
Netherlands.....	31.7	59.5	77.4	92.8	96.9	100.1	100.6	98.2	104.2	107.8	108.4	114.1	116.6	—
Norway.....	56.5	89.1	103.6	105.3	101.3	100.2	98.3	102.7	106.7	109.0	110.1	115.7	117.6	114.0
Sweden.....	45.9	80.7	90.7	109.8	110.9	110.1	104.1	101.9	117.1	128.4	131.1	138.6	144.6	150.7
United Kingdom.....	67.7	90.3	87.2	101.4	105.4	105.3	100.0	101.4	106.1	107.8	108.2	109.6	109.9	109.7
Total hours														
United States.....	92.1	104.4	107.5	106.6	107.1	104.8	100.4	101.4	103.6	104.0	103.7	105.5	105.2	103.3
Canada.....	88.3	107.1	114.6	121.2	120.2	113.5	103.9	100.1	103.0	106.4	109.4	113.5	118.3	122.7
Japan.....	76.3	102.3	93.8	99.8	100.8	100.9	102.0	95.6	93.7	92.0	92.2	91.5	86.1	83.8
Belgium.....	170.7	174.7	119.7	101.5	102.3	104.3	101.5	94.7	93.6	92.0	91.0	89.8	90.5	91.5
Denmark.....	136.5	129.0	101.1	107.2	104.7	103.7	102.1	94.8	—	—	—	—	—	—
France.....	142.3	149.0	133.3	105.4	105.8	105.9	103.0	95.1	92.4	91.6	91.0	89.5	89.9	88.6
Germany.....	142.3	136.3	110.5	99.3	99.3	100.1	103.3	91.0	86.5	84.2	80.1	78.7	79.6	79.5
Italy.....	108.7	120.9	122.0	108.9	109.7	107.7	104.2	93.6	96.7	98.0	96.5	97.1	99.3	98.6
Netherlands.....	170.6	156.2	111.8	99.0	99.8	101.5	101.0	96.9	92.4	91.6	90.5	90.8	91.2	—
Norway.....	154.0	154.3	135.0	114.3	107.1	103.7	100.8	102.1	105.2	106.9	107.9	112.3	113.2	109.8
Sweden.....	168.3	154.7	124.0	121.4	119.0	116.4	109.0	94.9	98.1	105.3	105.3	104.2	106.6	108.0
United Kingdom.....	217.3	202.1	155.3	123.2	122.3	119.2	108.5	97.5	99.4	102.9	104.8	105.4	105.0	100.5
Compensation per hour														
United States.....	14.9	23.7	55.6	84.0	86.6	90.8	95.6	102.7	105.6	107.9	109.3	111.4	117.3	123.2
Canada.....	9.9	17.0	47.7	77.8	82.5	89.5	94.7	99.6	100.4	103.6	102.8	106.7	110.8	110.8
Japan.....	4.3	16.5	58.6	79.2	84.2	90.7	95.9	104.6	106.7	109.5	110.9	113.9	115.8	117.7
Belgium.....	5.4	13.7	52.5	81.1	85.9	90.1	97.3	104.8	106.1	109.2	112.0	115.2	116.0	116.0
Denmark.....	4.6	13.3	49.6	82.9	87.7	92.7	95.9	104.6	—	—	—	—	—	—
France.....	4.3	10.3	40.8	81.6	86.0	90.6	96.2	103.0	105.6	108.4	110.2	113.0	114.9	119.3
Germany.....	8.1	20.7	53.6	79.1	83.2	89.4	92.1	106.1	112.3	118.5	125.2	128.0	128.9	130.8
Italy.....	1.6	4.7	28.4	69.3	75.9	84.4	93.6	107.5	107.8	112.8	120.3	125.4	123.0	126.5
Netherlands.....	6.4	20.2	64.4	87.7	88.5	90.8	95.2	103.7	108.2	110.6	113.2	115.8	118.3	—
Norway.....	4.7	11.8	39.0	83.3	87.2	92.3	97.5	101.5	104.4	109.2	113.6	118.7	126.2	133.4
Sweden.....	4.1	10.7	37.3	71.8	79.4	87.8	95.5	97.2	99.8	106.3	114.2	119.7	123.3	127.4
United Kingdom.....	3.1	6.3	33.2	67.7	72.9	80.9	90.5	104.3	106.5	107.4	108.2	111.4	117.0	122.6
Unit labor costs: National currency basis														
United States.....	—	—	78.8	86.7	90.5	93.7	97.7	100.6	98.5	94.8	93.5	92.0	92.4	91.4
Canada.....	25.6	30.1	63.2	85.2	88.0	92.3	99.7	97.6	94.3	95.5	95.9	95.9	98.8	98.1
Japan.....	30.9	43.3	91.7	93.4	94.0	95.0	96.5	104.1	104.9	100.1	95.8	93.8	96.2	94.9
Belgium.....	30.1	41.7	80.3	88.1	88.7	93.0	98.1	102.3	97.9	96.4	95.6	93.3	93.7	93.4
Denmark.....	15.4	25.2	55.0	88.2	88.1	93.6	96.3	100.1	93.0	93.8	100.9	102.0	102.8	108.9
France.....	19.5	24.0	61.3	93.3	93.6	96.8	99.3	102.4	97.3	94.7	95.9	92.2	92.7	92.6
Germany.....	27.8	39.8	69.4	86.5	87.9	90.3	93.1	104.5	102.0	104.7	107.2	104.6	101.8	101.8
Italy.....	7.9	12.4	43.1	79.9	84.9	91.3	98.4	104.4	102.1	103.2	109.9	112.4	110.8	112.0
Netherlands.....	34.4	52.9	93.0	93.6	91.1	92.1	95.5	102.3	96.0	94.0	94.6	92.2	92.5	—
Norway.....	12.9	20.4	50.8	90.4	92.2	95.6	100.0	100.9	102.9	107.1	111.4	115.2	121.5	128.5
Sweden.....	15.0	20.6	51.0	79.4	85.1	92.8	100.0	90.6	83.6	87.2	91.7	90.0	90.9	91.3
United Kingdom.....	9.8	14.1	59.1	82.2	84.6	91.6	98.2	100.3	99.7	102.5	104.8	107.1	111.9	112.3
Unit labor costs: U.S. dollar basis														
United States.....	—	—	78.8	86.7	90.5	93.7	97.7	100.6	98.5	94.8	93.5	92.0	92.4	91.4
Canada.....	32.0	34.8	65.3	83.6	89.8	95.6	105.1	91.4	83.4	84.1	85.0	83.6	80.5	79.8
Japan.....	10.9	15.3	51.3	92.4	86.3	83.1	90.9	118.8	130.1	135.1	111.7	98.3	93.1	105.7
Belgium.....	19.4	27.0	88.3	77.0	72.3	89.5	92.3	95.1	94.2	105.2	99.3	83.7	83.0	79.3
Denmark.....	13.5	20.3	58.9	79.0	72.6	91.3	90.8	93.2	88.3	101.1	105.0	93.1	92.6	94.1
France.....	21.1	23.0	76.8	82.9	77.6	94.1	93.1	95.6	92.9	100.6	99.2	83.6	83.2	79.6
Germany.....	10.4	17.1	59.6	76.9	73.0	87.3	87.5	98.6	98.2	114.1	111.3	94.1	90.3	86.6
Italy.....	15.6	24.4	62.0	75.6	76.2	93.8	97.6	81.8	78.1	78.0	87.8	81.3	78.6	75.9
Netherlands.....	16.0	25.7	82.3	83.2	75.5	88.9	89.8	96.8	92.8	103.0	98.6	83.0	82.0	—
Norway.....	11.3	17.8	63.9	86.1	82.9	95.0	95.7	88.3	90.7	105.0	107.1	101.1	100.0	102.2
Sweden.....	16.9	23.1	70.3	75.4	76.8	91.3	96.3	67.7	63.1	71.2	79.7	68.6	66.6	64.3
United Kingdom.....	15.6	19.2	77.8	82.9	78.5	92.5	98.2	85.3	86.5	91.6	92.6	99.3	105.0	102.8

NOTE: Data for Germany for years before 1992 are for the former West Germany. Data for 1992 onward are for unified Germany. Dash indicates data not available.

46. Occupational injury and illness rates by industry,¹ United States

Industry and type of case ²	Incidence rates per 100 full-time workers ³											
	1988	1989 ¹	1990	1991	1992	1993 ⁴	1994 ⁴	1995 ⁴	1996 ⁴	1997 ⁴	1998 ⁴	1999 ⁴
PRIVATE SECTOR⁵												
Total cases	8.6	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4	7.1	6.7	6.3
Lost workday cases.....	4.0	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4	3.3	3.1	3.0
Lost workdays.....	76.1	78.7	84.0	86.5	93.8	-	-	-	-	-	-	-
Agriculture, forestry, and fishing⁵												
Total cases	10.9	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7	8.4	7.9	7.3
Lost workday cases.....	5.6	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9	4.1	3.9	3.4
Lost workdays.....	101.8	100.9	112.2	108.3	126.9	-	-	-	-	-	-	-
Mining												
Total cases	8.8	8.5	8.3	7.4	7.3	6.8	6.3	6.2	5.4	5.9	4.9	4.4
Lost workday cases.....	5.1	4.8	5.0	4.5	4.1	3.9	3.9	3.9	3.2	3.7	2.9	2.7
Lost workdays.....	152.1	137.2	119.5	129.6	204.7	-	-	-	-	-	-	-
Construction												
Total cases	14.6	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9	9.5	8.8	8.6
Lost workday cases.....	6.8	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5	4.4	4.0	4.2
Lost workdays.....	142.2	143.3	147.9	148.1	161.9	-	-	-	-	-	-	-
General building contractors:												
Total cases	14.0	13.9	13.4	12.0	12.2	11.5	10.9	9.8	9.0	8.5	8.4	8.0
Lost workday cases.....	6.4	6.5	6.4	5.5	5.4	5.1	5.1	4.4	4.0	3.7	3.9	3.7
Lost workdays.....	132.2	137.3	137.6	132.0	142.7	-	-	-	-	-	-	-
Heavy construction, except building:												
Total cases	15.1	13.8	13.8	12.8	12.1	11.1	10.2	9.9	9.0	8.7	8.2	7.8
Lost workday cases.....	7.0	6.5	6.3	6.0	5.4	5.1	5.0	4.8	4.3	4.3	4.1	3.8
Lost workdays.....	162.3	147.1	144.6	160.1	165.8	-	-	-	-	-	-	-
Special trades contractors:												
Total cases	14.7	14.6	14.7	13.5	13.8	12.8	12.5	11.1	10.4	10.0	9.1	8.9
Lost workday cases.....	7.0	6.9	6.9	6.3	6.1	5.8	5.8	5.0	4.8	4.7	4.1	4.4
Lost workdays.....	141.1	144.9	153.1	151.3	168.3	-	-	-	-	-	-	-
Manufacturing												
Total cases	13.1	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6	10.3	9.7	9.2
Lost workday cases.....	5.7	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9	4.8	4.7	4.6
Lost workdays.....	107.4	113.0	120.7	121.5	124.6	-	-	-	-	-	-	-
Durable goods:												
Total cases	14.2	14.1	14.2	13.6	13.4	13.1	13.5	12.8	11.6	11.3	10.7	10.1
Lost workday cases.....	5.9	6.0	6.0	5.7	5.5	5.4	5.7	5.6	5.1	5.1	5.0	4.8
Lost workdays.....	111.1	116.5	123.3	122.9	126.7	-	-	-	-	-	-	-
Lumber and wood products:												
Total cases	19.5	18.4	18.1	16.8	16.3	15.9	15.7	14.9	14.2	13.5	13.2	13.0
Lost workday cases.....	10.0	9.4	8.8	8.3	7.6	7.6	7.7	7.0	6.8	6.5	6.8	6.7
Lost workdays.....	189.1	177.5	172.5	172.0	165.8	-	-	-	-	-	-	-
Furniture and fixtures:												
Total cases	16.6	16.1	16.9	15.9	14.8	14.6	15.0	13.9	12.2	12.0	11.4	11.5
Lost workday cases.....	7.3	7.2	7.8	7.2	6.6	6.5	7.0	6.4	5.4	5.8	5.7	5.9
Lost workdays.....	115.7	-	-	-	128.4	-	-	-	-	-	-	-
Stone, clay, and glass products:												
Total cases	16.0	15.5	15.4	14.8	13.6	13.8	13.2	12.3	12.4	11.8	11.8	10.7
Lost workday cases.....	7.5	7.4	7.3	6.8	6.1	6.3	6.5	5.7	6.0	5.7	6.0	5.4
Lost workdays.....	141.0	149.8	160.5	156.0	152.2	-	-	-	-	-	-	-
Primary metal industries:												
Total cases	19.4	18.7	19.0	17.7	17.5	17.0	16.8	16.5	15.0	15.0	14.0	12.9
Lost workday cases.....	8.2	8.1	8.1	7.4	7.1	7.3	7.2	7.2	6.8	7.2	7.0	6.3
Lost workdays.....	161.3	168.3	180.2	169.1	175.5	-	-	-	-	-	-	-
Fabricated metal products:												
Total cases	18.8	18.5	18.7	17.4	16.8	16.2	16.4	15.8	14.4	14.2	13.9	12.6
Lost workday cases.....	8.0	7.9	7.9	7.1	6.6	6.7	6.7	6.9	6.2	6.4	6.5	6.0
Lost workdays.....	138.8	147.6	155.7	146.6	144.0	-	-	-	-	-	-	-
Industrial machinery and equipment:												
Total cases	12.1	12.1	12.0	11.2	11.1	11.1	11.6	11.2	9.9	10.0	9.5	8.5
Lost workday cases.....	4.7	4.8	4.7	4.4	4.2	4.2	4.4	4.4	4.0	4.1	4.0	3.7
Lost workdays.....	82.8	86.8	88.9	86.6	87.7	-	-	-	-	-	-	-
Electronic and other electrical equipment:												
Total cases	8.0	9.1	9.1	8.6	8.4	8.3	8.3	7.6	6.8	6.6	5.9	5.7
Lost workday cases.....	3.3	3.9	3.8	3.7	3.6	3.5	3.6	3.3	3.1	3.1	2.8	2.8
Lost workdays.....	64.6	77.5	79.4	83.0	81.2	-	-	-	-	-	-	-
Transportation equipment:												
Total cases	17.7	17.7	17.8	18.3	18.7	18.5	19.6	18.6	16.3	15.4	14.6	13.7
Lost workday cases.....	6.6	6.8	6.9	7.0	7.1	7.1	7.8	7.9	7.0	6.6	6.6	6.4
Lost workdays.....	134.2	138.6	153.7	166.1	186.6	-	-	-	-	-	-	-
Instruments and related products:												
Total cases	6.1	5.6	5.9	6.0	5.9	5.6	5.9	5.3	5.1	4.8	4.0	4.0
Lost workday cases.....	2.6	2.5	2.7	2.7	2.7	2.5	2.7	2.4	2.3	2.3	1.9	1.8
Lost workdays.....	51.5	55.4	57.8	64.4	65.3	-	-	-	-	-	-	-
Miscellaneous manufacturing industries:												
Total cases	11.3	11.1	11.3	11.3	10.7	10.0	9.9	9.1	9.5	8.9	8.1	8.4
Lost workday cases.....	5.1	5.1	5.1	5.1	5.0	4.6	4.5	4.3	4.4	4.2	3.9	4.0
Lost workdays.....	91.0	97.6	113.1	104.0	108.2	-	-	-	-	-	-	-

See footnotes at end of table.

46. Continued—Occupational injury and illness rates by industry,¹ United States

Industry and type of case ²	Incidence rates per 100 full-time workers ³											
	1988	1989 ¹	1990	1991	1992	1993 ⁴	1994 ⁴	1995 ⁴	1996 ⁴	1997 ⁴	1998 ⁴	1999 ⁴
Nondurable goods:												
Total cases	11.4	11.6	11.7	11.5	11.3	10.7	10.5	9.9	9.2	8.8	8.2	7.8
Lost workday cases.....	5.4	5.5	5.6	5.5	5.3	5.0	5.1	4.9	4.6	4.4	4.3	4.2
Lost workdays.....	101.7	107.8	116.9	119.7	121.8	-	-	-	-	-	-	-
Food and kindred products:												
Total cases	18.5	18.5	20.0	19.5	18.8	17.6	17.1	16.3	15.0	14.5	13.6	12.7
Lost workday cases.....	9.2	9.3	9.9	9.9	9.5	8.9	9.2	8.7	8.0	8.0	7.5	7.3
Lost workdays.....	169.7	174.7	202.6	207.2	211.9	-	-	-	-	-	-	-
Tobacco products:												
Total cases	9.3	8.7	7.7	6.4	6.0	5.8	5.3	5.6	6.7	5.9	6.4	5.5
Lost workday cases.....	2.9	3.4	3.2	2.8	2.4	2.3	2.4	2.6	2.8	2.7	3.4	2.2
Lost workdays.....	53.0	64.2	62.3	52.0	42.9	-	-	-	-	-	-	-
Textile mill products:												
Total cases	9.6	10.3	9.6	10.1	9.9	9.7	8.7	8.2	7.8	6.7	7.4	6.4
Lost workday cases.....	4.0	4.2	4.0	4.4	4.2	4.1	4.0	4.1	3.6	3.1	3.4	3.2
Lost workdays.....	78.8	81.4	85.1	88.3	87.1	-	-	-	-	-	-	-
Apparel and other textile products:												
Total cases	8.1	8.6	8.8	9.2	9.5	9.0	8.9	8.2	7.4	7.0	6.2	5.8
Lost workday cases.....	3.5	3.8	3.9	4.2	4.0	3.8	3.9	3.6	3.3	3.1	2.6	2.8
Lost workdays.....	68.2	80.5	92.1	99.9	104.6	-	-	-	-	-	-	-
Paper and allied products:												
Total cases	13.1	12.7	12.1	11.2	11.0	9.9	9.6	8.5	7.9	7.3	7.1	7.0
Lost workday cases.....	5.9	5.8	5.5	5.0	5.0	4.6	4.5	4.2	3.8	3.7	3.7	3.7
Lost workdays.....	124.3	132.9	124.8	122.7	125.9	-	-	-	-	-	-	-
Printing and publishing:												
Total cases	6.6	6.9	6.9	6.7	7.3	6.9	6.7	6.4	6.0	5.7	5.4	5.0
Lost workday cases.....	3.2	3.3	3.3	3.2	3.2	3.1	3.0	3.0	2.8	2.7	2.8	2.6
Lost workdays.....	59.8	63.8	69.8	74.5	74.8	-	-	-	-	-	-	-
Chemicals and allied products:												
Total cases	7.0	7.0	6.5	6.4	6.0	5.9	5.7	5.5	4.8	4.8	4.2	4.4
Lost workday cases.....	3.3	3.2	3.1	3.1	2.8	2.7	2.8	2.7	2.4	2.3	2.1	2.3
Lost workdays.....	59.0	63.4	61.6	62.4	64.2	-	-	-	-	-	-	-
Petroleum and coal products:												
Total cases	7.0	6.6	6.6	6.2	5.9	5.2	4.7	4.8	4.6	4.3	3.9	4.1
Lost workday cases.....	3.2	3.3	3.1	2.9	2.8	2.5	2.3	2.4	2.5	2.2	1.8	1.8
Lost workdays.....	68.4	68.1	77.3	68.2	71.2	-	-	-	-	-	-	-
Rubber and miscellaneous plastics products:												
Total cases	16.3	16.2	16.2	15.1	14.5	13.9	14.0	12.9	12.3	11.9	11.2	10.1
Lost workday cases.....	8.1	8.0	7.8	7.2	6.8	6.5	6.7	6.5	6.3	5.8	5.8	5.5
Lost workdays.....	142.9	147.2	151.3	150.9	153.3	-	-	-	-	-	-	-
Leather and leather products:												
Total cases	11.4	13.6	12.1	12.5	12.1	12.1	12.0	11.4	10.7	10.6	9.8	10.3
Lost workday cases.....	5.6	6.5	5.9	5.9	5.4	5.5	5.3	4.8	4.5	4.3	4.5	5.0
Lost workdays.....	128.2	130.4	152.3	140.8	128.5	-	-	-	-	-	-	-
Transportation and public utilities												
Total cases	8.9	9.2	9.6	9.3	9.1	9.5	9.3	9.1	8.7	8.2	7.3	7.3
Lost workday cases.....	5.1	5.3	5.5	5.4	5.1	5.4	5.5	5.2	5.1	4.8	4.3	4.4
Lost workdays.....	118.6	121.5	134.1	140.0	144.0	-	-	-	-	-	-	-
Wholesale and retail trade												
Total cases	7.8	8.0	7.9	7.6	8.4	8.1	7.9	7.5	6.8	6.7	6.5	6.1
Lost workday cases.....	3.5	3.6	3.5	3.4	3.5	3.4	3.4	3.2	2.9	3.0	2.8	2.7
Lost workdays.....	60.9	63.5	65.6	72.0	80.1	-	-	-	-	-	-	-
Wholesale trade:												
Total cases	7.6	7.7	7.4	7.2	7.6	7.8	7.7	7.5	6.6	6.5	6.5	6.3
Lost workday cases.....	3.8	4.0	3.7	3.7	3.6	3.7	3.8	3.6	3.4	3.2	3.3	3.3
Lost workdays.....	69.2	71.9	71.5	79.2	82.4	-	-	-	-	-	-	-
Retail trade:												
Total cases	7.9	8.1	8.1	7.7	8.7	8.2	7.9	7.5	6.9	6.8	6.5	6.1
Lost workday cases.....	3.4	3.4	3.4	3.3	3.4	3.3	3.3	3.0	2.8	2.9	2.7	2.5
Lost workdays.....	57.6	60.0	63.2	69.1	79.2	-	-	-	-	-	-	-
Finance, insurance, and real estate												
Total cases	2.0	2.0	2.4	2.4	2.9	2.9	2.7	2.6	2.4	2.2	.7	1.8
Lost workday cases.....	.9	.9	1.1	1.1	1.2	1.2	1.1	1.0	.9	.9	.5	.8
Lost workdays.....	17.2	17.6	27.3	24.1	32.9	-	-	-	-	-	-	-
Services												
Total cases	5.4	5.5	6.0	6.2	7.1	6.7	6.5	6.4	6.0	5.6	5.2	4.9
Lost workday cases.....	2.6	2.7	2.8	2.8	3.0	2.8	2.8	2.8	2.6	2.5	2.4	2.2
Lost workdays.....	47.7	51.2	56.4	60.0	68.6	-	-	-	-	-	-	-

¹ Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual*, 1987 Edition. For this reason, they are not strictly comparable with data for the years 1985-88, which were based on the *Standard Industrial Classification Manual*, 1972 Edition, 1977 Supplement.

² Beginning with the 1992 survey, the annual survey measures only nonfatal injuries and illnesses, while past surveys covered both fatal and nonfatal incidents. To better address fatalities, a basic element of workplace safety, BLS implemented the Census of Fatal Occupational Injuries.

³ The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays;
EH = total hours worked by all employees during the calendar year; and
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

⁴ Beginning with the 1993 survey, lost workday estimates will not be generated. As of 1992, BLS began generating percent distributions and the median number of days away from work by industry and for groups of workers sustaining similar work disabilities.

⁵ Excludes farms with fewer than 11 employees since 1976.
Dash indicates data not available.

47. Fatal occupational injuries by event or exposure, 1993-98

Event or exposure ¹	Fatalities			
	1993-97	1997 ²	1998	
	Average	Number	Number	Percent
Total.....	6,335	6,238	6,026	100
Transportation incidents.....	2,611	2,605	2,630	44
Highway incident.....	1,334	1,393	1,431	24
Collision between vehicles, mobile equipment.....	652	640	701	12
Moving in same direction.....	109	103	118	2
Moving in opposite directions, oncoming.....	234	230	271	4
Moving in intersection.....	132	142	142	2
Vehicle struck stationary object or equipment.....	249	282	306	5
Noncollision incident.....	360	387	373	6
Jackknifed or overturned—no collision.....	267	298	300	5
Nonhighway (farm, industrial premises) incident.....	388	377	384	6
Overturned.....	214	216	216	4
Aircraft.....	315	261	223	4
Worker struck by a vehicle.....	373	367	413	7
Water vehicle incident.....	106	109	112	2
Railway.....	83	93	60	1
Assaults and violent acts.....	1,241	1,111	960	16
Homicides.....	995	860	709	12
Shooting.....	810	708	569	9
Stabbing.....	75	73	61	1
Other, including bombing.....	110	79	79	1
Self-inflicted injuries.....	215	216	223	4
Contact with objects and equipment.....	1,005	1,035	941	16
Struck by object.....	573	579	517	9
Struck by falling object.....	369	384	317	5
Struck by flying object.....	65	54	58	1
Caught in or compressed by equipment or objects.....	290	320	266	4
Caught in running equipment or machinery.....	153	189	129	2
Caught in or crushed in collapsing materials.....	124	118	140	2
Falls.....	668	716	702	12
Fall to lower level.....	591	653	623	10
Fall from ladder.....	94	116	111	2
Fall from roof.....	139	154	156	3
Fall from scaffold, staging.....	83	87	97	2
Fall on same level.....	52	44	51	1
Exposure to harmful substances or environments.....	586	554	572	9
Contact with electric current.....	320	298	334	6
Contact with overhead power lines.....	128	138	153	3
Contact with temperature extremes.....	43	40	46	1
Exposure to caustic, noxious, or allergenic substances.....	120	123	104	2
Inhalation of substances.....	70	59	48	1
Oxygen deficiency.....	101	90	87	1
Drowning, submersion.....	80	72	75	1
Fires and explosions.....	199	196	205	3
Other events or exposures³.....	26	21	16	-

¹ Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

² The BLS news release issued August 12, 1998, reported a total of 6,218 fatal work injuries for calendar year 1997. Since then, an additional 20 job-related fatalities were identified, bringing the total job-related fatality count for 1997 to 6,238.

³ Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include sub-categories not shown separately. Percentages may not add to totals because of rounding. Dash indicates less than 0.5 percent.