Chapter 4.
Trends in Youth Employment: Data from the Current Population Survey

The Report on the Youth Labor Force was revised in November 2000.

Introduction

This chapter provides a look at trends in the employment of youths aged 15 to 17 from the Current Population Survey (CPS), a monthly labor force survey of 50,000 households. Each month, interviewed households are asked a series of questions to determine employment status and other employment-related information about all persons aged 15 or older during the week of the 12th. CPS data normally are published only for the population aged 16 and older. For this special report on youths, data for 15-year-olds were tabulated to provide new knowledge on youth employment patterns.

Like the preceding chapter, which used data from the National Longitudinal Survey of Youth 1997 (NLSY97), this chapter presents data from the CPS on incidence and type of employment for youths in various demographic and income groups. It also provides information on youth unemployment, hours of work, and earnings, and examines differences between youths enrolled in school and dropouts. Unlike the previous chapter, this chapter focuses on trends, as the CPS is the only BLS survey that provides information on youth employment over many years. Differences between the NLSY97 and the CPS are discussed in detail in the appendix at the end of this chapter.

Time frames for comparison

This chapter looks at employment during the 1978-98 period. Through much of this chapter, data were pooled across several years in order to bolster the sample sizes and thereby improve the reliability of estimates.[1] In most sections, data are described in 3-year combinations reflecting the periods 1977-79, 1987-89, and 1996-98. The periods for the pooled data were selected because they reflect similar points in the business cycle: they all occur well into economic expansions. Thus, fluctuations in youth employment from period to period that might have been attributable to business cycle changes are minimized. For some analyses, annual average data are used to show trends over time. Other portions of the discussion rely on monthly data from special supplements to the CPS.

Because youth employment is much more common in the summer than in school months, averages of weekly youth employment figures are analyzed for school months and summer months separately, whenever possible. The CPS permits school-month versus summer-month comparisons in nearly all cases. Annual averages are presented only when school and summer months show similar patterns.[2] Unless otherwise specified, data in the text refer to the school months of the 1996-98 period.

How many youths work?

Employment. During the 1996-98 period, 2.9 million youths aged 15 to 17 worked during school months, and 4.0 million worked during the summer months.[3] Each month, the CPS determines the employment status of youths (and other workers) by determining whether they worked for pay or had a job from which they were temporarily absent in the week prior to the week during which they were interviewed. These data are gathered for all persons aged 15 and older through personal interviews and computer-assisted telephone interviews.[4] Those who worked for pay at least 1 hour during the reference week, and those who worked for no pay in a family business for at least 15 hours, are considered employed.

Among youths, employment increased markedly with age. During the school months of 1996-98, the CPS found that only 9 percent of 15-year-olds were employed in an average month, compared with 26 percent of those a year older and 39 percent of 17-year-olds. Youths in each age group were more likely to work in the summer, during which employment rates increased to 18, 36, and 48 percent at each age, respectively. The very low rates for 15-year-olds in part reflect legal restrictions on the types and hours of employment allowed for persons under age 16. (See chapter 2 on legal issues.)

The CPS showed that male and female youths had similar employment-population ratios. In 1996-98, about a fourth of both male and female youths were employed during average school months. During the summer, about a third of both male and female youths worked. (See table 4.1.) There were substantial differences in employment rates across race/ethnicity groups.[5] The 1996-98 employment-population ratio of white youths—28 percent during the school months and 38 percent during the summer—was about twice that of black (13 and 20 percent) and

Hispanic (15 and 20 percent) youths. This pattern has persisted for many years.

Despite popular perceptions that youths work more than they did in the past, the proportion of 15- to 17-year-olds who work has declined over time. As shown in chart 4.1, employment-population ratios declined with economic downturns in the early 1980s and 1990s. After the decline in the early 1990s, however, the rates did not return to earlier levels. During the most recent 3-year period, 1996-98, a quarter of youths worked during the school months, down from 30 percent in 1977-79. Just over a third worked during the summer, down from 43 percent during the late 1970s.

Additionally, the potential pool of young workers declined over the period. In 1977-79, the population of youths aged 15 to 17 totaled 12.4 million. That level fell during the 1980s, as the last members of the baby-boom generation moved into their twenties. The number of youths rose again during the mid- and late-1990s; in 1996-98, there were about 11.7 million youths aged 15 to 17. The combination of the declines in the youth population and declines in the proportion working led to reductions in the overall number of youths with jobs. The 2.9 million employed youths in the school months of 1996-98 represented a 28-percent decline from 1977-79.

Employment-population ratios fell among youths at each age, but the drop was largest among 15-year-olds. The proportion of 15-year-olds who worked fell from 30 to 18 percent during the summer months and from 17 to 9 percent during the school year. Employment declined for workers of both sexes, but the drop was more pronounced among male youths. As a result, employment-population ratios that had been higher for male than for female youths in 1977-79 were about the same as those for female youths in the 1996-98 period. Employment also declined between 1977-79 and 1996-98 for white and Hispanic youths. Black youths' employment-population ratios, by comparison, were down only slightly during the summer months, and actually increased during the school year.

Unemployment. The CPS provides information on jobseeking by youths as well as their employment. In the CPS, persons are identified as "unemployed" if they: 1) did not work during the reference week (the week before the survey), 2) were available to work that week, and 3) had actively sought work during the past 4 weeks. Youths who were not employed during the week and also did not fit all of the above criteria are classified as out of the labor force. In the summer months of 1996-98, an average of 2.9 million youths aged 15 to 17 were employed and 665,000 were unemployed. By far the largest group—8.2 million—was out of the labor force.

Unemployment rates equal the number of unemployed persons as a percent of the labor force (the employed plus unemployed), and are typically used as indicators of labor market difficulty of various groups. Those persons who are out of the labor force are not included in the calculation.

Youth unemployment rates are much higher than the rates for other groups. Combining summer and school months, the annual average unemployment rate of 15- to 17-year-olds in 1996-98 was 19 percent. That compared with 14 percent for persons aged 18 and 19, and 4 percent for those aged 20 and older. The higher rates for youths may reflect the limited range of jobs available to persons with the least experience in the labor market and the most limited job skills. They also reflect the more transitory nature of youth employment. For example, some youths work at summer jobs, but stop working or seek a different employment arrangement during the school year. These transitions mean that they might be seeking work more frequently than are others and, hence, be identified as unemployed. Others might be exploring their interests or complementing a school schedule. As a result, youths often have repeated spells of unemployment during the year and are, therefore, more likely to be counted among the unemployed in any month.

Unemployment rates among youths are about the same during the school and summer months. In 1996-98, male youths were slightly more likely than female youths to be unemployed — 20 versus 17 percent (in both school and summer months). Rates declined with age. In the school months of 1996-98, the unemployment rate was 24 percent for 15-year-olds; it fell to 21 percent among 16-year-olds and to 16 percent among 17-year-olds. (See table 4.2.)

As shown in chart 4.2, black and Hispanic youths had much higher unemployment rates than did white youths. During the school months of 1996–98, 35 percent of black youths and 30 percent of Hispanic youths aged 15 to 17 were unemployed, compared with 17 percent of whites.

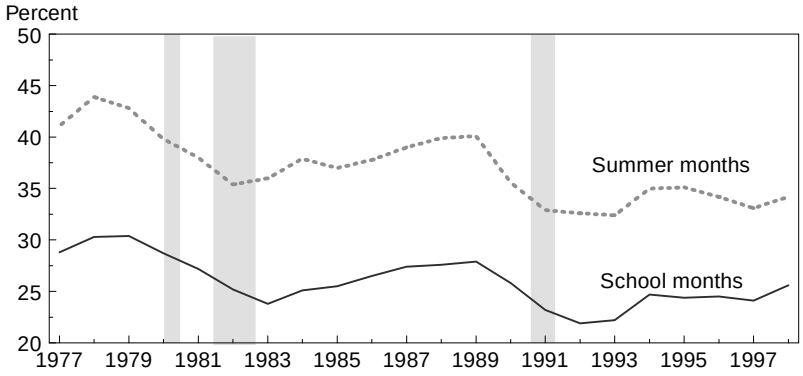
Over the 1977-98 period, unemployment fluctuated, increasing during economic downturns and declining during expansions. When analysis is limited to the three expansionary periods to reduce the effect of business cycles, table 4.2 shows that school-month unemployment rates were about unchanged for male youths between the 1977-79 and 1996-98 periods, while they were down slightly for female youths. While rates for white and Hispanic youths were relatively stable over the period, the unemployment rate for blacks dropped from 44 to 35 percent. The estimates for summer months showed a similar pattern.

Factors affecting youth employment and unemployment

Employment-population ratios and unemployment rates of youths vary by characteristics such as family income and type, school enrollment status, and country of origin. These factors are discussed below.

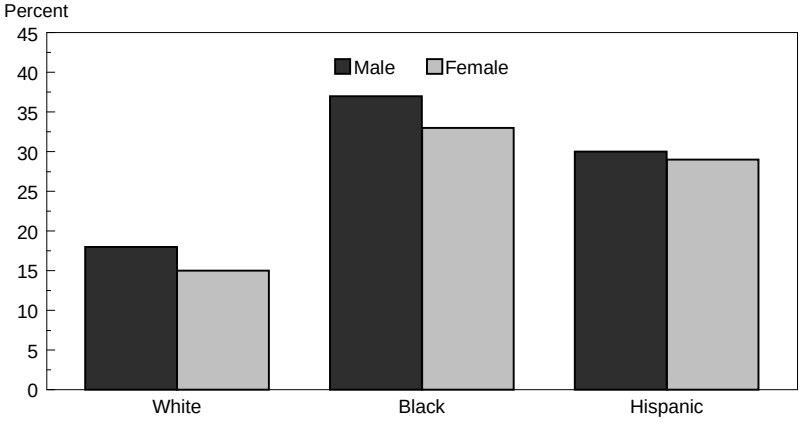
Family income. Each year, the March supplement to the Current Population Survey includes questions on total family income. Table 4.3 includes the

Chart 4.1. Employment-population ratios of persons 15 to 17 years of age, school and summer months, 1977-98



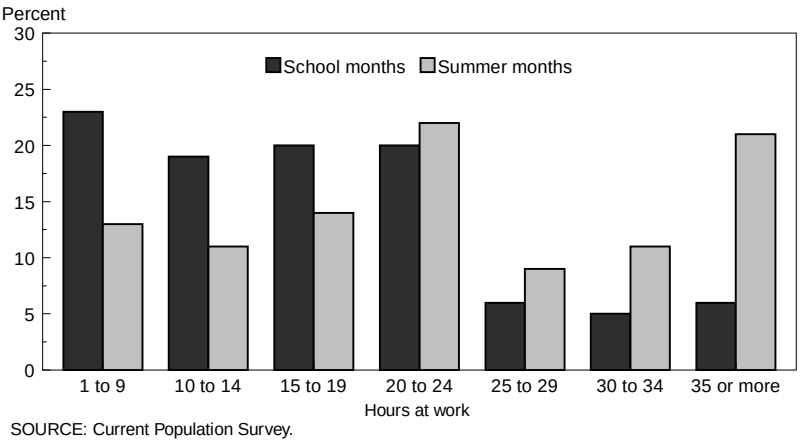
NOTE: Shaded areas are recessionary periods, as designated by the National Bureau of Economic Research.
SOURCE: Current Population Survey.

Chart 4.2. Unemployment rates of persons 15 to 17 years of age by sex, race, and Hispanic origin, school months, 1996-98



SOURCE: Current Population Survey.

Chart 4.3. Percent distribution of employed persons 15 to 17 years of age by average hours worked per week, school and summer months, 1996-98



SOURCE: Current Population Survey.

data from the March 1999 supplement, showing employment status during March 1999 and family income by quartile in 1998.[6] Like the NLSY97 data, CPS data show that youths in higher-income families are more likely to work than are those in lower-income families.

Only 15 percent of youths whose families had incomes in the lowest quartile of the distribution were employed in March 1999. The employment-population ratio rose to 22 percent among those in the second quartile and to 30 percent in the third and fourth family income groups. A similar pattern emerged within each race/ethnicity group; however, not all differences between income groups were statistically significant, as small samples for some race/ethnicity groups within income groups resulted in wide variances on the estimates.

Unemployment rates among youths decline as family income increases. In March 1999, 31 percent of youths who were in the labor force and from families in the lowest income quartile (in 1998) were unemployed. By contrast, only 12 percent of those whose families had incomes in the top quarter of the distribution were unemployed. Data for March 1990 and March 1980 (family income in 1989 and 1979, respectively) also are shown in table 4.3, and suggest that these patterns in employment and unemployment have existed for many years.

Family type. Youths in married-couple families and those not living with relatives were more likely to be employed than were those in single-parent families. (See above tabulation.) In the school months of 1996-98, 27 percent of youths in married-couple families and 29 percent of those living alone held a job, compared with 19 and 23 percent of those in families maintained by an unmarried woman or man. The unemployment rate for youths in married-couple families was the lowest among the groups—15 percent, compared with 29 percent for those in families maintained by women and 23 percent in families maintained by men.

Employment status of persons 15 to 17 years of age by family type, school months, 1996-98

Measure	Total	In married-couple families	In families maintained by women	In families maintained by men	Not living with relatives
Employment-population ratio...	24.7	26.7	19.1	22.9	28.6
Unemployment rate.....	18.7	15.0	29.1	23.1	—

Dash indicates data not shown where base is less than 50,000.

As mentioned in chapter 3, families with more adults are generally more affluent than are those with fewer adults. Youths in families with more adults or higher incomes may have greater access to a car or to an adult who will drive them to a place of work. It may also be easier for youths from higher-income families to find employment. Youths in more affluent communities may also benefit from relatively tight local labor markets.

It is also possible that nonmarket work, such as housework and unpaid child care, more often falls to youths in single-parent families than to those in married-couple families. This would make youths in single-parent families relatively less available for market work—or available only for specific schedules. Their higher unemployment rates indicate, however, that even among those who are available to work, youths in those families are less successful at finding employment.

School enrollment status. Each October, the CPS includes supplementary questions on the school enrollment status of members of the household. From this supplement, it is possible to look at the employment patterns of youths enrolled in high school compared with the patterns of those who dropped out between the October when they were surveyed and the previous October. Table 4.4 shows that the influence of dropping out of high school affects employment differently for male and female youths. In October 1996–98, male dropouts were much more likely to work than were those who were still in school—40 versus 26 percent, respectively. Female dropouts, by contrast, were about as likely to work as were their enrolled counterparts. This probably reflects different reasons for dropping out by gender. Female dropouts often leave school to have a child; caring for the child restricts their labor force availability.[7] Race comparisons were not possible, as there were too few black high school dropouts (48,000) to produce reliable estimates. Employment-population ratios for the three expansionary periods in this study indicate that employment was down both among youths enrolled in high school and among dropouts.

Unemployment was higher for high school dropouts than for those enrolled in school. (See tabulation below.) Sample sizes are large enough to compare some selected subgroups of

Unemployment rates of persons 15 to 17 years of age by school enrollment status, October 1996-98

Group	Number of high school dropouts (in thousands)	Unemployment rate, high school dropouts	Unemployment rate, youths enrolled in high school
Total, 15 to 17 years	281	31.6	15.8
Male	138	29.9	16.8
Female	143	34.3	14.7
White	220	27.5	13.9
Total, age 17	183	31.2	12.6

youths.[8] As shown, dropouts' overall unemployment rate is nearly twice that of youths still enrolled in school, and substantially higher rates occur among dropouts than among enrollees for all the groups shown.

Country of birth. As was found in the NLSY97, the CPS also showed that youths who were not born in the United States were less likely to be employed than were those born in the United States. Of the 15- to 17-year-old foreign-born youths, 15 percent were working when surveyed in 1994-98, compared with 28 percent of U.S.-born youths.[9] Unemployment rates also were substantially higher for foreign-born youths: 27 percent, versus 19 percent for those born in the United States. As mentioned in chapter 3, these patterns may reflect a combination of factors that could reduce the relative success of foreign-born youths at finding employment, such as problems speaking English, lower relative job search skills, fewer employment contacts, or employment discrimination.[10]

How much do youths work?

One strength of the CPS is that it collects information on hours worked per week. CPS respondents are asked to report the total hours they actually worked during the week prior to the survey. Employed youths work fewer hours per week during the school months than during the summer. (See table 4.5.) In 1996-98, employed youths (who were at work during the survey week) aged 15 to 17 worked an average of about 17 hours a week during the school months and 23 hours during the summer months.

Like employment, average hours worked increased with age. During the school months of 1996-98, employed 15-year-olds worked 12 hours per week, 16-year-olds worked 16 hours, and 17-year-olds worked 18 hours. The summer-month figures were 19, 23, and 25 hours, respectively. In 1996-98, employed male youths worked more hours than did female youths in both the school and summer months. White youths were most likely to hold jobs, but employed Hispanic youths worked the most hours per week—21 hours during the school months, compared with 16 hours for white youths and 18 hours for black youths.

High school dropouts worked many more hours than did those enrolled in high school. In 1996-98, employed dropouts worked an average of 34 hours per week, while those enrolled in school worked 15 hours per week. The number of employed dropouts is not large enough to make comparisons by age, sex, or race. Employed youths born outside the United States work more hours than do their U.S.-born peers. As shown in the tabulation above, in 1994-98, foreign-born youths worked an average of 24 hours, compared with 18 hours worked by those born in the United States. Differences persist across groups for which a comparison could be made.

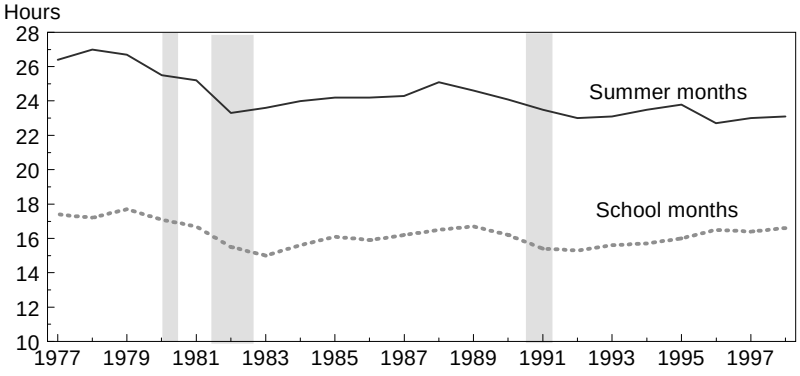
Chart 4.3 shows a distribution of weekly work hours among youths during the summer and school months. During the school year, many employed youths worked a small number of hours. About 25 percent of employed youths worked 9 or fewer hours during the school months, compared with 13 percent during the summer. Only 6 percent of employed youths worked full-time (35 hours or more per week) during the school year, compared with 20 percent during the summer.

Over time, the average number of hours worked by youths fell during the summer months; hours worked during the school months were relatively flat. Chart 4.4 shows annual average hours trends for employed youths (at work) aged 15 to 17. Hours dropped sub-

Average hours at work per week of persons 15 to 17 years of age by country of birth, 1994–98

Group	Number of employed foreign-born youths (in thousands)	Average hours, foreign-born youths	Average hours, youths born in the United States
Total, 15 to 17 years	108	23.8	18.2
Male	63	25.8	19.1
White	73	25.5	18.1
Hispanic	56	27.8	20.4
Total, age 17	64	25.1	19.9

Chart 4.4. Average hours at work of persons 15 to 17 years of age, school and summer months, 1977-98



NOTE: Shaded areas are recessionary periods, as designated by the National Bureau of Economic Research.
SOURCE: Current Population Survey.

stantially in the late 1970s and during the downturns of the early 1980s. They climbed a bit in the expansionary period in the 1980s but did not return to 1970s levels. Hours dropped again during the subsequent downturn in the early 1990s. Hours of work during school months returned to prerecession levels, but summer months did not.

Table 4.5 compares the specified 3-year periods to minimize the influence of business cycle fluctuations. As shown, average hours during the school year were relatively flat at about 17 percent in each period, while summer-month work hours dropped from 27 to 23 hours between the 1977-79 and 1996-98 periods. Male youths worked more hours than did female youths in both the school and summer months in all three periods. The pattern of longer work hours for Hispanic youths than for white or black youths also persisted in the school months of all three periods studied.

How much do youths earn?

The minimum wage often is associated with young workers first entering the labor force. CPS data indicate that earnings were above the minimum wage for most youths. The minimum was $5.15 in 1998.[11] The CPS measures hourly earnings of wage and salary workers paid hourly rates. Of the 3.3 million youths employed in 1998, 2.9 million (89 percent) were included in this hourly pay calculation.

Hourly earnings in the school and summer months are about the same. Thus, annual averages are used for comparisons in this section. In 1998, median earnings of 15- to 17-year-olds combined were $5.57 per hour. In 1998, hourly earnings increased with age: 15-year-olds earned a median of $5.38 per hour, 16-year-olds earned $5.52, and 17-year-olds earned $5.65 per hour. Earnings varied slightly across sex and race groups. Hispanic and white males had the highest median hourly earnings; Hispanic and black females had the lowest. (See table 4.6.) Chart 4.5 shows the earnings distribution of youths by single year of age. As shown, the vast majority of workers at each age have earnings between $5 and $7 an hour.

Hourly earnings of persons 15 to 17 years of age, 1998

Age	Total paid by the hour (in thousands)	Percent paid:		
		Below the minimum wage	At the minimum wage	Above the minimum wage
Total, 15 to 17 years	2,908	17	12	71
15 years	353	27	14	59
16 years	980	17	13	71
17 years	1,574	15	11	74

Even among 15-year-olds, most young workers earned more than the 1998 minimum wage of $5.15. As shown in the tabulation above, more than half of 15-year-olds earned more than the minimum wage. A quarter earned less than the minimum wage, as some occupations—including many food service jobs—are exempt from the minimum wage or may pay a training wage for a specified period. The proportion of employed youths who earned more than the minimum wage increased to 71 percent of 16-year-olds and to three-fourths of those aged 17.

Earnings of youths in 1998 were lower in real terms than in 1979 and higher than in 1989.[12] The Federal minimum wage in force in 1989 was set in 1981, and the minimum was not raised until 1990.[13] Over that period, earnings of youths declined in real terms.

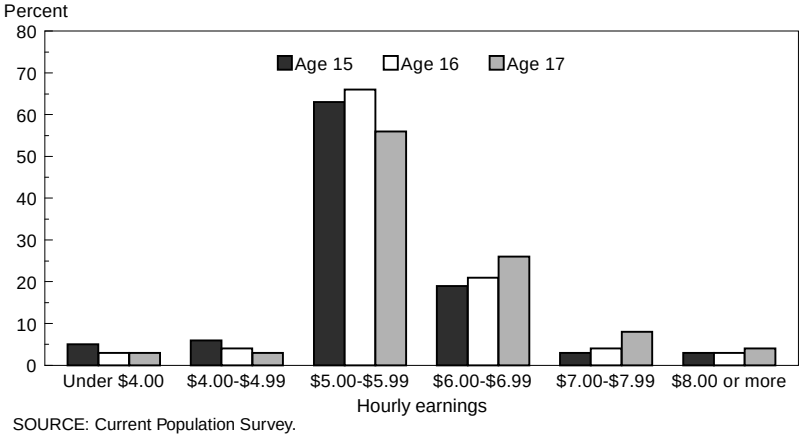
Where do youths work?

In a similar fashion to chapter 3, the following section examines the types of work youths perform. Data are again pooled across 3-year periods from 1977-79, 1987-89, and 1996-98 and are reported separately for school and summer months. Class of worker, industry, and occupation distributions of employed youth are examined.

Class of worker. In 1996-98, 97 percent of employed youths aged 15 to 17 were classified in the CPS as wage and salary workers. Only 2 percent of the 2.9 million youths aged 15 to 17 working in the school months of the period were self-employed, and fewer than 1 percent were classified as unpaid family workers. (See table 4.7.)

Persons who work for profit or fees in their own business, shop, or farm are classified as self-employed in the

Chart 4.5. Percent distribution of hourly earnings of employed wage and salary workers 15 to 17 years of age who were paid hourly rates by single year of age, 1998 annual averages



SOURCE: Current Population Survey.

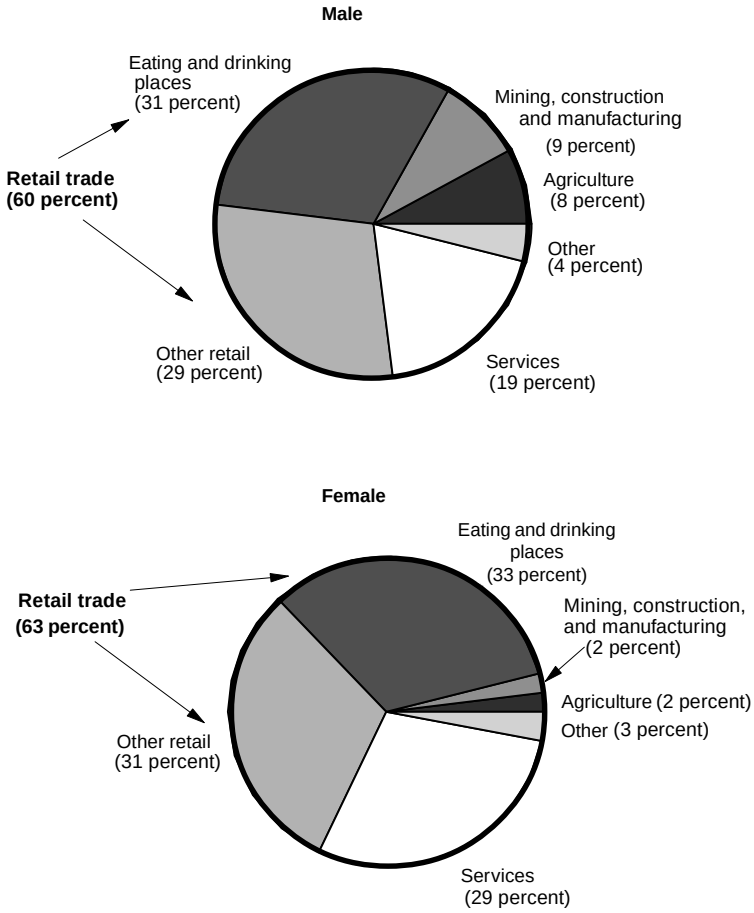
CPS. Work on an odd-job or casual basis is typically reported as work for a private company, business, or individual. In general, persons who work in another person's home, such as groundskeepers and gardeners or child care providers, are reported in the CPS as wage and salary employees—that is, they work for a private employer. Such persons are not self-employed unless they own a business that provides such services.

Male youths were more likely to be self-employed than were female youths—3 percent versus 2 percent, respectively—in the school months of the 1996-98 period. Self-employment declined with age: about 6 percent of working 15-year-olds were self-employed, compared with only 2 percent of 16-year-olds and 1 percent of 17-year-olds. Self-employment increased in the summer months, particularly in agricultural industries and among male youths, although such work still accounted for only a fraction of all work by youths, and was mostly lawn care.

While reported as self-employed, most such youths fell into jobs traditionally held by young persons: lawn care (groundskeepers and gardeners—22 percent of employed youths in the school months of the 1996-98 period), babysitting (family child care providers—19 percent), and newspaper delivery (news vendors—12 percent). Not surprisingly, a large proportion of self-employed male youths performed lawn care—34 percent in the school months and 64 percent in the summer months. More than 2 in 5 self-employed female youths were employed in family child care—47 percent in school months and 43 percent in summer months.

Fewer than 1 percent of all employed youths in the school months of 1996-98 were unpaid family workers, that is, persons working more than 15 hours per week in a family-owned business. Unpaid family work was more common in agriculture than in nonagricultural industries. In the school months of 1996-98, 9 percent of youths 15 to 17 years of age who were employed in agriculture worked for no pay on a family farm. The percentage of employed youths who were unpaid family workers fell from the 1977-79 period, when 2 percent of all employed youths and 27 percent of youths employed in agriculture were unpaid family workers.

Chart 4.6. Distribution of employed youths 15 to 17 years of age by sex and industry, school months, 1996-98



SOURCE: Current Population Survey.

Industry. About 62 percent of youths aged 15 to 17 employed during the school months of the 1996-98 period worked in retail trade, more than in any other major industry. Within retail trade, eating and drinking places accounted for the greatest share of employed youths, about one-third of all employed 15- to 17-year-olds. Another 1 in 4 youths was employed in service industries. In the summer, youth employment was less concentrated in retail trade and youths were employed in a wider variety of industries than during the school months. Retail trade still accounted for about half, services increased to 30 percent, and employment in agriculture and goods-producing industries (mining, construction, and manufacturing) increased. This seasonal pattern of employment also was present in earlier periods.

The concentration of youth employment in retail trade increased from 48 percent in the 1977-79 period to 59 percent in 1987-89 and to 62 percent in 1996-98. The share of youths employed in eating and drinking places also increased. The percent of youths employed in services fell from the 1977-79 to 1996-98 period, largely

because employment in private households fell from 12 to 3 percent of employed youths. The proportion of youths employed in entertainment and recreation services doubled from 3 to 6 percent of employed youths (from 4 to 9 percent in the summer months). (See table 4.8.)

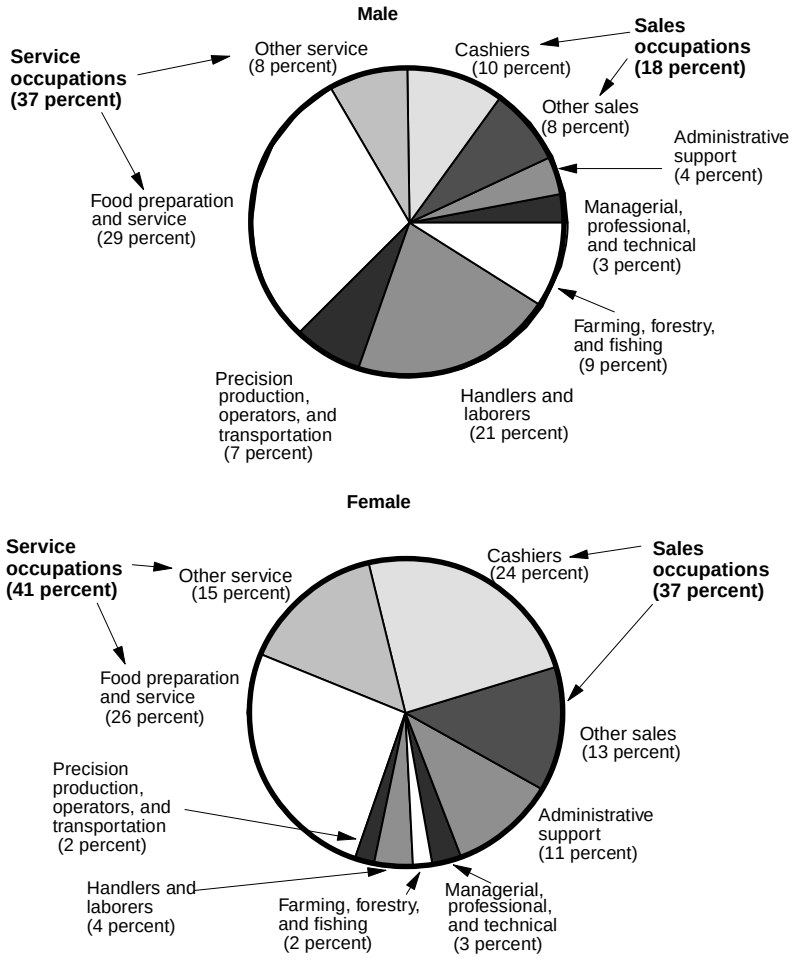
Male youths were far more likely to work in agriculture (8 percent) and goods-producing industries such as mining, construction, and manufacturing (9 percent combined) than were female youths (2 percent each). Female youths were more likely to work in retail trade (63 percent) and services (29 percent) than their male counterparts (60 and 19 percent, respectively) and also were more likely to be employed in private households (6 percent) than were male youths (1 percent). (See chart 4.6.)

Table 4.9 lists the top 10 industries in which male and female youths worked in the school months of the 1996-98 period. Four of the ten most common detailed industries in which employed male youths worked and six of the top ten industries in which female youths worked were in retail trade. Eating and drinking places and grocery stores were the largest employers of both male youths (accounting for 31 and 14 percent, respectively) and female youths (33 and 10 percent).

Black youths were more likely to be employed in retail trade (71 percent) than were white or Hispanic youths (61 and 62 percent, respectively). Black youths were less likely to be employed in goods-producing industries (3 percent) than were white or Hispanic youths (6 and 8 percent, respectively). White youths were more likely to be employed in agriculture and private households than were their black or Hispanic counterparts.

The percentage of youths employed in retail trade increased between ages 15 and 16, and was driven by increases in the proportion of youths employed in eating and drinking places. The 15-year-olds were more likely to work in agriculture (male youths) and private household services (female youths) than were older employed youths. Restrictions on types of work available to younger youths, a greater desire for more casual employment arrangements, and legal driving ages that restrict the mobility of 15-year-olds may be responsible for these differences.

Chart 4.7. Distribution of employed youths 15 to 17 years of age by sex and occupation, school months, 1996-98



SOURCE: Current Population Survey.

Occupation. Occupational data provide a slightly different perspective on youth employment patterns. In the 1996-98 school months, 39 percent of employed youths worked in service occupations and 27 percent worked in sales. Twenty seven percent of working youths were employed in food preparation and service occupations. Thirteen percent of youths were employed in general labor occupations (handlers, equipment cleaners, helpers, and laborers) and 8 percent were in administrative, including clerical, occupations. In the summer months, more youths were employed in farming occupations and fewer were in sales. (See table 4.10.)

Between the 1987-89 and 1996-98 periods, employment in sales occupations increased slightly from 24 percent to 27 percent.[14] The proportion of youths working as cashiers rose from 12 percent to 17 percent. Employment in services fell slightly from 1987-89 to 1996-98. Within services, a smaller proportion of youths performed child care, but employment in food preparation and service increased. Youth employment in other skilled (precision production occupations, operators, and transportation occupations) and general labor trades de-

creased over the period.

Male and female youths were about equally likely to work in food preparation and service occupations (29 and 26 percent, respectively). Much larger percentages of male youths were employed in production (7 percent), general labor (21 percent), and farm (9 percent) occupations than was the case for female youths (2, 4, and 2 percent, respectively). Female youths were more likely to be employed in sales occupations (37 percent), particularly as cashiers (24 percent), than were male youths (18 and 10 percent, respectively). Female youths also were more likely to work in administrative support occupations (11 percent) and in child care (7 percent) than were male youths (4 and 1 percent, respectively). (See chart 4.7.)

Table 4.11 shows employment in the 10 largest occupations by gender for the school months of the 1996-98 period. Stock handlers and baggers (13 percent of all working 15- to 17-year-old male youths) and cooks (12 percent) topped the list of occupations among male youths. About 1 of 4 working female youths was a cashier. In the summer months more male youths worked as landscapers and gardeners and more female youths worked as child care providers.

A larger percentage of black youths were employed in sales (38 percent) than was the case for white or Hispanic youths (26 and 27 percent, respectively). White youths were more likely to provide child care than were black or Hispanic youths. More white youths (6 percent) were employed in farm occupations (primarily as groundskeepers and gardeners) than was the case for Hispanic (4 percent) or black (1 percent) youths.

As noted in chapter 3 and in the industry discussion earlier in this chapter, youths moved out of more casual employment relationships into more formal arrangements as they aged. One in five female youths worked in private household occupations at age 15, but only 5 percent of 16-year-olds and 3 percent of 17-year-olds did so. Among male youths, 18 percent of working 15-year-olds held farming occupations (primarily lawn care). That share fell to 9 percent among 16-year-olds, and 7 percent among 17-year-olds. Older youths were more likely to work in food preparation and service and administrative support occupations than were younger youths. Only 19 percent of working 15-year-olds held sales jobs, compared with 28 percent of 16-year-olds and 29 percent of 17-year-olds. A larger percentage of 17-year-olds worked in skilled trade occupations than was the case for their younger counterparts.

Summary

Current Population Survey data show that employment and unemployment patterns among 15- to 17-year-olds vary by demographic characteristics such as age, sex, race, and Hispanic origin. Over the 1977-98 period, the proportion of youths holding a job and their hours of work have declined.

The likelihood of youths working or being unemployed is influenced by many factors, including age, race, family type, family income, school-enrollment status, and country of birth. Youths are employed in a variety of occupations and industries, moving out of more casual employment arrangements—such as babysitting and lawn care—to more formal employment arrangements as they get older.

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[1] In an average month in 1998, data were collected for 5,500 youths aged 15, 16, and 17, split about evenly among the three ages. The sample included 4,515 whites, 671 blacks, and 611 Hispanics. Dividing the data into employment status and occupational and industry categories reduces the accuracy of the estimates. When 3 years of data are pooled, variances on estimates of levels and changes are reduced by about two-thirds.

[2] The actual dates when youths attend school and take summer vacations vary across States and some local areas. For this analysis, approximate months of attendance were chosen. School months in a particular year refer to a combination of data from January through May and from September to December of the calendar year. Summer months are defined as June through August.

[3] The employment-population ratio is shown here, rather than the commonly presented labor force participation rate. This choice was made because the components of the labor force—employment and unemployment—vary widely for youths. They are discussed separately. The CPS employment measure is an *average* of employment during each of the 3 summer months or the 9 school months; it is not a measure of work at *any time* across the 3-month or 9-month period (as is the NLSY97 measure of employment during one's 14th or 15th year).

[4] Unlike the NSLY97, which interviews youths about their own employment experience, the CPS allows proxy responses. In fact, household members other than the youths were the primary respondents in 92 percent of households with youths aged 15 to 17. The proportion of households with such proxy response declines as the young person's age increases. In 1998, other members were primary respondents in 94 percent of households with 15-year-olds. The rates were 92 percent and 90 percent in households with 16- and 17-year-olds, respectively. More discussion on the effect of proxy responses on employment estimates is available in the CPS-NLSY comparison in the appendix.

[5] Detail for the white, black, and Hispanic-origin groups presented in this chapter will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups. The NLSY97 data presented in chapter 3 are not strictly comparable, as they report mutually exlcusive categories of white (non-Hispanic), black (non-Hispanic), and Hispanic origin.

[6] Annual income figures are available only from the March supplement. Therefore, employment-population ratios shown in table 4.3 also are derived from the March supplement. As a result of the small 1-month sample size, the variances of these ratios are higher than those of annual averages or 3-year averages presented elsewhere in the article. Rates should be used to discern patterns by income group. Pooled data are a better source of information for overall representations of youths' work activity.

[7] For information on high school dropout rates and reasons, see *Dropout Rates in the United States: 1998* (Washington, National Center for Education Statistics, December 1, 1999). Also, see *A Comparison of High School Dropout Rates in 1982 and 1992* (Washington, National Center for Education Statistics, October 1996). Both reports are available on the NCES Internet site at **http://nces.ed.gov**.

[8] The text table shows comparisons for those groups with at least 50,000 youths (weighted count) in the labor force (employed plus unemployed).

[9] Data on country of birth have been available since the 1994 redesign of the CPS. Data discussed are pooled for 1994-98 to maximize the sample.

[10] For a discussion of the labor force characteristics of foreign-born workers, see Joseph R. Meisenheimer, "How do immigrants fare in the U.S. labor market?" *Monthly Labor Review*, December 1992, pp. 3-19.

[11] In 1996, Congress amended the Fair Labor Standards Act, creating Section 6(g)(1), which allows employers to pay any employee who is under age 20 a minimum wage of $4.25 per hour during the employee's first 90 calendar days of employment.

[12] The $5.57 median in 1998 can be compared with $4.96 in 1989 and $6.21 in 1979. The 1979 minimum wage of $2.90 is equal to $6.10 in 1998 dollars. The CPI-U-RS is used to adjust these figures. This research index is discussed in Kenneth Stewart and Stephen Reed, "CPI research series using current methods, 1978-98," *Monthly Labor Review*, June 1999, pp. 29-38.

[13] Historical changes to the minimum wage are presented on the Department of Labor, Employment Standards Administration website on the Internet at: **http://www.dol.gov/dol/esa/public/minwage/chart.htm**.

[14] Occupational data from the 1977-79 period are not reported due to major changes in the occupational classification system starting in the CPS in 1983.

Table 4.1. **Employment-population ratios of persons 15 to 17 years of age by selected characteristics, school and summer months, 1977-79, 1987-89, and 1996-98**

Sex, age, race, and Hispanic origin	School months			Summer months		
	1977-79	1987-89	1996-98	1977-79	1987-89	1996-98
Total, 15 to 17 years	29.8	27.6	24.7	42.6	39.6	33.8
Male	31.4	27.4	24.3	47.7	41.8	34.3
Female	28.1	27.9	25.2	37.4	37.4	33.3
Age 15	17.3	13.7	9.4	29.9	24.5	17.7
Age 16	29.5	27.7	25.8	43.2	41.4	36.0
Age 17	42.6	40.4	39.0	54.5	51.9	47.8
White, 15 to 17 years	33.2	30.9	27.8	46.1	43.3	37.6
Male	34.8	30.5	27.3	51.2	45.3	38.1
Female	31.5	31.2	28.4	40.8	41.3	37.0
Black, 15 to 17 years	10.7	12.9	12.8	22.8	23.8	20.1
Male	12.3	13.4	12.0	27.4	27.2	20.0
Female	9.2	12.4	13.7	18.2	20.3	20.2
Hispanic origin, 15 to 17 years	19.8	17.1	14.6	30.4	24.2	19.6
Male	23.5	18.9	15.4	34.6	26.7	22.1
Female	15.7	15.3	13.7	26.4	21.8	16.7

NOTE: School months are January to May and September to December. Summer months are June, July, and August.

Table 4.2. **Unemployment rates of persons 15 to 17 years of age by selected characteristics, school and summer months, 1977-79, 1987-89, and 1996-98**

Sex, age, race, and Hispanic origin	School months			Summer months		
	1977-79	1987-89	1996-98	1977-79	1987-89	1996-98
Total, 15 to 17 years	19.1	18.3	18.7	19.6	18.2	19.1
Male	19.6	19.8	20.2	18.6	18.3	20.2
Female	18.6	16.6	17.1	20.9	18.1	17.8
Age 15	17.4	19.1	23.5	19.6	19.0	21.9
Age 16	22.3	20.7	21.2	20.9	19.7	20.3
Age 17	17.5	16.2	15.6	18.6	16.7	17.0
White, 15 to 17 years	17.1	16.2	16.5	16.7	15.5	16.2
Male	17.7	17.9	18.0	16.0	15.5	17.2
Female	16.4	14.4	14.8	17.7	15.4	15.1
Black, 15 to 17 years	44.3	37.3	35.0	43.3	35.9	37.0
Male	42.6	36.9	37.1	40.1	35.0	39.4
Female	46.4	37.7	32.9	47.5	37.0	34.4
Hispanic origin, 15 to 17 years	28.8	27.2	29.5	28.7	30.2	30.4
Male	26.1	27.3	29.6	29.2	30.5	28.9
Female	32.8	27.2	29.3	28.0	29.9	32.5

NOTE: School months are January to May and September to December. Summer months are June, July, and August.

Table 4.3. **Employment status of persons 15 to 17 years of age by family income in previous year, March 1980, 1990, and 1999**

Indicator and characteristic	Total in families	Family income in 1998 dollars			
		Less than $27,300	$27,300-$50,999	$51,000-$79,999	More than $79,999
Employment-population ratio					
Total, 15 to 17 years, March 1999	23.9	15.0	22.1	29.5	29.5
Male	23.3	14.2	21.5	29.0	28.5
Female	24.6	15.9	22.6	30.0	30.5
Age 15	9.7	6.2	9.7	12.1	10.9
Age 16	24.8	16.0	21.8	32.3	29.7
Age 17	37.0	23.1	36.1	42.3	45.6
White, 15 to 17 years	26.9	17.3	25.4	32.1	30.4
Black, 15 to 17 years	11.9	9.9	8.5	16.9	21.4
Hispanic origin, 15 to 17 years	14.6	10.9	15.4	19.6	22.1
Total, 15 to 17 years:					
March 1990	26.6	16.5	27.0	29.7	35.3
March 1980	28.4	17.6	26.8	34.5	36.9
Unemployment rate					
Total, 15 to 17 years, March 1999	18.7	30.6	22.8	13.9	12.0
Male	20.1	34.7	24.8	13.7	13.1
Female	17.1	26.3	20.7	14.2	10.9
Age 15	22.3	37.1	27.7	15.8	9.5
Age 16	20.8	29.9	31.0	11.1	15.1
Age 17	16.2	29.1	14.3	15.4	10.5
White, 15 to 17 years	16.4	26.8	18.9	12.9	12.5
Black, 15 to 17 years	38.5	45.0	51.9	26.3	11.1
Hispanic origin, 15 to 17 years	24.1	32.4	20.8	19.9	11.8
Total, 15 to 17 years:					
March 1990	17.8	29.6	18.9	15.2	9.9
March 1980	19.3	30.1	20.5	16.3	13.1

NOTE: Income divisions were determined using quartiles in 1998. Divisions for earlier years were determined by deflating 1998 income categories by the CPI-U-RS.

Table 4.4. **Employment of persons 15 to 17 years of age by school enrollment status and selected characteristics, October 1977-79, 1987-89, and 1996-98**

Sex, age, race, and Hispanic origin	Enrolled in high school			Recent dropouts[1]		
	1977-79	1987-89	1996-98	1977-79	1987-89	1996-98
Total, 15 to 17 years (in thousands)	10,882	9,398	10,902	295	200	281
Employment-population ratio						
Total, 15 to 17 years (percent)	30.3	29.2	25.8	42.0	35.6	31.7
Male	32.0	28.6	25.4	54.4	47.9	40.1
Female	28.6	29.9	26.1	31.6	25.8	23.6
Age 15	18.1	15.8	10.5	–	–	–
Age 16	31.8	30.6	27.4	28.6	30.5	30.3
Age 17	43.5	41.3	40.5	47.4	39.4	35.2
White, 15 to 17 years	34.0	32.4	28.8	44.2	38.0	35.8
Male	35.6	31.9	28.3	56.0	51.6	45.0
Female	32.4	32.9	29.3	34.0	27.0	26.3
Black, 15 to 17 years	9.6	14.6	14.4	–	–	–
Hispanic origin, 15 to 17 years	18.2	16.7	13.7	–	31.2	35.5

NOTE: Dash indicates data not shown where base is less than 50,000.

[1] Recent dropouts are persons who dropped out of high school between October of the survey year and the previous October.

Table 4.5. **Average hours at work per week of persons 15 to 17 years of age by selected characteristics, school and summer months, 1977-79, 1987-89, and 1996-98**

Sex, age, race, and Hispanic origin	School months			Summer months		
	1977-79	1987-89	1996-98	1977-79	1987-89	1996-98
Total, 15 to 17 years	17.4	16.5	16.5	26.7	24.7	23.0
Male	18.7	17.4	17.2	28.4	25.8	24.2
Female	16.0	15.6	15.8	24.5	23.3	21.6
Age 15	11.7	11.6	11.6	21.9	20.3	18.9
Age 16	16.3	15.5	15.7	26.2	24.0	22.4
Age 17	20.6	18.6	18.2	29.7	27.1	24.9
White, 15 to 17 years	17.4	16.4	16.4	26.9	24.7	23.0
Male	18.8	17.3	17.1	28.7	25.9	24.3
Female	15.9	15.4	15.6	24.5	23.2	21.5
Black, 15 to 17 years	17.8	17.7	18.1	25.0	24.7	22.8
Male	17.8	18.1	18.2	24.6	24.9	23.7
Female	17.6	17.3	18.1	25.5	24.5	21.9
Hispanic origin, 15 to 17 years	21.8	21.4	21.0	28.5	27.3	25.1
Male	22.8	22.4	22.3	29.3	28.3	26.2
Female	20.2	20.2	19.3	27.4	26.1	23.4

NOTE: School months are January to May and September to December. Summer months are June, July, and August.

Table 4.6. **Median hourly earnings of employed wage and salary workers 15 to 17 years of age paid hourly rates by selected characteristics, annual averages, 1998, 1989, and 1979**

Sex, age, race, and Hispanic origin	Total paid by the hour in 1998 (in thousands)	Median hourly earnings (constant 1998 dollars)		
		1998	1989	1979
Total, 15 to 17 years	2,908	$5.57	$4.96	$6.21
Male	1,430	5.60	5.09	6.33
Female	1,477	5.54	4.83	6.07
Age 15	353	5.38	4.69	5.60
Age 16	980	5.52	4.89	6.18
Age 17	1,574	5.65	5.08	6.34
White, 15 to 17 years	2,558	5.57	4.96	6.20
Male	1,259	5.61	5.10	6.34
Female	1,298	5.54	4.80	6.05
Black, 15 to 17 years	264	5.47	4.81	6.24
Male	123	5.43	4.77	6.20
Female	140	5.51	4.86	6.29
Hispanic origin, 15 to 17 years	248	5.59	5.24	6.30
Male	140	5.73	5.29	6.34
Female	108	5.41	5.17	6.25

Table 4.7. **Employed persons 15 to 17 years of age by class of worker and selected characteristics, school and summer months, 1996-98, 1987-89, and 1977-79**

Sex, age, race, and Hispanic origin	School months				Summer months			
	Total employed (in thousands)	Percent distribution			Total employed (in thousands)	Percent distribution		
		Wage and salary workers	Self-employed workers	Unpaid family workers		Wage and salary workers	Self-employed workers	Unpaid family workers
1996-98								
Total, 15 to 17 years	2,896	97.1	2.3	0.6	3,969	95.9	3.3	0.8
Male	1,460	96.3	2.9	0.8	2,070	94.7	4.3	1.1
Female	1,437	97.8	1.8	0.3	1,899	97.2	2.2	0.6
Age 15	366	92.3	6.3	1.4	694	90.3	8.2	1.4
Age 16	1,011	97.2	2.2	0.6	1,412	96.0	3.0	0.9
Age 17	1,520	98.1	1.4	0.4	1,862	97.9	1.6	0.5
White, 15 to 17 years	2,569	97.0	2.4	0.6	3,474	95.7	3.5	0.8
Black, 15 to 17 years	240	98.8	1.3	0.0	376	98.4	1.3	0.5
Hispanic origin, 15 to 17 years	225	97.3	1.8	0.9	309	96.8	1.6	1.6
Total, 15 to 17 years:								
1987-89	2,926	97.0	2.0	1.0	4,203	96.2	2.4	1.4
1977-79	3,696	95.0	2.8	2.2	5,274	94.5	2.4	3.1

NOTE: School months are January to May and September to December. Summer months are June, July, and August.

Table 4.8. **Distribution of employed persons 15 to 17 years of age by industry and sex, school and summer months, 1977-79, 1987-89, and 1996-98**

Industry	School months			Summer months		
	1977-79	1987-89	1996-98	1977-79	1987-89	1996-98
Total, 15 to 17 years	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture	6.4	4.5	4.8	10.6	7.7	7.7
Mining, construction, and manufacturing	10.9	6.5	5.6	12.7	8.4	6.7
Retail	48.2	58.9	61.6	37.4	47.7	51.1
Eating and drinking places	21.9	28.2	31.9	18.2	24.2	27.1
Other retail	26.3	30.7	29.7	19.2	23.5	24.0
Services	29.3	25.7	24.2	31.5	30.1	29.7
Other industries [1]	5.1	4.2	3.8	7.8	6.1	4.7
Male, 15 to 17 years	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture	9.9	7.2	7.7	14.5	12.1	12.1
Mining, construction, and manufacturing	16.2	9.7	9.0	18.3	12.7	10.4
Retail	47.9	59.3	59.9	34.8	44.7	47.7
Eating and drinking places	19.4	27.5	31.3	14.5	21.4	25.7
Other retail	28.6	31.7	28.6	20.3	23.4	22.0
Services	20.5	19.4	19.4	24.0	24.0	24.4
Other industries [1]	5.6	4.4	4.1	8.5	6.5	5.3
Female, 15 to 17 years	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture	2.4	1.8	1.9	5.4	2.6	3.0
Mining, construction, and manufacturing	5.1	3.3	2.2	5.4	3.4	2.7
Retail	48.6	58.6	63.4	40.7	51.2	54.9
Eating and drinking places	24.9	29.0	32.6	22.9	27.5	28.6
Other retail	23.7	29.6	30.8	17.8	23.7	26.3
Services	39.4	32.2	29.0	41.3	37.1	35.6
Other industries [1]	4.6	4.1	3.4	7.2	5.7	3.8

[1] Other industries include transportation, communication, and utilities and sanitary services; wholesale trade; finance, insurance, and real estate; and public administration.

NOTE: School months are January to May and September to December. Summer months are June, July, and August. Industry detail may not sum to 100 due to rounding.

Table 4.9. **Industries that employ the largest share of employed persons 15 to 17 years of age by sex, school months, 1996-98**

Industry	Percent of total employed youths
Male	
Eating and drinking places	31.3
Grocery stores	13.6
Miscellaneous entertainment and recreation services	4.5
Agricultural production, livestock	3.6
Construction	3.6
Department stores	3.1
Landscape and horticultural services	2.2
Newspaper publishing and printing	1.9
Agricultural production, crops	1.5
Gasoline service stations	1.3
Female	
Eating and drinking places	32.6
Grocery stores	9.9
Private households	5.7
Department stores	4.4
Miscellaneous entertainment and recreation services	4.0
Stores, apparel and accessory, except shoe	3.6
Drug stores	1.9
Nursing and personal care facilities	1.7
Retail bakeries	1.5
Child day care services	1.4

NOTE: School months are January to May and September to December.

Table 4.10. **Distribution of employed persons 15 to 17 years of age by occupation and sex, school and summer months, 1987-89 and 1996-98**

Occupation	School months		Summer months	
	1987-89	1996-98	1987-89	1996-98
Total, 15 to 17 years	100.0	100.0	100.0	100.0
Executive, professional, and technical	2.4	3.3	2.5	2.9
Sales	24.3	27.3	18.7	21.9
Cashiers	12.0	16.9	9.7	13.6
Other sales	12.3	10.5	9.0	8.3
Administrative support, including clerical	7.9	7.6	7.8	7.9
Service	40.2	38.8	39.5	39.9
Food preparation and service	25.3	27.4	22.1	24.0
Other service	14.8	11.4	17.4	15.9
Precision production, operators, and transportation	5.3	4.5	6.3	5.0
Handlers and laborers	13.9	12.9	13.7	12.4
Farm, forestry, and fishing	6.0	5.6	11.6	9.9
Male, 15 to 17 years	100.0	100.0	100.0	100.0
Executive, professional, and technical	2.2	3.1	2.5	3.0
Sales	14.6	17.7	10.5	13.2
Cashiers	5.0	9.6	4.1	7.1
Other sales	9.6	8.2	6.4	6.1
Administrative support, including clerical	4.4	4.3	4.1	4.4
Service	35.9	37.1	32.0	35.3
Food preparation and service	26.4	28.7	21.0	23.8
Other service	9.5	8.3	11.0	11.6
Precision production, operators, and transportation	8.5	7.3	9.5	7.9
Handlers and laborers	24.2	21.4	22.5	20.3
Farm, forestry, and fishing	10.2	9.1	18.9	15.8
Female, 15 to 17 years	100.0	100.0	100.0	100.0
Executive, professional, and technical	2.6	3.3	2.5	2.8
Sales	34.2	37.1	28.3	31.4
Cashiers	19.1	24.3	16.2	20.7
Other sales	15.0	12.8	12.1	10.7
Administrative support, including clerical	11.6	11.0	12.0	11.8
Service	44.6	40.5	48.2	44.8
Food preparation and service	24.3	26.1	23.4	24.3
Other service	20.3	14.5	24.8	20.6
Precision production, operators, and transportation	2.0	1.8	2.4	1.9
Handlers and laborers	3.4	4.4	3.4	3.9
Farm, forestry, and fishing	1.7	1.9	3.1	3.5

NOTE: School months are January to May and September to December. Summer months are June, July, and August.

Occupational data from the 1977-79 period are not reported due to major changes in the occupational classification system starting in the CPS in 1983.

Occupation detail may not sum to 100 due to rounding.

Table 4.11. **Occupations that employ the largest share of employed persons 15 to 17 years of age by sex, school months, 1996-98**

Occupation	Percent of total employed youths
Male	
Stock handlers and baggers	13.4
Cooks	12.0
Cashiers	9.6
Waiters' and waitresses' assistants	5.2
Miscellaneous food preparation occupations	5.1
Farm workers	4.7
Janitors and cleaners	4.2
Food counter, fountain, and related occupations	3.5
Groundskeepers and gardeners, except farm	3.3
Sales workers, other commodities	2.3
Female	
Cashiers	24.3
Food counter, fountain, and related occupations	6.5
Waiters and waitresses	6.4
Sales workers, other commodities	5.1
Child care workers, private household	4.9
Cooks	4.4
Stock handlers and baggers	3.3
Sales workers, apparel	3.2
Supervisors, food preparation and service occupations	3.1
Waiters' and waitresses' assistants	2.9

NOTE: School months are January to May and September to December.

Appendix: **A Comparison of CPS and NLSY97 Information about Youth Employment**

Chapters 3 and 4 present information on youth employment from the National Longitudinal Survey of Youth 1997 (NLSY97) and the Current Population Survey (CPS), respectively. Table 4.A1 includes the percent of youths employed from table 3.1 in chapter 3 (NLSY97 data) and table 4.1 in chapter 4 (CPS data). According to the CPS, during the 1996-98 period, an average of 18 percent of 15-year-olds worked during summer months and 9 percent worked during school months. By comparison, the NLSY97 estimated that 64 percent of youths had participated in some type of work activity at some point during the year they were aged 15.

Previous research also has found differences in youth employment data from longitudinal surveys such as the older National Longitudinal Survey (NLS) cohorts and cross-sectional surveys such as the CPS.[1] This appendix explores possible reasons for the differences in these estimates, and also provides some empirical evidence on their possible effects.

Reasons for the differences in youth employment between the CPS and NLSY97

Why do the two surveys exhibit such large differences in the employment-population ratios of youths at these ages? As discussed below, the divergence in estimates partly reflects differences in the concepts—especially the reference periods for employment—being measured by the two surveys. Also, differences in survey design—such as the degree of probing in the interview protocol, the use of personal or proxy respondents, and difference in the mode of data collection—may be contributing factors.

Different reference periods. A primary reason for the divergence is that data from the two surveys refer to very different reference periods. The data for the NLSY97 in table 4.A1 refer to the 52-week periods during which youths were aged 14 (the year between their 14th and 15th birthdays) and aged 15 (the year between their 15th and 16th birthdays). The youths essentially are asked whether they held a job during any of the 52 weeks they were, for example, aged 15. In contrast, data for the CPS survey (table 4.A1) refer to a 1-week period, the week before the survey. The 1-week measures, for which data are obtained each month in the CPS, are averaged for all 15-year-old youths for the months June through August, to derive summer estimates, or for January through May and September through December to determine school-month estimates. It is very reasonable that the incidence of employment from a 1-week measure is much lower than that from a 52-week measure. As the remainder of this appendix indicates, however, not all of the divergence is the result of the difference in survey reference periods.

Different interview protocols. Another reason for the divergence of the estimates in the two surveys is the use of different interview protocols. The NLSY97 has a specific youth employment focus. The interview includes substantial and repeated probes to fill in a detailed employment history, and it uses a calendar visual aid as a prompting device for the respondent.

The NLSY97 interview protocol defines two types of jobs to respondents: employee jobs (in which the youth has an ongoing relationship with a particular employer, such as working in a supermarket or restaurant) and freelance jobs (doing one or a few tasks without a specific "boss," for example, babysitting or mowing lawns or working for oneself).

In the NLSY97, respondents are first asked to list all employee jobs held from the age of 14 to the date of the interview. The interviewer fills out a calendar and shows it to the respondent to confirm all start and stop dates of employee jobs, as well as gaps within employee jobs. Substantial probing is done by the interviewer to ensure a complete calendar listing. Then, respondents are asked to list all freelance jobs held from the age of 14

Table 4.A1. Percent of youths employed

Age	CPS, 1996-98		NLSY97, 1994-97		
	Summer months	School months	All jobs	Employee jobs	Freelance jobs
14	-	-	57.2	23.8	42.8
15	17.7	9.4	63.7	37.6	39.8
16	36.0	25.8	-	-	-
17	47.8	39.0	-	-	-

NOTE: Dashes indicate data not available or small sample sizes.

to the date of the interview. Again, a calendar is used to confirm all start and stop dates of freelance jobs. The freelance measure is somewhat less specific than the employee jobs measure, as information on gaps within freelance jobs is not collected, due to the sporadic nature of these jobs.[2]

In contrast, the CPS survey does not have a specific youth focus. It is designed to gather a wide range of data for multiple members within the same household. Therefore, the question sequences for each respondent are shorter and the CPS does not provide the same level of detail on work histories as does the NLSY97. The monthly CPS survey protocol for measuring each household member's employment status is based on a short set of questions. These questions determine whether the household member (aged 15 or older) did any work for pay "last week" (the week before the survey), was temporarily absent from a job, or worked for no pay in a family business. Given this very different interview protocol, CPS and NLSY97 employment measures would be expected to differ.

Self versus proxy response. Another important reason employment measures may differ between the CPS and the NLSY97 is the use of self responses versus proxy responses. In the CPS, more than 90 percent of the time, a person other than the youth is the primary respondent (person who answers the CPS survey questions) for the household.[3] The NLSY97 survey is always answered by youths themselves.

Should this difference across the two surveys be expected to lead to differences in employment-population ratios? The literature suggests that it may. A study by Richard Freeman and James L. Medoff examined differences between mothers' reports of the employment of their teenage sons, and self-reports by these sons and found that mothers underreported the employment of their sons.[4]

Parents (or other household members) may not always be aware of the employment activities of their children, particularly if the employment is sporadic, as is often true with babysitting and yard work, common "occupations" of youths. Proxy respondents also may not consider such freelance jobs to be "real work." For these reasons, allowing proxy respondents in the CPS survey may cause youth employment to be underestimated.

Personal visit versus telephone survey administration. A fourth reason why the NLSY97 and CPS employment figures may differ is the use of personal visits versus telephone surveys. The NLSY97 is a personal-visit survey with very infrequent telephone interviewing. In the CPS, the personal-visit protocol is used during the large majority of first month-in-sample interviews and, to a lesser extent, in the fifth month-in-sample. Telephone interviewing is typical in subsequent interviews.[5] These different methods of survey administration, while appropriate to the purposes of the two surveys, may contribute to differences in the measures of youth employment in the NLSY97 and CPS. However, it is difficult to isolate the impact of this factor from the impact of different reference periods, different interview protocols, and self versus proxy response.

Measures of the impact of differences in the CPS and NLSY97 on youth employment rates

The possible contributions of the above factors to observed differences in employment-population ratios between the NLSY97 and the CPS are examined next. By construction, the NLSY97 has some unique survey elements that permit this type of examination. Three exercises explore these elements of the NLSY97 interview and isolate, to the extent possible, the impact of the reasons discussed above for the divergence in the employment-population ratio estimates from the CPS and the NLSY97 surveys.

Exercise 1: A comparison of the CPS section of NLSY97 to CPS monthly estimates. Before the rather intensive probing questions on employment were asked in the 1997 NLSY97 interview, respondents were asked the CPS questions on labor force status. The reference period in the NLSY97 "CPS section" pertains to labor force activity during the prior week, which is not necessarily the week including the 12th, as in the CPS. Although not exactly identical, it is possible to compare the magnitude of differences in estimates between the two surveys when the actual question wording and reference periods are nearly the same.

Percent of youths employed, February-May 1997

Age	CPS—total sample	CPS—first month in sample	NLSY97 (CPS)
15	9.2	10.4	26.6
16	23.8	25.6	38.9

The tabulation above shows the percent of youths employed during a 1-week reference period, averaged over the months of February through May of 1997, as a majority of NLSY97 respondents were interviewed during those months. The NLSY97 estimate of 26.6 percent of youths employed at age 15 (1-week reference period) is much lower than the estimate for age 15 reported in table 4.A1 (63.7 percent), which uses a 52-week reference period. Differences between the NLSY97 and CPS are thus reduced considerably when the questions and reference period are the same. The difference in magnitude of NLSY97 and CPS estimates shown in the above tabulation decreases substantially from age 15 to age 16. Even for age 16, however, the estimates are statistically different across the two surveys. The numbers in column 2 refer to first month-in-sample, during which the CPS administered a personal-visit survey rather than a telephone survey. The use of first month-in-sample only (personal interview) slightly increases the CPS estimates.

This type of exercise also was carried out by Norman Bowers with the

older NLS cohorts and the CPS. He, too, found differences in the incidence of youth employment between the CPS and NLS. He found that differences are more pronounced for youths aged 16 and 17 than for older youths, and for young people whose major activity in the prior week is school attendance than for those whose major activity is something else (such as working or looking for work).[6] Bowers suggested this may be due to the more marginal nature of the labor market activity of young teenagers and those whose major activity is attending school.

Although the employment figures in the tabulation above are based on nearly the same survey questions and are for the same reference period, the issue of self-report versus proxy still exists because NLSY97 responses are self reports and CPS responses are mostly proxy reports.[7] It is possible that proxy respondents in the CPS underreport youth employment because they do not consider the work activities of youths to be "real work," or are unaware of the timing of the employment of the youths.[8] Exercise 2 sheds some light on this issue.

Exercise 2: Use of NLSY97 data to examine the impact of self versus proxy response. The issue of self versus proxy reporting also can be explored using the NLSY97 survey data. The NLSY97 survey administered a screening interview to determine sample eligibility for the survey. The screening interview was conducted with a household informant, generally a parent, and included fairly simple questions on the current employment status of household members. Although the questions do not replicate the CPS questions, the reference period is similar, and the interview results permit a comparison of estimates of each youth's current employment status from the household informant proxy to the estimates self reported by the youth during the CPS portion of the NLSY97 interview.

In the first interview of the NLSY97, a screener questionnaire was administered to a household member aged 18 or older. The questionnaire gathered information on the dates of birth of household members, which were used to determine whether there were any youths present in the household who were eligible for the NLSY97 survey. In households with eligible youths, the household member also was asked for additional information about household members including the employment status of all household members *aged 16 and older*. The respondent was first asked how many weeks the household member worked in self-employment or for someone else for pay in the 1996 calendar year. The respondent then was asked to provide that household member's usual hours of work per week, and was asked whether that household member was "currently employed."

The youth respondent was asked a "CPS section"—questions that are taken nearly verbatim from the monthly CPS—at the beginning of the NLSY97 youth questionnaire. The interviewer asked whether the youth did any work for pay in the previous week. In addition, the youth provided an employee job history later in the survey.

The tabulation below shows household member response (proxy response) about whether the youth is currently employed and two corresponding youth self reports: a report of whether one worked for pay in the week prior to the interview from the "CPS section" and a report of whether one worked in an employee job in that same week. The sample is restricted to include only youths who received the NLSY97 youth questionnaire 1 week after the screener questionnaire was administered. Thus, the data show employment-population ratios for the same 1-week reference period from reports of the household member and of the youth on youth employment. This enables us to examine differences in self versus proxy reporting of youth employment.

Percent of youths aged 16 and aged 17 employed in week before the interview, 1997

Household member response	*Youth response: CPS section*	*Youth response: employee job history*
33.5	43.1	32.7

According to household member responses, 33.5 percent of youths ages 16 and 17 are currently working. In the "CPS section" of the NLSY97, 43.1 percent of youths reported being employed. And, finally, in the employee job history, 32.7 percent of youths reported being employed (in employee jobs) during that same week. The household member report matches well with the youth report regarding employee jobs, but *understates* employment based on the response to the CPS questions given by the youth (which should cover all jobs, including more casual/informal employment relationships). Thus, it is possible that the household member is not including freelance jobs in the report about youth employment. The question the household member receives is not exactly the same as the CPS question (it asks whether the youth is "currently employed," while the CPS asks whether the youth did "any work for

Percent employed the week of the 12th

Age and survey	*Jan.-May, 1996*	*June-Aug., 1996*	*Sept.-Dec., 1996*	*Jan.-Apr., 1997*
Aged15: CPS	8.5	18.2	10.0	8.9
NLSY97	17.1	23.5	16.3	14.8
Aged 16: CPS	24.6	36.9	27.5	23.4
NLSY97	([1])	([1])	35.2	32.9

[1] Numbers not included due to small sample sizes (the oldest birth year in the NLSY97 turned 16 in 1996; thus, only information from the later months in 1996 and early 1997 is included).

pay"), but the results are suggestive. In particular, this exercise suggests that having a proxy respondent in the CPS survey may cause employment among youths to be understated due to underreporting of work of youths in freelance jobs.

Exercise 3: Using the NLSY97 data on employee jobs to simulate the CPS reference period. A variant of the approach in exercise 1 can also be used to hold the reference periods constant between the two surveys. Because the NLSY97 includes a week-by-week employee-job history starting at age 14, it is possible to use these data to determine the labor force status of each youth during the week including the 12th of each month—the CPS reference week.[9]

The numbers in the tabulation at the top of the prior page depict the percent employed during the reference week averaged over different months for both the NLSY97 and the CPS. In all cases, the NLSY97 employee job history shows a greater incidence of employment than do estimates from the CPS. The differences in magnitude are, however, not quite as great as in the tabulation in exercise 1, particularly for 15-year-olds. Unlike in exercise 1, the NLSY97 estimates presented in this exercise do not include freelance jobs, which are included in the CPS estimates.[10] To the extent that the CPS does a better job picking up employee jobs than freelance jobs, the CPS employment-population ratios are closer to the NLSY97 ratios reported on the top of the prior page than they otherwise would be. The differences that do remain are again probably due to the fact that the CPS relies mostly on proxy response and to the different interview protocols across the two surveys.

Expected differences in employment-population ratios as the NLSY97 cohort ages

In exploring the differences between CPS and NLSY97 estimates of employment-population ratios of youths, one of the key aspects that has not been explored is the possibility that the impact of different survey methodology factors such as reference period, proxy versus self response, extent of probing, and mode of collection all interact importantly with the fact that employment spells at young ages tend to be frequent and of short duration. If, as respondents age, a very high percentage of employment spells are of relatively long duration, such longer spells of employment are less apt to be forgotten by respondents. This would be the case whether the respondent is a proxy or self respondent, or whether the interview is administered by phone or in person. In addition, as youths age, they are less likely to do freelance work and more likely to have "employee" jobs. Thus, not only may the proxy respondent be more aware of the household member's work, but he or she may also be more likely to consider it "real work."

As a result, we would expect the employment-population ratios for the NLSY97 cohort and similarly defined ratios for the CPS survey to converge as the cohort ages. To examine this possibility, we compare statistics from the CPS and from the "CPS section" of the National Longitudinal Survey of Youth 1979 interviews to see if the divergence between the CPS and the NLSY79 measures of employment-population ratios closed as the cohort aged.[11] Table 4.A2 shows the results. In the table, the statistics are calculated for particular months, years, and age groups. These choices reflect both the ages of the NLSY79 respondents in each interview year, and the months in which relatively large numbers of interviews took place with NLSY79 respondents of those ages. The table reports the comparison of the CPS average estimates with NLSY79 CPS module estimates for these same age group/periods.

Table 4.A2. Employment-population ratios, by age and sex , 1979-1998, monthly Current Population Survey and the CPS section of the NLSY79 interview

Year and interview months	Ages	Total (percent)		Men (percent)		Women (percent)	
		CPS	NLSY79	CPS	NLSY79	CPS	NLSY79
1979 (Feb. – May)	16–17	36.2	45.1	38.1	49.2	36.0	41.1
1983 (Jan. – Apr.)	18–19	45.9	52.1	47.0	54.1	44.9	50.1
1985 (Jan. – Apr.)	20–24	67.3	71.8	72.1	75.3	62.8	68.3
1990 (July – Oct.)	25–29	76.7	81.2	85.7	88.7	68.0	74.1
1994 (July – Oct.)	30–34	79.5	80.4	89.2	89.0	70.0	71.7
1998 (Apr. – July)	35–40	81.4	83.7	90.8	90.7	72.3	76.4

As the table indicates, there is substantial convergence between the employment-population ratios from the two surveys, especially by the time the NLSY79 cohort reached their thirties—although for women, a small but persistent difference between the estimates from the two surveys remains even at those ages.

Conclusion

Chapters 3 and 4 report information on employment among youths from the CPS and the NLSY97. Both surveys show similar employment patterns by gender, race, and ethnicity, but the NLSY97 survey estimates are consistently higher. This appendix discusses some reasons why the NLSY97 and CPS estimates differ. A key reason is that the NLSY97 employment figures reported in chapter 3 are for a longer reference period than are the CPS figures in chapter 4. In addition, the NLSY97 uses an interview strategy that includes more probing about employment among youths. NLSY97 interviews are also conducted with the youth only (no proxy response) and are mostly conducted in person (and not by telephone). These features may lead to much higher employment estimates in the NLSY97 than in the CPS.

The NLSY97 includes a "CPS section" with nearly the same series of employment questions used in the monthly CPS. Data from these questions make it possible to examine how CPS and NLSY97 youth employment estimates compare when both the ques-

tions and the reference period are nearly the same. In addition, by looking at only first month-in-sample data in the CPS, the interview method (conducted in person and not by telephone) can be held constant when comparing the two surveys. This exercise reduces differences in the overall youth employment estimates from the two surveys considerably. However, differences still remain.

The NLSY97 includes an employee job history that allows the calculation of employment estimates based upon the same 1-week reference period as in the CPS. Youth employment estimates that focus on employee jobs only in the NLSY97 and the nonself-employed in the CPS also show reduced differences in estimates between the two surveys. However, NLSY97 estimates of youth employment are still higher. The very different interview strategies between the two surveys and the possibility that proxy respondents in the CPS are not always aware of the timing of youth employment may explain some of this difference. Also, while the impact of self versus proxy responses cannot be directly compared across the two surveys, evidence from the NLSY97 suggests that proxy respondents in general understate youth employment because they are less likely to include freelance jobs in their reports.

Perhaps the most suggestive evidence comes from the NLSY79 survey, which clearly demonstrates that, despite all of their differing features, a cross-sectional survey such as the CPS and a longitudinal survey such as the NLSY79 yield very similar estimates as a cohort ages. It appears that it is the nature of employment among youths—often involving freelance jobs, and employment spells that are short and frequent—that leads to differing estimates. Proxy respondents—perhaps more likely to forget about shorter spells or to not regard certain types of freelance jobs as work—appear to be more reliable reporters of employment among their adult peers, whose jobs are more likely of longer duration and considered "real work."

This appendix was contributed by Donna Rothstein, a research economist with the Bureau of Labor Statistics, and Diane Herz, an economist also with the Bureau. The authors thank Karen Kosanovich and Michael Horrigan for helpful comments, and Alexander Eidelman and Curtis Polen for excellent research assistance.

[1] See Norman Bowers, "Youth labor force activity: alternative surveys compared," *Monthly Labor Review*, March 1981, pp. 3-18; and Richard B. Freeman and James L. Medoff, "Why Does the Rate of Youth Labor Force Activity Differ Across Surveys?" in Richard B. Freeman and David A. Wise, eds., *The Youth Labor Market Problem: Its Nature, Causes, and Consequences* (Chicago, The University of Chicago Press, 1982), pp. 75-114.

[2] The NLSY97 definition of work at a freelance job while aged 14 (while aged 15) reported in chapter 3 depends on whether the period between any freelance job's start and stop date spans any of the weeks the respondent was aged 14 (15). If, for example, the freelance job began before the respondent turned 15 and ended after the respondent turned 16, then the respondent would be counted as working in a freelance job while age 15. This may overstate the incidence of youths working at freelance jobs.

[3] It is possible that a youth present at the time of the interview answered questions about her or his own employment status, even if she or he was not the primary household respondent.

[4] Freeman and Medoff, "Why Does the Rate of Youth Labor Force Activity Differ?"

[5] While personal visits are the preferred method of interview in the fifth month-in-sample interview, a significant proportion of households (more than 30 percent in 1998) are interviewed by telephone.

[6] See Norman Bowers, "Youth labor force activity." Bowers finds that differences in NLS-CPS employment estimates tend to decline with age.

[7] Self-reported CPS youth employment information is not examined separately here. This is due to small sample sizes and the possibility that youths who self report at these young ages are systematically different from youths who do not self report.

[8] This could explain why the difference in the CPS and the NLSY97 estimates decreases from age 15 to age 16, as freelance employment also appears to decrease as youths age.

[9] Freelance jobs are not used in this calculation because gaps within freelance jobs are not collected, and thus we cannot determine the exact timing of this type of employment.

[10] While freelance jobs are excluded from the NLSY97 measure in the tabulation at the top of page 49, they are not excluded from the CPS measure. The reason is that it is difficult to identify in the CPS survey jobs that would have been classified as freelance in the NLSY97. CPS employment-population ratios would thus be even lower if all "freelance jobs" were excluded.

[11] The NLSY79 is a nationally representative sample of 12,686 young men and women who were aged 14 to 22 when first interviewed in 1979. Respondents were interviewed annually through 1994, and are now surveyed biennially.