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ABSTRACT

The labor market prospects of out-of-school young adults and options for improving the employment and earnings potential of all young adults were examined. The following issues were among those considered: demographic and social factors affecting young adults' employment prospects; employment trends and labor market problems in the United States in 1989-1999; and trends in the real weekly earnings of employed young adults. The analysis revealed that, although most young adults have benefited from the improved labor market conditions of the 1990s, many out-of-school young adults, especially those with no postsecondary schooling, continue to encounter severe difficulties in obtaining access to career jobs. The following were among the main conclusions: (1) keeping young people in school with continuous learning gains remains the most promising avenue for increasing the economic, social, and personal betterment of the nation's young adults; (2) remaining in school and performing successfully depends on earlier acquisition of basic academic skills and literacy/numeracy proficiencies; and (3) for those who have left formal schooling, employer-provided job training remains a proven strategy for improving the labor market prospects of out-of-school young adults. (One hundred twenty tables/figures are included. The methodology used to estimate the number of 18- to 24-year old male inmates is appended. Contains 286 footnotes.) (MN)

Confronting the Youth Demographic Challenge

The Labor Market Prospects of Out-of-School Young Adults

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Sar A. Levitan

The Sar Levitan Center for Social Policy Studies at the Johns Hopkins University was organized in 1995 to commemorate and extend the works of Sar A. Levitan, public policy commentator extraordinaire who died in May 1994 after 44 years of selfless public service on the national scene.

Levitan came to Washington in 1950 after military service and completion of his Ph.D. in Economics at Columbia University to serve on the staff of the Korean era Wage Stabilization Board. He remained thereafter with the Legislative Reference Service, researching and enlightening at congressional request issues related to labor relations, employment and economic development. On loan from LRS, he served on the staff of Senator Eugene McCarthy's 1959 Select Committee on Unemployment, in 1960-61 as Deputy Director of the Presidential Railroad Commission and then as advisor to Senator Paul Douglas in the formulation of the Area Redevelopment Act, the start of the Kennedy New Frontier.

Aware that pioneer social policies would need friendly critics to keep their administrators focused, he obtained a grant from the Ford Foundation which the Foundation itself has described as the longest lasting and most productive in its history. For thirty years thereafter, he was to advocate, evaluate, criticize, or praise (wherever and whenever deserved) every significant legislative act, policy and program related to employment, education, training or poverty during those tumultuous years.

Levitan was not satisfied with a 36-page bibliography of books, monographs, articles, congressional testimony and speeches. When cancer ended his life just short of his eightieth birthday, he left the bulk of his life savings to the National Council on Employment Policy, an organization he had helped organize and then single-handedly perpetuated, charging his closest friends to continue his life's crusade.

The NCEP in turn funded the Sar Levitan Center for Social Policy Studies, which is the sponsor of this publication series.

Therefore to Sar A. Levitan this publication is lovingly dedicated.

About the Authors

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Summary

During the past few decades, the nation's labor markets have been characterized by much turbulence and a series of wrenching demographic and structural changes that have had profound impacts on the labor market experiences of young adults, i.e. those 16 to 24 years of age. Among the major contributing forces to this turbulence have been important shifts in the industrial and occupational composition of employment, continuous technological changes in the workplace that have increased the demand for literacy/numeracy proficiencies, formal schooling, and technical skills, corporate restructuring and downsizing efforts, growing gender and race-ethnic diversity in the workforce, and rising levels of foreign immigration.

Overall, national labor market conditions improved consistently and markedly during the 1990s. Nearly 20 million new wage and salary jobs were created between the end of the 1989-91 recession and the turn of the century, and by mid-2000 the nation's aggregate unemployment rate had fallen to its lowest level since the late 1960s. A significant share of these new jobs have been in high-skill occupations that have increased employment and real earnings opportunities for well-educated workers.

Most young adults have benefitted from these improved labor market conditions. More out-of-school young adults are active in the labor force and their employment prospects are rising. All gender, race-ethnic, and educational attainment subgroups of out-of-school young adults have improved their employment rates and full-time employment rates since 1992. The real weekly earnings of full-time employed young men and women have been rising since 1996, and the median real annual earnings of employed 20-29 year old men and women have been rising since 1995 as a consequence of both more hours of paid employment and rising hourly earnings.

Yet despite these gains, many out-of-school young adults, especially those with no post-secondary schooling, continue to encounter severe

difficulties in obtaining access to career jobs. The real weekly wages of full-time employed young men remain 25% or more below their 1973 peak levels, and the annual earnings of all employed 20-29 year olds, except those with a Master's or more advanced degree, have not yet returned to their 1989 levels, and remain well below those achieved in 1973, the post-WWII peak for young adult men's earnings. Nearly one-fourth of all families headed by someone less than 30 years of age are poor. One-third of all the nation's poor children under the age of 18 live in such families. Thirty-four per cent of all children under age six living in young families are poor. They account for 60% of all poor children under age six throughout the nation.

It could have been otherwise. Ironically, most of this earnings deterioration occurred in a demographic environment which should have favored young adults. Their numbers and proportions within the total population had been declining as the tail end of the baby boom generation was replaced by the members of the baby bust that followed. They were not only fewer but they were better educated than in the past and should have been more competitive and productive and better rewarded in the labor market than their predecessors. But too many were not.

Now, even those favorable demographics are turning against them. The 16-24-year-old population is projected to rise to 38.7 million in 2010, nearly 7 million or 21% higher than the 1995 population for this age group. Racial and ethnic diversity in the young adult population will sharply increase, as will job competition from young, foreign immigrants many of whom have not completed a high school education. Trying to solve the low wage problem within a context of an expanding supply of young workers is the looming challenge. Improving the labor market prospects of all young adults also must become a serious priority on the nation's anti-poverty and welfare reform agendas in the first decade of the twenty-first century. Devising policies and programs to achieve that goal requires detailed examination of the developments involved and review of those forces which have proven effective in alleviating the threats of reduced earnings and pervasive poverty among young adults. Those are the ambitions of this book.

These are the developments about which public policymakers should be concerned:

- while the young adult population as a whole is increasing by 21%, the white, non-Hispanic component of them will increase only by 10%, Blacks will increase by 22%, Hispanics by 61% and Asians and Pacific Islanders by 66%.

- Nearly one-half of the Hispanics, Asians and Pacific Islanders are immigrants, having arrived in the United States with limited formal schooling and weak English language facility, placing them at a competitive disadvantage in their new land's job markets, but also making them tough, low wage competition for native born residents who share their limited educations. This nation's employment and training programs do not have a stellar record for serving either its under-prepared immigrants or its own youthful dropouts, both of whom can be expected to rise sharply in number in the years ahead in the absence of a sustained improvement in the outputs of the educational system.

- While overall birth rates among young women in the United States have declined during the 1990s, births among unmarried women continue to rise. As a result, the proportion of all children born to unmarried mothers rose from 29.5% to 32.8% between 1991 and 1998. Though births to teenagers overall were down, births to unmarried teens were up so that eight out of ten births to teens occurred out of wedlock in 1997. In that year, nearly 47% of births to 20-24 year old women were among unmarried women, up from 40% in 1991. For all women under 25, births to those not married increased from 49% in 1991 to 57% in 1997. Poverty at home and failure at school are factors adding to the incidence of out of wedlock births. The consequences of the imminent sharp rise in the numbers of vulnerable young women are worthy of society's advance consideration.

- The number of inmates in state and federal prisons has multiplied six-fold in the last quarter century while the total number incarcerated or on probation and parole more than doubled to 5.7 million persons in 1998. Young adults are strongly over-represented

among this population, two-thirds of whom have not graduated from high school and one-third of whom were unemployed at the time of their arrest. The rising numbers of young adult men over the next decade, especially among the economically disadvantaged, race/ethnic minorities, and residents of high poverty areas, can be expected to add to the pressures on the criminal justice system.

~ The employment/population ratio of 16-24 year old out-of-school youth declined from 72.1% in 1989 to 68.0% in 1991, then climbed back to 72.6% by 1999. However, in that latter year of substantial prosperity, while the employment/population ratio was 75% for White youth, it was 66% for Hispanic youth and only 59% for Black youth. Among 20-24 year olds in 1999, only 60% of high school dropouts were employed compared to 89% of four-year college graduates. Putting race and education together, employment rates for Blacks ranged from 36% for dropouts to 64% for high school graduates and 84% for college graduates. Increasing educational attainment, especially among minority youth, could do much to ameliorate the negative impacts of the rising young adult population during the years ahead.

~ Full-time employment has the advantage (over part-time) of higher hourly wages and weekly earnings, a greater likelihood of key employee benefits, increased likelihood of tuition reimbursement and on-the-job training and the promise of rising future wages and benefits. The share of young adults working full-time fell from 60% in 1989 to 54% in 1991, made no improvement until after 1995 and then rose only to 58.4% by 1999. Full-time employment rates in 1999 ranged from only 38% for those lacking a high school diploma to 60 % for high school graduates and 82% for those with a bachelors or higher degree. Schooling effects on employment persist throughout the young adult years. High school dropouts average 6.8 years of work experience between their 18th and 30th birthdays compared to 9.0 years for college graduates and dropouts tend to suffer the consequent loss of income and job security throughout their work lives. The gap in work experience between the least and the most educated young adults tends to be particularly large for women.

- Focusing on four labor market problems—open unemployment, working part-time while preferring full-time employment, wanting a job though not actively seeking one, and not being able to earn $320 a week (the poverty level for a four-person family) despite full-time employment—41% of young adults suffered at least one of those ills in 1999 compared to 17% of older adults. Cyclically, that combination of labor market problems for young adults varied from 44% at the peak of the business cycle in 1989 to 52% at its depth in 1991 and back to 41% by 1999. By educational attainment, in 1999, 52% of high school dropouts, 42% of high school graduates, but only 18% of college graduates suffered at least one of those four labor market ills. The labor market situation of the rising young adult population over the next decade is therefore likely to depend on both their educational attainment and on the business cycle.

- As would be expected, all of these negative consequences are exacerbated in high poverty neighborhoods and are unlikely to improve during the rapid rise of young adult numbers without drastic policy changes.

- The incidence of poverty is especially high among families with parents under the age of 25. Whereas one of five families with children under 18 had incomes below 125% of the federal poverty line in 1997-98, that was true of nearly one-half of those families headed by someone under 25, 60 % if the family head was a young woman, 75% if she had not graduated from high school. Whereas the proportion of all families that were poor or near poor increased only one percentage point from 13% to 14% between 1979 and 1998, the increase was from 19% to 29% for families headed by someone between 18 and 29 years of age.

- Child poverty is a special concern, especially in its likelihood among young families where it rose from 31% in 1979 to 44% in 1998. Children raised in poverty have an above average number of cognitive, educational, health and nutritional problems, especially in single parent families, which tend to persist inter-generationally.

- Despite significant recovery since 1995, the median real weekly earnings of full-time employed young male adults are still 26% below their 1973 peak level and the situation is markedly worse for those with the least education. The consequences for family formation and survival and for child poverty have been serious. That wage deterioration has been more marked for young men than young women, causing the historic wage gap between them to narrow appreciably. The rapid rise in the number of young adults over the next decade cannot be expected to improve this situation without marked changes in labor market outcomes and public policy.

- In addition to all of the wage and earnings differentials which exist between genders, race/ethnic differences, educational attainment levels and other lines of demarcation, there now exists among young adults an unprecedented degree of earnings inequality among people of otherwise similar characteristics.

Given all of that deterioration of status among young adults, it is important to recognize which developments have positive consequences:

- Formal education clearly has become one of the dominant factors determining the labor market success of all adults of all ages in the United States in recent years. Who works, at what jobs, what they earn, their earnings stability and other factors of crucial interest are all dependent more than anything else upon the degree of formal education beyond high school. The most promising avenue for increasing the economic, social and personal betterment of young American is, therefore, keeping them in school with continuous learning gains as long as economically worthwhile.

- But remaining in school and performing successfully there depends upon the earlier acquisition of basic academic skills and literacy/numeracy proficiencies. The basic academic skills of adolescents ,such as reading, math, writing, and critical reasoning skills, exert a profound influence upon their educational desires and expectations, their school behavior and performance and their

entrance into and completion of post-secondary schooling. No social investment has higher payoff than helping children gain these skills and abilities the first time through but close behind is the payback to remedial efforts to get youth back on track and recommitted to educational continuation and success therein.

- Another high payoff strategy for improving the post-high school labor market experience of young adults involves increasing the number, intensity, industrial and occupational diversity and quality of job opportunities and work experience for all high school students, but especially those from low income families, poor neighborhoods, and selected race/ethnic minority groups. Substantial work experience during the high school years is a high payoff, long-term investment, not just a temporary means of income supplementation. Twenty hours a week during the school year and longer between school years appears to be optimum duration for most.

- For those who have left formal schooling behind, another proven strategy for improving the labor market prospects of out-of-school young adults involves employer-provided job training, including apprenticeship, or classroom training directly linked with employer commitment. Training of limited duration or that which does not lead to placement in a training-related job is of little economic consequence.

These proven sources of adequate labor market preparation for young adults should be essential guides to both public policy and personal conduct.

Part I

The Problem and the Challenge

During the past few decades, the nation's labor markets have been characterized by much turbulence and a series of wrenching demographic and structural changes that have had profound impacts on the labor market experiences of young adults.[1] Among the major contributing forces to this turbulence have been important shifts in the industrial and occupational composition of employment, continuous technological changes in the workplace that have increased the demand for literacy/numeracy proficiencies, formal schooling, and technical skills, corporate restructuring and downsizing efforts, growing gender and race-ethnic diversity in the workforce, and rising levels of foreign immigration.

Overall national labor market conditions have improved consistently and markedly between 1992 and 2000. The nation's aggregate unemployment rate in 1999 had declined to 4.2 percent, the lowest that it has been since the late 1960s.[2] Nearly 20 million net new wage and salary jobs have been created since 1992, a significant share of which have been in high-skill occupations that have increased employment and real earnings opportunities for well-educated workers.[3]

[1]See: Peter Doeringer, et al., *Turbulence in the American Workplace*, New York, Oxford University Press, 1991.

[2]Between 1966 and 1969, the nation's aggregate unemployment rate ranged between 3.5 and 4.0 per cent. At no time since has the national overall unemployment rate fallen below 4.0 per cent.
See: U. S. Council of Economic Advisers, *Economic Report of the President*, 1997, U. S. Government Printing Office, Washington, D.C., 1997, "Table B-40," p. 34.
See: U. S. Bureau of Labor Statistics, *Employment and Earnings*, January 2000, "Table A-1".

[3]The annual average number of nonfarm wage and salary jobs increased from 108.6 million in 1992 to 128.6 million by 1999, a gain of 20.0 million or 18.4%.
See: U. S. Bureau of Labor Statistics, *Employment and Earnings*, January 2000, "Table B-1".

Most young adults, i.e., 16-to-24-year olds, also have benefitted from these improved labor market conditions. More out-of-school young adults are active in the labor force and their employment prospects are rising. All gender, race-ethnic, and educational attainment subgroups of out-of-school young adults have improved their employment rates and full-time employment rates since 1992. The real weekly earnings of full-time employed young men and women have been rising since 1996, and the median real annual earnings of employed 20-29 year old men and women have been rising since 1995 as a consequence of both more hours of paid employment and rising hourly earnings.

Yet, despite these gains, many out-of-school young adults, especially those with no post-secondary schooling and those from economically disadvantaged families, continue to encounter severe difficulties in obtaining access to career jobs. Therein is the problem this book addresses. The real (inflation-adjusted) weekly wages of full-time employed young men remain 25 percent or more below their 1973 peak levels, and the annual earnings of all employed 20-29 year olds, except those with a Master's or more advanced degree, have not yet returned to their 1989 levels and remain well below those achieved in 1973, the post-WWII peak for young adult men's earnings.

The limitations of the economic progress achieved by the nation throughout the 1990s were recently recognized by Vice-President Gore in a speech to a Baptist church congregation outside of Houston. In his remarks, the Vice-President noted that:

"We've created new jobs, but we have not reached the promised land. We may have left Egypt, but don't tell me we have arrived in Canaan. We have a long way to go."[4]

Ironically, the deterioration in annual earnings and wages experienced by many out-of-school young adults over the past two decades took place in a demographic environment that should have favored them. From the early 1980s through 1995, the population of young adults had been declining as the tail-end of the post-World War II baby

[4]See: Ann Scales, "Each on the Other's Home Turf, Gore, Bush Looking for Votes," *The Boston Globe*, March 13, 2000, p. A-7.

boom generation gave way to the reduced numbers born during the baby bust that followed. More of these young people had obtained high school diplomas and also completed some post-secondary schooling than those who had preceded them—conditions that should have made them more competitive and productive in the labor market. But that did not happen.[5] Unfortunately, for most young adults, demographics were not economic destiny.

Now, even those demographic forces that could have been expected to favor this group are turning against them. The total number of 16-to-24 year olds in the nation's population will rise steadily through the year 2010, outstripping the rate of population growth for those 25 and older. The 16-24-year-old population is projected to rise to 38.7 million in 2010, nearly 7 million or 21% higher than the 1995 population for this age group. Racial and ethnic diversity in the young adult population will sharply increase, as will job competition from young, foreign immigrants many of whom have not completed a high school education. Youth labor markets will be subjected to renewed supply-side pressures, both quantitative and qualitative, and young adults will continue to be highly susceptible to blind-siding from the profound forces of structural change in the New American Economy.[6] These demographic and economic forces will pose a major set of challenges to the nation's youth workforce development system throughout the first decade of the 21st century. Trying to solve the low wage problem within a context of an expanding supply of young workers is the fundamental challenge.

The longer-term secular declines in the constant dollar weekly wages and annual earnings of many out-of-school young adults-especially

[5]See: (i) Andrew M. Sum and Neal W. Fogg, *The Labor Market Problems of the Nation's Out-of-School Youth Population*, Baltimore, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, 1996; (ii) Andrew M. Sum, Neal Fogg, and Robert Taggart, *From Dreams to Dust: The Changing Economic Fortunes of America's Young Adults*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1997.

[6]For a review of the features of this New American Economy and its impacts on worker earnings,
See: Michael J. Mandel, "The Prosperity Gap," *Business Week*, September 27, 1999, pp. 90-102; (ii) Rich Miller, Laura Cohn, et.al., ":How Prosperity is Reshaping the American Economy," *Business Week*, February 14, 2000, pp. 99-110.

those with no post-secondary schooling-have generated a number of adverse economic and social consequences for the nation's young families and their children. Conservatively estimated official poverty rates among the nation's young families (those with a head under 30 years of age) have more than doubled over the past two decades, with nearly one-fourth of all young families being poor in 1998. Young families with children have fared the worst.[7] During March 1999, one-third of all of the nation's poor children under the age of 18 lived in a family or a subfamily headed by a person under age 30.[8]

The economic situation for children under age six in these young families is even more precarious. Thirty-four percent of all children under age six living in young families in March 1999 were poor,[9] and they accounted for 60% of all poor children under age six throughout the nation. With this economically troubled component of young families about to expand rapidly, inter-generational problems are sure to increase.[10] The demographic future that we can already see warns us that improving the labor market prospects of all young adults must become a serious priority on the nation's antipoverty and welfare reform agendas in the first decade of the twenty-first century.

[6]For a review of the features of this New American Economy and its impacts on worker earnings,
See: Michael J. Mandel, "The Prosperity Gap," *Business Week*, September 27, 1999, pp. 90-102; (ii) Rich Miller, Laura Cohn, et.al., "How Prosperity is Reshaping the American Economy," *Business Week*, February 14, 2000, pp. 99-110.

[7]For a critique of the existing poverty concepts and measures of the federal government,
See: Neal Fogg, Garth Mangum and Andrew Sum, *Poverty Ain't What It Used to Be*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, 1999.

[8]Unrelated subfamilies are families living in the household of another person to whom they are not related.

[9]Estimates of the number of poor and near-poor children living in young families in March 1999 are based on the findings of the March Current Population Survey, U.S. Bureau of the Census, tabulations by the Center for Labor Market Studies, Northeastern University.

[10]See: (i) Sherman, Arloc, *Wasting America's Future*, Boston: Beacon Press, 1994; (ii) Jeanne Brooks-Gunn and Greg J. Duncan, *The Consequences of Growing Up Poor*, Russell Sage Foundation, New York, 1998.

This study is divided into two major parts, the first describing the demographic portent and its likely economic and social consequences and the second recommending appropriate policy alternatives. Within Part One,

- Chapter 1 identifies and assesses key demographic developments external to the job market that will affect the chances for employment for future 16-to-24-year olds. Included in this analysis are such factors as the "demographic seesaw" of population change in this age group, the increasing race-ethnic diversity of the young adult population, the growing numbers of immigrants among young adults, incarceration trends among young men, and the fertility behavior and out-of-wedlock births among young women.

- Chapter 2 explores and assesses employment developments among the nation's 16-24 year old out-of-school population during the decade of the 1990s, focusing on trends in the success of young adults in obtaining employment and full-time jobs. Findings are presented for all out-of-school youth and for selected race-ethnic and educational attainment subgroups. The severity of the employment problems of youth in high poverty neighborhoods throughout the nation over the 1990s are also highlighted.

- Chapter 3 examines four types of labor market problems faced by out-of-school young adults as they come to terms with the labor market: (1) being unemployed, (2) working only part-time even though they would like to have full-time jobs, (3) wanting a job but not actively seeking one, and (4) working full-time, but earning less than the weekly amount needed to avoid poverty for a family of four. Trends in the incidence of these problems over the decade are tracked, along with analysis of the comparative size of these problems among educational attainment subgroups.

- Chapter 4 focuses upon the incidence of poverty and near poverty problems among various subgroups of young adults, young families, and their children. Trends in the incidence of poverty problems among young families and their children in the 1990s are examined to identify the extent to which sustained job growth,

lower unemployment, and rising real family incomes in recent years have succeeded in reducing the increased intensity of the poverty problems that have beset young families, especially those with children, over the past few decades.

- Chapter 5 reviews longer-term and more recent trends in the real weekly and annual earnings of employed young adult men and women. The real weekly earnings of full-time employed men and women are tracked over the entire 1973-99 period, including an analysis of the effects of stronger national labor market conditions in the mid to late 1990s on gains in the median real weekly earnings of employed young men and women. The annual earnings of employed men and women under the age of 30 over the past decade are also examined, including separate breakouts of the earnings data by educational attainment subgroup to identify which groups have fared the best in improving their real earnings over the past decade.

Part II analyzes the rationale for and evidence on the potential effectiveness of four general human resource strategies capable of improving future labor market outcomes for young adults:

- Chapter 6 examines the powerful influence of formal educational attainment on the labor market and employment behavior and the weekly and annual earnings of young adults. The associations between formal schooling and the lifetime earnings and poverty status of the nation's adults also are identified. Trends in high school graduation rates, college enrollment rates, and bachelor degree attainment rates of key subgroups of the nation's young adults are examined, and the policy implications of these educational developments are briefly assessed.

- Chapter 7 highlights the importance of basic academic skills test scores and academic achievement proficiencies for success in high school, college, the labor market, and in avoiding problems of poverty and other forms of income inadequacy. Findings of a diverse set of national longitudinal surveys of young adults and national literacy assessments are used to illustrate the growing importance of a strong base of literacy and numeracy proficien-

cies for success in the educational arena and in the nation's labor markets in recent years. The implications of these findings for future youth workforce development programs are discussed.

- Chapter 8 reviews findings on the in-school employment experiences of high school students in the U.S. and their impacts on a variety of post-high school labor market outcomes. This chapter also reviews findings from national and state surveys and for high poverty and low poverty neighborhoods on who works in high school and the characteristics of the jobs obtained by employed high school students. The case for expanding the future number and quality of in-school employment opportunities is made, and estimates of the number of new jobs needed by the nation's high school students to achieve key youth workforce development objectives are provided.

- Chapter 9 examines the training experiences of the nation's young adults, both on and off the job over the past 15 to 20 years, and their impacts on the wages and earnings of employed young adults. The important roles of formal employer training and apprenticeship training are reviewed, and evidence is presented on the incidence of the receipt of such training among key subgroups of young adults and the characteristics of the firms providing such training. The implications of these findings for future youth workforce development policy are examined.

- Chapter 10 provides a summary of the study's key findings on the changing demographics for the nation's young adults, their recent labor market experiences and problems, their ability to improve their real wages and earnings, and the role of formal education, academic achievement, work experience, and training in determining their success in today's labor markets.

Chapter 1

Demographic and Social Factors Affecting Employment Prospects of Young Adults

U. S. labor markets will face two opposing population surges during the coming decade: the rapidly entering youth and young adult component and the longer living but earlier retiring older workers. Only the former is addressed here, the latter the target of a subsequent monograph. But increasing numbers of youth and young adults are not all that is evolving. Complex interactions between demography and key social developments, all of which will have critical public policy consequences, are the subjects of this chapter and those that follow.

The Coming Population Surge and the Changing Demographic Mix

The young adult population of the United States has been riding a demographic seesaw since the end of World War II. As members of the post-World War II baby-boom generation grew up, the number of young adults 16-24 years of age nearly doubled between 1960 and 1980, so that by the end of that period there were more than 37 million 16-24 year olds in the nation.[11] After 1980, however, a fundamental demographic shift brought about by the arrival of the baby bust generation saw the size of the same age group decrease by nearly 5 million or 13%, a decline that would have been far greater but for the increased influx of young immigrants after 1980. Now, according to recent U.S.

[11]The baby boom generation is typically defined as those persons born between 1946 and 1964.

See: (i) Landon Y. Jones, *Great Expectations, America and the Baby Boom Generation*, Coward, McCann, and Geoghegan, New York, 1980; (ii) Andrew M. Sum and Neal W. Fogg, "Labor Market Turbulence and the Labor Market Experiences of Young Adults," in *Turbulence in the American Workplace*, (ed. Peter B. Doeringer), New York: Oxford University Press, 1991, pp. 17-45.

Census Bureau population projections, the seesaw is again reversing direction. After bottoming out in 1995, the number of 16-24 year olds in the resident population of the United States is projected to rise steadily and substantially through 2010. In 1995, there were 32.1 million young adults (16-24-years-old) in the resident population, but their numbers are projected to rise to 34.1 million by the year 2000 and to 38.7 million by the 2010. Over this 15 year period, the 16-24 year old population would rise by nearly 6.6 million or just under 21% (Table 1.1 and Chart 1.1).

Table 1.1:
Projected Trends in the Growth of the Nation's 16-24 Year Old Resident Population, 1995 to 2010, Total and by Gender and Race-Ethnic Group (Number in 1000s)

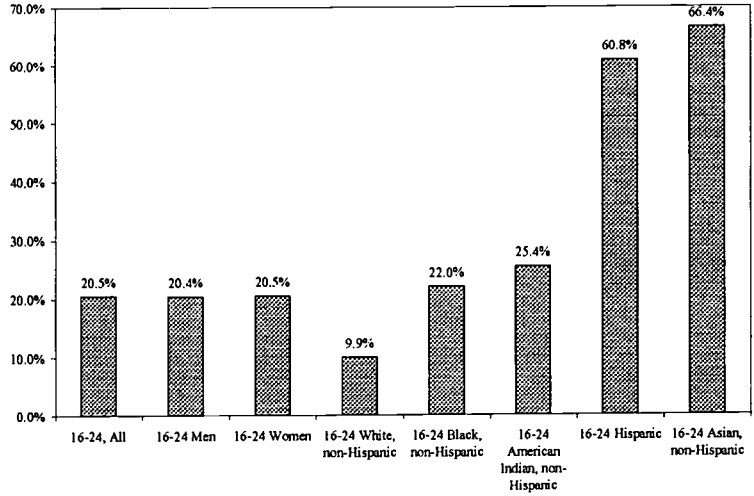
Population Group	1995	2000	2005	2010	Absolute Change, 1995-2010
16-24, All	32,155	34,124	36,638	38,733	6,578
16-24 Men	16,398	17,385	18,666	19,740	3,342
16-24 Women	15,757	16,738	17,971	18,993	3,236
16-24 Hispanic	4,151	4,764	5,556	6,674	2,523
16-24 White, non-Hispanic	21,898	22,735	23,781	24,069	2,171
16-24 Black, non-Hispanic	4,620	4884	5,245	5,635	1,015
16-24 American Indian, non- Hispanic	278	318	35	353	74
16-24 Asian, non-Hispanic	1,196	1,420	1,698	1,990	794

Source: U.S. Census Bureau, National Population Projections, Web Site, 1999, tabulations by the authors.

While the population growth rates of young adult men and women are identical, there are substantial differences in the projected population growth rates of young adults in our five race-ethnic groups. The number of young adults in each race-ethnic group will rise over the 1995-2010 period. However, their projected growth rates will vary considerably, ranging from a low of 10% for White, non-Hispanics to highs of 61% for Hispanics and 66% for Asians and Pacific Islanders.[12] Similar demographic patterns will prevail over the 2000-2010 period.

[12]Hispanics can be members of any race group. They are, however, excluded from the population counts for each of the four race groups to avoid double counting. The five race-ethnic groups are defined to be mutually exclusive.

Chart 1.1:
Projected Population Growth Rates of 16-24 Year Olds in the U.S., by Gender and Race-Ethnic Group, 1995-2010



The changing race-ethnic composition of the young adult population has a number of important consequences for youth workforce development policy. A high fraction of the growth in the Hispanic and Asian population in past years has been due to increased immigration. Many of these young adult immigrants, especially those who arrived in the U.S. in the 1990s, had left high school without obtaining a diploma or a GED certificate.[13] Limited formal schooling combined with weak English-speaking proficiencies and literacy/numeracy skills will place many of these young adults at a severe competitive disadvantage in gaining access to more highly skilled and higher wage positions in the New American Economy. The rising minority share among the young adult population also will place greater responsibilities on the schools and the workforce development system to equip these youth with the requisite education, literacy proficiencies, vocational/ technical skills, and job opportunities to raise their employment rates and wages closer to par with those of White non-Hispanic youth. White youth with limited schooling and basic academic skills also face a bleak labor market future.

[13]The incidence of school dropout problems among young immigrants does, however, vary by race-ethnic group. Hispanics are much more likely than Asians to lack a diploma.

In sum, the decline in the nation's young adult population came to an abrupt end in the mid-1990s. Not only will the population of young adults be increasing in absolute terms, but their numbers from 1995-2010 will be growing at a faster rate than that of the 25 and older population though not nearly as fast as the population of 45-64 year olds whose numbers will be substantially augmented by the aging of the baby-boom generation (Table 1.2).

Table 1.2:
Projected Growth of the U.S. Resident Population, 1995 to 2010, by Selected Age Group
(Numbers in 1000s)

Age Group	(A) 1995	(B) 2010	(C) %Change, 1995-2010
16-24	32,155	38,733	20.5
25+	169,115	197,599	16.8
45-64	52,228	79,590	52.4
16-24 as % of 16+	16.0%	16.4%	

Source: U.S. Census Bureau, Web Site on National Population Projections, 1999, tabulations by authors.

Over the 1995 to 2010 period, the number of adults (25+) in the resident population of the U.S. is projected to rise from 169.1 million to 197.6 million, a gain of 28.5 million or 16.8%. Given the higher projected rate of growth for young adults, their share of the nation's working-age population will moderately increase from 16.0 % in 1995 to 16.4% by 2010. The total number of 16-24-year-old adults in that year will actually be two million higher than their estimated number in 1978 when the entry of baby boomers into their young adult years reached a peak. The relative size of the 16-24-year-old population near the end of this decade will, however, be considerably smaller than it was in the late 1970s. During 1978, the 16-24-year-old population accounted for nearly 23% of the nation's working-age population.[14] In 2010, the rising num-

[14]For findings on trends in the relative size of the nation's young adult population over the 1978-2008 period,
See: Howard N. Fullerton, Jr., "Labor Force Projections to 2008: Steady Growth and Changing Composition," *Monthly Labor Review*, November 1999, pp. 19-32.

bers of 16-24-year-olds will only account for 16.7% of the (by then) much larger working-age population. However, the demographic composition of this future young adult population will differ markedly from that of the late 1970s, with race/ethnic minorities and immigrants accounting for a considerably higher share of the young adult population.

Immigration and the Young Adult Population in the U.S.

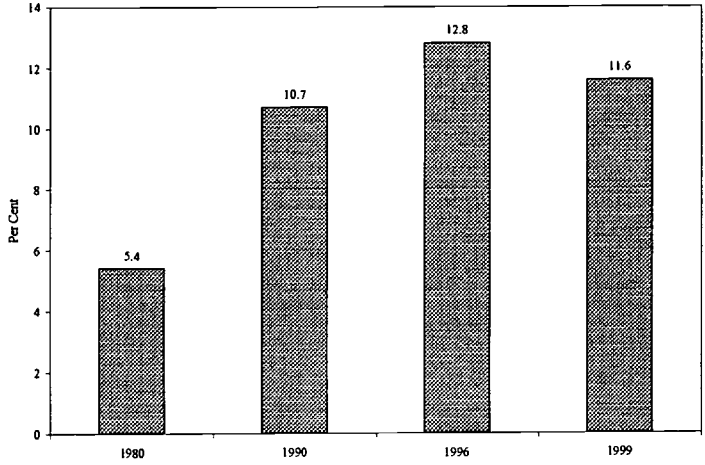
Immigration has come to play an increasingly important role in determining the growth of the resident U.S. population and the nation's civilian labor force in the 1990s. Over 30% of the net change in the nation's total population and nearly 40% of the net increase in the nation's civilian labor force since 1990 have been attributable to this source.[15] Since new immigrants tend to be relatively young, they have comprised an above average share of the 18-24 year old population, particularly in many large central cities. They have contributed to the growing race-ethnic diversity of the nation's young adult population during the 1980s and the 1990s, and will continue to alter the demographic make-up of the nation's young adult population through the first decade of the 21st century.

The foreign immigrant share of the 18-24 year old civilian population of the U.S. doubled from 5.4% in 1980 to just under 11% in 1990 and has increased further in the 1990s.[16] In March 1996, approximately 13% of the nation's 18-24 year olds were foreign born, of whom nearly one-half had arrived in the U.S. since 1990. In more recent years, the immigrant share has declined slightly, falling to 11.6% in March 1999 as the number of native born young adults has again resumed strong growth (Chart 1.2).

[15]During the July 1998 to July 1999 period, the U. S. Census Bureau has estimated that net international migration accounted for 35% of the country's population growth of 2,442,000. For a recent review of foreign immigrants' contributions to labor force growth in the U. S. and major geographic regions,
See: Andrew M. Sum, et. al., *The Changing Work Force: Immigrants and the New Economy in Massachusetts*, The Massachusetts Institute for a New Commonwealth, Boston, 1999.

[16]Persons born in Puerto Rico are citizens of the United States, but they are classified as immigrants for purposes of analysis in this paper since migration from Puerto Rico to the U. S. does boost the official population of the U. S. Many Puerto Rican migrants experience labor market problems similar to those of other Hispanic immigrants.

Chart 1.2:
Trends in the Immigrant Share of the Nation's 18-24 Year Old Civilian Non-Institutional Population, U.S., 1980, 1990, 1996 and 1999
(Data for 1996 and 1999 are for March of each Year)



The immigrant share of the young adult population varies considerably by race-ethnic group and educational attainment (Table 1.3).[17] In March 1999, immigrants represented only 3% of the White, non-Hispanic young adult population and only 6% of Black young adults, but they accounted for 43% of young Hispanic adults and 48% of Asian and other races. Very similar race-ethnic patterns prevail when only recent young immigrants are examined. Those young adult immigrants who arrived in the U.S. from 1990 onward constituted only 2% to 3% of the White, non-Hispanic and Black, non-Hispanic 18-24 year old population in 1998; however, they represented one-fourth or more of the population of young Asians and Hispanics.

[17]For earlier analyses of the changing size and demographic composition of the young adult immigration population of the U. S,
See: (i) Andrew M. Sum, Neal Fogg, and Robert Taggart, *From Dreams to Dust: The Changing Economic Fortunes of America's Young Adults.* Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore 1996; (ii) Andrew M. Sum, Neeta Fogg, and Neal Fogg, *Out-of-School, Out of Luck? Demographic and Structural Change and the Labor Market Prospects of At Risk Youth*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1997, pp. 12-19.

Table 1.3:
All Immigrants and Recent Immigrants as a Share of the 18-24 Year Old Civilian Non-Institutional Population, by Race-Ethnic Group and Schooling Status, U.S., March 1999

Group	All Foreign Born	Migrated To the U.S. Since 1990
All	11.6%	7.0%
Race-Ethnic Group		
White, non-Hispanic	2.8%	2.0%
Black, non-Hispanic	5.7%	2.9%
Hispanic	43.1%	26.7%
Asian and Other, non-Hispanic	47.6%	23.9%
School Enrollment or Educational Attainment Status		
Enrolled, high school student	11.4%	7.0%
Enrolled, post-secondary student	9.4%	4.5%
Not enrolled, high school dropout	25.4%	18.3%
Not enrolled, high school graduate	9.1%	5.4%
Not enrolled, some college (1-3 years)	8.6%	4.7%
Not enrolled, college graduate (4 or more years)	11.9%	9.1%

Source: March 1999 CPS public use data file, tabulations by authors.

The educational backgrounds of young adult immigrants differ from those of native born young adults in several key respects. Young immigrants are much more likely than their native born counterparts to have failed to graduate from high school or obtain a GED certificate, including persons who never attended school in the U.S. For example, during March 1999, immigrants accounted for only 9% to 11% of college and high school students, respectively, and only 9% to 12% of out-of-school youth with 12 to 16 years of schooling, but they represented 25% of all young adults lacking a high school diploma or a GED (Table 1.3). Similar findings prevail for those young immigrants who arrived in the U.S. from 1990 onward. Nearly one-fifth of all young high school dropouts were recent immigrants, though they represented only 7% of all 18-24 year olds.

Like native-born youth, these young immigrants lacking a high school diploma encounter greater difficulties than their better-educated counterparts in finding employment. Also, their growing numbers have

exacerbated the employment and wage problems of some native-born dropouts, especially those living in large central cities where many of the newer immigrants seek work. Recent research by David Jaeger on workers in large metropolitan areas within the U.S. has revealed that immigrants are very close substitutes for native-born workers, particularly those with 12 or fewer years of schooling. National evidence for adult workers suggests that up to 30% of the decline in the relative earnings position of school dropouts may be due to the labor supply effects of foreign immigration.[18] Research on inner city labor markets in Chicago by William Julius Wilson and in New York City by Katherine Newman and Chauncy Lennon has found that immigrants are often employed by firms instead of poorly educated native-born workers. Employers find them to be a preferred source of labor, given their punctuality, docility, strong work ethic, and higher degree of cooperation with fellow workers and supervisors.[19] Findings of baseline household surveys in the U.S. Department of Labor, Youth Opportunity Area (YOA) demonstration sites found that male immigrants were significantly more likely to be employed than their native-born counterparts, especially among high school dropouts. In the absence of a major shift in their educational backgrounds, the existing and projected high levels of immigration over the next decade will likely further exacerbate the labor market problems of young native-born workers with no post-secondary schooling, especially those living in high poverty areas of the nation's large central cities.

[18]See: (i) George Borjas, "The Internationalization of the U. S. Labor Market and the Wage Structure," *Economic Policy Review*, Federal Reserve Bank of New York, January 1995, Volume 1, Number 1; (ii) George J. Borjas, "The New Economics of Immigration," *The Atlantic Monthly*, November 1996, pp. 72-80; (iii) David A. Jaeger, *Skill Differences and the Effects of Immigrants on the Wages of Natives*, BLS Office of Employment Research and Program Development, BLS Working Paper #273, Washington, D.C., 1996; (iv) Steven A. Camorata, *The Wages of Immigration: Their Effects on the Low-Skilled Labor Market*, Center for Immigration Studies, Center Paper 12, Washington, D.C., 1998.

[19]See: (i) William Julius Wilson, *When Work Disappears*, Alfred Knopf, New York, 1996; (ii) Steven A. Camorata, "Does Immigration Harm the Poor?", *The Public Interest*, Number 133, Fall 1998, pp. 23-32; (iii) Katherine Newman, *No Shame in My Game*, Russell Sage Foundation, New York, 1999.

Young immigrants in the U.S., however, are not distributed uniformly across geographic regions, individual states, or cities and suburbs. During early 1998, the immigrant share of the young adult population ranged from a low of 3% in the East South Central region (which is comprised of the states of Kentucky, Tennessee, Alabama, and Mississippi) to highs of 18% in the Middle Atlantic region (New Jersey, New York, and Pennsylvania) and 26% in the Pacific region, which is heavily influenced by immigration developments in the state of California. Immigrant shares of the young adult population also vary considerably by individual state. During 1998, five states had young adult immigrant shares of 20% or greater. These five states included the two most populous states on the East Coast (New York and Florida), the nation's most populous state (California) and the states of Arizona and Hawaii.

Young immigrants also tend to be much more heavily concentrated in a number of the nation's largest central cities than in either smaller central cities, the suburban portions of metropolitan areas, or non-metropolitan areas of the nation. During the 1996-98 period, young immigrants (16-24-years old) accounted for only 11% of the nation's entire population of young adults but they represented 28% of the young adult population in 14 large central cities (Table 1.4).[20] Immigrants accounted for only 13% of the young adult population of the nation's other central cities and less than 8% of those living in suburbs or in non-metropolitan areas of the nation. Young immigrants in these large central cities also account for a considerably higher share of school dropouts (47%) than in other areas of the country. Unfortunately many of the nation's youth employment and training programs do not have any documented track record in effectively serving these immigrant youth.[21]

[20]These 14 large central cities were the following: Baltimore, Chicago, Cleveland, Dallas, Detroit, the District of Columbia, Houston, Los Angeles, Milwaukee, New York City, Philadelphia, Phoenix, San Diego and San Francisco. Within these 14 large central cities, the immigrant share of the young adult population varied over a considerable range from lows of less than 5% in Baltimore, Detroit, and Milwaukee to highs of 37% in New York City and 48% in Los Angeles.

[21]Data on the nativity status of program participants is frequently not collected by youth programs. For example, the U. S. Department of Labor's SPIR information system that is used in tracking services to JTPA participants does not provide any information on their nativity status, their citizenship status, or their arrival in the U. S.

Table 1.4:
Immigrant Share of the 16-24 Year Old Civilian Population by School Enrollment/Educational Attainment/Employment Status for the U.S., Selected Central Cities, and Other Areas of the U.S., 1996-1998, Both Sexes, All Races

Area	Total	Student	No High School Diploma/ GED	High School Graduate, Not Employed	High School Graduate, Employed	One or More Years of College
U.S. Total	10.6%	8.7%	25.4%	11.0%	8.6%	8.1%
Large Central Cities	28.1%	24.1%	47.1%	24.7%	28.3%	19.5%
Other Central City1	13.0%	11.2%	25.7%	12.5%	11.0%	9.5%
Not in Central City	7.7%	6.2%	19.8%	8.1%	6.1%	6.0%

Source: January-December monthly CPS surveys, 1996-98, excluding June to August, tabulations by authors.

Demographic Change and Its Potential Implications For the Number of Births to the Nation's Young Women

Growth in the nation's young adult female population will likely have a number of important implications for the future number of births and the number of out-of-wedlock births in the nation over the coming decade. Given the high incidence of poverty problems among young single parent families and the on-going implementation of state welfare reforms which will restrict their eligibility for future public assistance benefits, any substantive increase in the number of out-of-wedlock births to young women will have a series of adverse consequences for the nation's children.

Birth rates in the United States declined during the 1990s especially among teens, a very welcome development given the high rate of out-of-wedlock births among teen mothers and the more serious long-term poverty implications of such teen births.[22] Underlying this trend has been a decline in the overall birth rate and the general absence of growth in the number of childbearing-age women (15-44 years old). The nation's overall birth rate declined from 69.6 per thousand women (15-44 years old) in 1991 to 65 per thousand women in 1997, a relative decline of 6.6%. Over the same time period, the total number of births declined by 230,000 or 5.6%. However, there were 79,000 additional births among unmarried women in 1998 compared to 1991. As a consequence of declining overall births and a modestly increased number of out-of-wedlock births, the proportion of all children born to unmarried mothers increased from 29.5% to 32.8% between 1991 and 1998 (Table 1.5 and Chart 1.3).[23]

[22]For an earlier review of birth trends among young women in the U. S. during the first half of the 1990s,
See: Andrew Sum, Neeta Fogg, and Neal Fogg, *Out of School, Out of Luck?* pp. 31-50.

[23]Ventura, Stephanie, et al., "Declines in Teenage Birth Rates, 1991-1998: Update of National and State Trends," National Center for Health Statistics, National Vital Statistics Report, Volume 47, Number 26, Washington, D.C., October 1999.

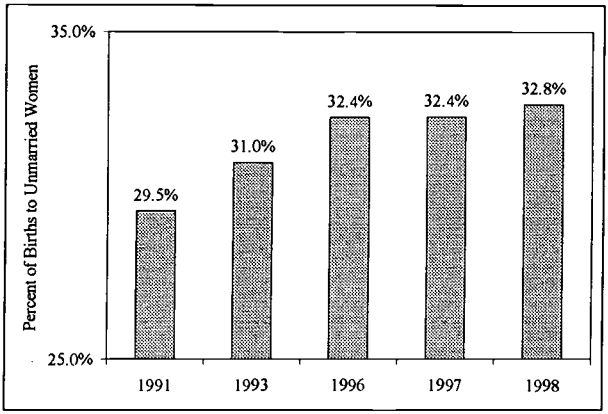
Table 1.5:
Trends in the Birth Rate, Total Births, and Out-of-Wedlock Births among Childbearing-Age Women in the U.S., 1991 to 1998

Year	Birth Rate Per 1000 Women Between 15 & 44	Number of Births	Number of Births To Unmarried Women	Percent of Births To Unmarried Women
1991	69.6	4,110,907	1,213,769	29.5%
1993	67.6	4,000,240	1,240,172	31.0%
1996	65.3	3,891,494	1,260,306	32.4%
1997	65.0	3,880,894	1,257,444	32.4%
1998	65.6	3,944,046	1,292,534	32.8%
1991-1997				
Absolute Change	-4.6	-230,013	43,675	2.9
Relative Change	-6.6%	-5.6%	3.6%	9.8%
1997-1998				
Absolute Change	0.6	63,152	35,090	0.4%
Relative Change	0.9%	1.6%	2.8%	1.1%
1991-1998				
Absolute Change	-4.0	-166,861	78,765	3.2%
Relative Change	-5.7%	-4.1%	6.5%	11.0%

Source: National Center for Health Statistics, Vital Statistics Report, Selected years, 1991-1998, tabulations by authors.

Chart 1.3:

Percentage of all Births in the U.S. to Unmarried Women, 1991-1998



Source: National Center for Health Statistics, Vital Statistics Report, Selected years, 1991-1998.

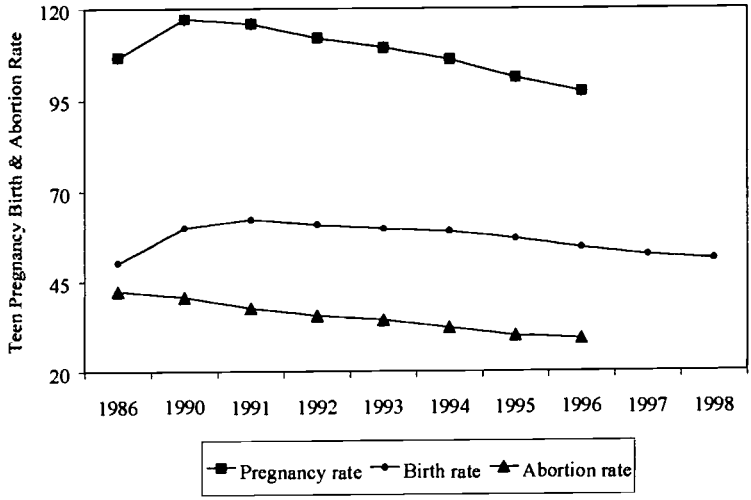
Similar, albeit more exaggerated, trends in births, non-marital births, and share of births to unmarried women were observed among younger women. Prior to 1986, the teen birth rate declined from 89.1 per thousand in 1960 to 68.3 in 1970 and to 53.0 in 1980.[24] Then, after rising substantially between 1986 and 1991, the teen birth rate declined by nearly 10 points from 62.1 per thousand in 1991 to 52.3 per thousand in 1997 (Table 1.6 and Charts 1.4 and 1.5). At the same time, total births among teens declined by 38,300, but births to unmarried teens increased by 17,400 or nearly 5%. In 1997, nearly 8 out of 10 teen births took place out of wedlock, up from 7 out of 10 teen births in 1991 (Chart 1.6). According to preliminary estimates for 1998, the teen birth rate declined even further to 51.1 per 1000. Yet, despite the lower birth rate, there was a small increase (1,100 births) in the number of births among women under 20 between 1997 and 1998 due to an increase in the female teen population over this time period. Again, births among married teens had declined but the number of births to unmarried teens had increased by nearly 4,000.[25]

[24] *Facts at a Glance*, Child Trends, Washington, D.C., December 1999.

[25] Ventura, Stephanie, et al., "Declines in Teenage Birth Rates, 1991-1998: Update of National and State Trends," National Center for Health Statistics, National Vital Statistics Report, Volume 47, Number 26, Washington, D.C., October 1997.

Chart 1.4:

Pregnancy, Birth, and Abortion Rates Per 1000
(15-19 Year Old) Women in the U.S., 1986-1998



Sources: (i) Dorrach , J. and Singh, S., "Why is Teenage Pregnancy Declining? The Roles of Abstinence, Sexual Activity and Contraceptive Use," Occasional Report 1, New York: The Alan Guttmacher Institute, 1999; (ii) Ventura, S. J., et al, "Declines in Teenage Birth Rates, 1991-1998: Update of National and State Trends," National Vital Statistics Report, National Center for Health Statistics, Volume 47, Number 26, October 25, 1999, tabulations by the authors.

Similar trends in fertility rates took place among young adult women in their early to mid-20s. Among women between the ages of 20 and 24, there were nearly 150,000 fewer births in 1997 compared to 1991 (Table 1.7). While total births among 20-24 year old women declined by 14% from 1,090,000 in 1991 to 942,000 in 1997, births among unmarried 20-24 year old women increased by 9,600 or 2 %. Similar to the behavior of teen mothers, the number of children born to 20-24 year old married women declined at the same time as the number of children born to their unmarried counterparts increased. In 1997, nearly 47% of all births to 20-24 year old women were among unmarried women, up from fewer than 40% in 1991.

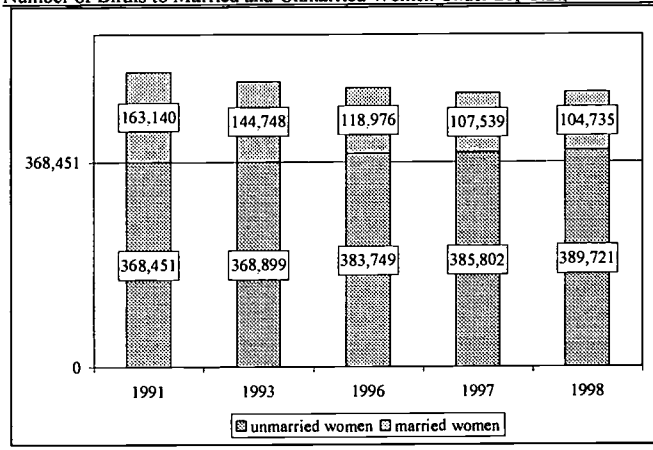
[26]Ventura, Stephanie, et al., "Declines in Teenage Birth Rates, 1991-1998: Update of National and State Trends," National Center for Health Statistics, National Vital Statistics Report, Volume 47, Number 26, Washington, D.C., October 1999.

Table 1.6:
Trends in the Birth Rate, Total Births, and Out-of-Wedlock Births Among Women Under 20 in the U.S., 1991 to 1998

Year	Birth Rate Per 1000 Women (15-19)	Number of Births (Under 20)	Number of Births to Unmarried Women (Under 20)	Percent of Births to Unmarried Women (Under 20)
1960	89.1	593,746	89,062	15.0%
1970	68.3	656,460	196,938	30.0%
1980	53.0	562,330	269,918	48.0%
1991	62.1	531,591	368,451	69.3%
1993	59.6	513,647	368,899	71.8%
1996	54.4	502,725	383,749	76.3%
1997	52.3	493,341	385,802	78.2%
1998	51.1	494,456	389,721	78.8%
1960-1998				
Absolute Change	-38.0	-99,290	300,659	63.8
Relative Change	-42.6%	-16.7	337.6%	425.3%
1991-1998				
Absolute Change	-11.0	-37,135	21,270	9.5
Relative Change	-17.7%	-7.0%	5.8%	13.7%

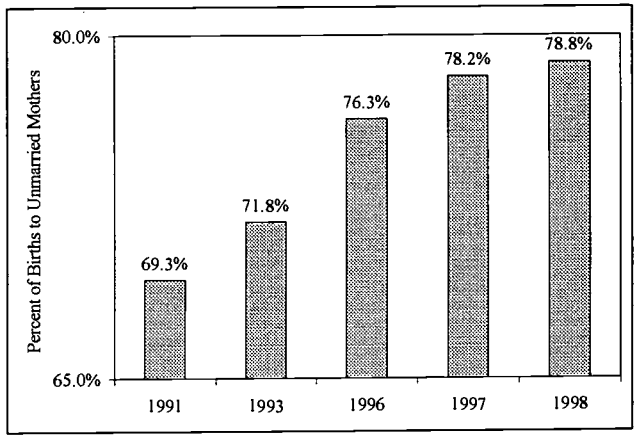
Source: National Center for Health Statistics, Vital Statistics Report, Selected Years, 1991-1998, Facts at a Glance, Child Trends, Washington, D.C, December 1999, tabulations by authors.

Chart 1.5:
Number of Births to Married and Unmarried Women Under 20, U.S., 1991-1998



Source: National Center for Health Statistics, Vital Statistics Report, Selected Years, 1991-1998.

Chart 1.6:
Proportion of All Births to Teenaged Mothers Which Took Place Out of Wedlock, 1991-1998



Source: National Center for Health Statistics, Vital Statistics Report, Selected Years, 1991-1998.

Preliminary estimates indicate that the birth rate as well as the total number of births among women between 20 and 24 years old increased between 1997 and 1998.[26] The 1998 estimates of births among unmarried women in this age group were not available at this writing.

Table 1.7:
Trends in the Birth Rate, Total Births, and Out-of-Wedlock Births Among 20-24 Year-Old Women in the U.S., 1991 to 1998

Year	Birth Rate Per 1000 Women (20-24)	Number of Births (20-24)	Number of Births To Unmarried Women (20-24)	Percent of Births To Unmarried Women (20-24)
1991	115.7	1,089,692	429,094	39.4%
1993	112.6	1,038,127	438,538	42.2%
1996	110.4	945,210	431,462	45.6%
1997	110.4	942,048	438,632	46.6%
1998	111.2	965,414	Not available	Not available
1991-1997				
Absolute Change	-5.3	-147,644	9,538	7.2
Relative Change	-4.6%	-13.5%	2.2%	18.2%

Source: National Center for Health Statistics, Vital Statistics Report, Selected Years, 1991-1998, tabulations by the authors.

Among all young women under 25 years old, the total number of births declined by 186,000 or 12% at the same time as births among unmarried women increased by 27,000 or 3.4% between 1991 and 1997 (Table 1.8). Underlying these divergent trends between the number of births to married and unmarried mothers is the changed fertility behavior of married women who chose to have fewer children while childbearing rates among unmarried women as well as the number of unmarried mothers increased (Chart 1.7). With fewer births among married women and a modest rise in the number of births among unmarried women, the proportion of births to unmarried women increased from 49% in 1991 to 57% in 1997.

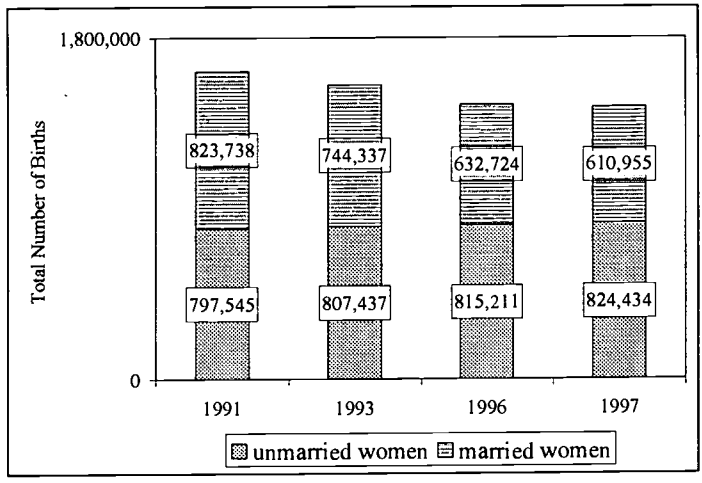
Table 1.8:
Trends in the Birth Rate, Total Births, and Out-of-Wedlock Births Among Women Under 25 in the U.S., 1991 to 1998

Year	Number of Births (Under 25)	Number of Births To Unmarried Women (Under 25)	Percent of Births To Unmarried Women (Under 25)
1991	1,621,283	797,545	49.2%
1993	1,551,774	807,437	52.0%
1996	1,447,935	815,211	56.3%
1997	1,435,389	824,434	57.4%
1998	1,459,870	Not available	Not available
1991-1997			
Absolute Change	-185,894	26,889	8.2%
Relative Change	-11.5%	3.4%	16.8%

Source: National Center for Health Statistics, Vital Statistics Report, Selected Years, 1991-1998, tabulations by the authors.

Despite its recent declines, the U.S. teen birth rate is the second highest among industrialized countries of the world (Table 1.9). Although Russia had the highest pregnancy rate (101.7 per 1000 teens) among all industrialized countries, over one-half of all pregnancies in that country were aborted, resulting in only the seventh highest birth rate among the same group of countries. The abortion rate in many of these countries is believed to be a conservative estimate of the true level since abortion reporting is incomplete. In 1996, nearly 35% of all teen pregnancies in the U.S. ended with an abortion.

Chart 1.7:
Number of Births to Married Women and Unmarried Women Under 25 Years Old, U.S., 1991-1997



Source: National Center for Health Statistics, Vital Statistics Report, Selected Years, 1991-1999.

Table 1.9:
Birth and Pregnancy Rates Per Year (per 1000 women aged 15-19) And Abortion Ratio (per 100 pregnancies) in Ten Developed Countries With the Highest Adolescent Birth Rates, 1995

Country	Birth Rate Per 1000 teens (15-19)	Pregnancy Rate Per 1000 Teens (15-19)	Abortion Ratio Per 100 Pregnancies
Armenia	56.2	U	U
United States	54.4[1]	83.6	34.9
Ukraine	54.3	U	U
Moldova	53.2[1]	64.8	18.7[3]
Georgia	53.0[2]	66.4[3]	20.2[3]
Bulgaria	49.6[1]	83.3	40.4
Russian Federation	45.6	101.7[3]	56.1[3]
Romania	42.0	70.4[3]	42.9[3]
Belarus	39.0	73.3	47.5
Lithuania	36.7[1]	U	U

Notes: [1]Data are for 1996, [2]Data are for 1994, [3]Abortion rates are less than 80 percent complete, U=unavailable.

Source: Singh, S. and J.E. Darroch, "Adolescent Pregnancy and Childbearing: Levels and Trends in Developed Countries," *Family Planning Perspectives*, Volume 32. Number 1, January/February 2000, pp. 16-17

As demonstrated in Chart 1.7, since 1991, the U.S. teen pregnancy rate and birth rate have declined steadily. The decline in the birth rate has been due to lower pregnancy rates among sexually experienced women and not because of an increase in abortions.[27] Abortion rates among 15-19 year old women have steadily declined from 42.3 per thousand in 1986 to 29.2 per thousand in 1996. Although there is no single factor underlying this steady decline in the teen pregnancy and birth rates, a reduction in sexual activity among teens and the use of more effective contraceptive methods have been identified as key factors in the recent declines in teen pregnancy and birth rates.[28] The connections between these behavioral changes and broader changes in the economy and welfare reform programs and policies are not yet fully understood.[29]

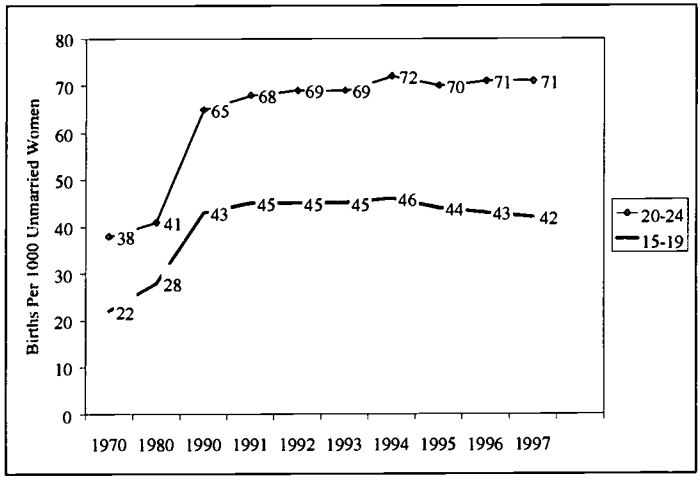
Unfortunately, at the same time as total births and birth rates to young women were declining, births to unmarried mothers were steadily increasing. While the overall birth rate among teens and 20 to 24-year old women declined between 1991 and 1998, the non-marital birth rate only modestly declined among teens (from 45 per thousand in 1991 to 42 per thousand in 1998) and increased among 20-24 year old women from 68 per 1000 in 1991 to 72 per 1000 in 1998 (Chart 1.8). Consequently, the unmarried mothers' proportion of all births among young women has continued to increase. In 1998, nearly 8 out of 10 children born to teenage mothers were born out of wedlock. Among 20 to 24-year-old women, the proportion of births out of wedlock was nearly 47%. Overall, in 1997, nearly 6 out of 10 births to women under the age of 25 were non-marital births.

[27]See: Dorrach J. E. and Singh S., "Why is Teenage Pregnancy Declining? The Roles of Abstinence, Sexual Activity and Contraceptive Use," Occasional Report, New York: The Alan Guttmacher Institute, 1999, No. 1.; Ventura, S. J., et al, "Declines in Teenage Birth Rates, 1991-1998: Update of National and State Trends," National Vital Statistics Report, National Center for Health Statistics, Volume 47, Number 26, October 25, 1999.

[28]See: Dorrach J. & Singh S., "Why is Teenage Pregnancy Declining? The Roles of Abstinence, Sexual Activity and Contraceptive Use," Occasional Report 1, New York: The Alan Guttmacher Institute, 1999.

[29]For a discussion of the impact of various features of welfare reform on the birth rate of women by state,
See: Traci Mach, "Measuring the Impact of Family Caps on Childbearing Decisions," Department of Economics, The Ohio State University, Columbus, Ohio, 1999.

Chart 1.8:
Birth Rate of Unmarried Women Ages 15-19 and 20-24, 1970-1997



Source: *Facts at a Glance*, Child Trends, Washington, D.C, December 1999.

The incidence of teen childbearing is far from being a random event among adolescent women. Research findings from the National Longitudinal Survey of Youth (NLSY) and those from the 1985 NAEP Young Adult Assessment have indicated that teenage childbearing was far greater among young women who had low educational expectations, had dropped out of school, and had weak basic academic proficiencies.[30]

Being raised in a poverty environment with a single, poorly educated mother also considerably raised the likelihood of teenage childbear-

[30]See: (i) Gordon Berlin and Andrew Sum, *Toward a More Perfect Union: Basic Skills, Poor Families and Our Economic Future,* Ford Foundation, New York, 1989; (ii) Karen Pittman, *Adolescent Pregnancy and Expanding Life Options; The Role of the Schools*, Children's Defense Fund, Washington, D.C., 1986; (iii) Neeta Fogg, *An Economic Analysis of the Determinants and the Long-Term Labor Market Consequences of Teenage Childbearing in the United States, 1979-1991,* Unpublished Dissertation, Department of Economics, Northeastern University, 1997.

ing, regardless of the race-ethnic background of the teen. Judith S. Musick has described the pernicious impacts of family poverty on adolescent development among young female adolescents in the following manner:

> "Severe poverty contributes to conditions in which children's development can be thwarted, blocking their paths to success in school A developmentally poor start, in turn, frequently prepares the ground for early motherhood by encumbering girls with the kinds of psychological burdens that, within the context of disadvantage, lead to self-limiting choices and self-defeating behaviors during the adolescent years."[31]

To illustrate the influence of school enrollment status, basic academic skills (reading, vocabulary, and math), and family background on the childbearing experiences of young women who were 14-17 years of age at the time of the first NLSY interview in 1979, we analyzed their fertility behavior over the next two years. The probabilities of teenage childbearing over the following two years were estimated for members of each of the following four groups:

- A school dropout at age 16, an AFQT test score in the bottom 20% of the test score distribution, raised in a poor, one parent family headed by an adult who also was a school dropout. The proportion of adolescents with the above characteristics who gave birth to a child over the two-year period was 36.3%.

- A youth who was enrolled in school at the time of the first interview, had average basic academic skills, and lived in a poor family with a mother who did not graduate from high school. The expected childbearing rate for this group of women was 14.3%.

[31]See: Judith S. Musick, "The High Stakes Challenge of Programs for Adolescent Mothers", in *Adolescence and Poverty: Challenge for the 1990's* (Editors: Peter Edelman and Joyce Ladner), Center for National Policy Press, Washington, D.C., 1991

- A youth who was enrolled in high school at the time of the first interview, had average basic academic skills, lived in a two parent family, her mother was a high school graduate, and the family income was more than three times the poverty line. The predicted childbearing rate for this group of teens was only 2.2%.

- A teen with all of the characteristics of the above group, except that she had basic academic skills in the top 20% of the distribution. The predicted childbearing rate for this group of women was only 3 per 1000.

The relative difference in the expected likelihood of teenage childbearing for the first and the last groups of women was 121 to 1. Clearly, those female adolescents having high educational and career expectations and living in an economically and emotionally supportive environment were considerably less likely to give birth during their teenage years. Other analysts of teen childbearing behaviors have reached similar conclusions. For example in his book *When Children Have Children*, Leon Dash provided the following views on the relationship between school performance and the desire of Washington D.C. area teens to have children:

> "The desire for a child was particularly acute among adolescents who were doing poorly in school. They knew implicitly and had been told explicitly that they were not likely to graduate from high school ..While the better students strove for a diploma, the poorer students achieve their *form of recognition with a baby.*"[32]

Given the above findings on the underlying determinants of teen childbearing, future youth workforce development programs must be able to provide participants with the opportunities, avenues, and desires to expand their life options. Increases in the share of births to unmarried mothers do not bode well for these mothers and their children. Young women who have children out of wedlock are much less likely to marry as they age and much more likely to bring up their children in a single-parent family. The high incidence of poverty among young single-parent families is largely attributable to their low levels of educa-

[32]Leon Dash, *When Children Have Children: The Urban Crisis of Teenage Childbearing*, New York: William Morrow, 1989.

tional attainment and limited work experience.[33] Early childbearing frequently truncates the educational attainment of these women. Raising their children in a single mother family leaves little time for them to accumulate human capital in the form of education or full-time labor market work experience, both of which are strong predictors of their future earnings potential and poverty status.[34]

Implications of Demographic Change for the Incarcerated Young Adult Male Population

Nearly all analyses of the labor market problems of young adults, including those appearing in this monograph, are restricted to members of the nation's civilian non-institutional population. Men and women serving in the nation's armed forces whether in the U.S. or abroad and those who are inmates of institutions, including jails and prisons, are usually excluded from this analysis.[35] In earlier decades, the numbers of young men residing in correctional institutions typically were small enough so that their exclusion from the analysis would have posed no major problems. However, in recent decades, the nation's jail and prison populations (local, state, and federal) have more than tripled, and young men have been incarcerated at increasingly higher rates, especially those men with no post-secondary education.

[33]For a review of poverty problems among single-mother families,
See: (i) Andrew Sum, W. Neal Fogg, and Neeta Fogg, *The Economic Well-Being of U. S. Families With Children: An Assessment of Recent Trends, an Exploration of Their Underlying Determinants, and Public Policy Implications*, paper presented at the 1994 Annual Meeting of the Eastern Economic Association, Boston, Massachusetts, 1994; (ii) Sara McLanahan, I. Garfinkel, and D. Watson, *Family Structure, Poverty, and the Underclass*, Institute for Research on Poverty, Discussion Paper Number 823-87, University of Wisconsin-Madison, 1987; (iii) Sara McLanahan, *Family Structure and Dependency: Early Transitions to Female Household Headship*, Institute for Research on Poverty, Discussion Paper Number 807-86, University of Wisconsin-Madison, 1986.

[34]For a discussion of the consequences of non-marital childbearing,
See: Neeta Fogg, "An Economic Analysis of the Determinants and the Long-Term Labor Market Consequences of Teenage Childbearing in the United States, 1979-1991, "Unpublished Dissertation, Department of Economics, Northeastern University, 1997.

[35]The CPS household surveys do not include interviews with members of the armed forces living in military barracks or stationed overseas and do not cover inmates of any institution.

A complete portrait of the economic and social experiences of the nation's young men, thus, requires an examination of their incarceration status. Declines in real earnings prospects for young men since the mid-1970s, especially those with no post-secondary schooling, have been accompanied by substantial growth in the numbers of men incarcerated in jails and prisons. National research evidence suggests a causal link between these two sets of developments.[36] Lower real wages from labor market activities are believed to have increased the economic attractiveness of criminal activities, especially those related to the drug trade. Drug related arrests and convictions, especially for violent crimes, have increased markedly over the past two decades.[37] The high rates of convictions combined with the popularity of mandatory sentencing laws have led to a substantial rise in the number of young men in jails and prisons. While imprisonment of most offenders clearly has reduced the incidence of crime in society, the physical removal of growing numbers of young men from their communities and into correctional institutions also has strong negative future economic consequences for the men themselves, for the future formation of two-parent families, and for the well-being of children in low income communities. Men with criminal records are much more likely to experience labor market adjustment problems that reduce their future earnings potential, their attractiveness as marriage partners, and their financial ability to support their children.

Over the last quarter of the 20th century, overall incarceration rates in the United States skyrocketed. The number of inmates in federal and

[36]See: (i) Richard B. Freeman, "Why Do So Many Young American Men Commit Crimes and What Might We Do About It?", *Journal of Economic Perspectives*, Winter 1996, Vol. 10, No. 1, pp. 25-42. (ii) John Bound and Richard B. Freeman, "What Went Wrong: The Erosion of Relative Earnings and Employment Among Young Black Men in the 1980s," *Quarterly Journal of Economics*, Vol. 107, 1992, pp. 201-223; (iii) Jeff Grogger, "Criminal Opportunities, Criminal Activities and Young Men's Labor Supply," Working Paper, Department of Economics, University of California, Santa Barbara, 1997.

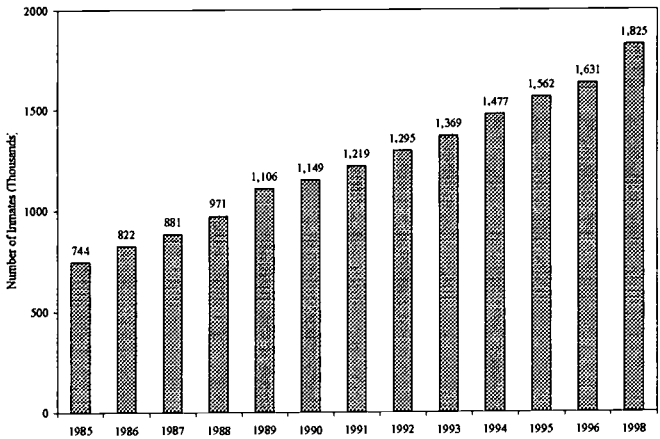
[37]For a review of the rise in violent crime in the 1980s,
See: Scott Boggess and John Bound, "Did Criminal Activity Increase in the 1980s: Comparisons Across Data Sources," *Social Science Quarterly*, Vol. 78, No. 3, September 1997.

state prisons increased six-fold, from under 200,000 in 1970 to over 1,233,000 in 1998. In addition, the number of inmates in local jails also grew at a high rate. According to annual surveys of the U.S. Bureau of Justice Statistics, the nation's jails contained 592,000 inmates in 1998. Thus, the 1998 inmate population in jails and prisons combined was 1,825,000, representing a 150% increase since 1985. (See Chart 1.9). Also growing rapidly over the same time period was the number of persons on probation and parole. In 1998, there were a total of 5.7 million persons in the U.S. who were incarcerated, on probation, or parole, representing a 209% increase since 1980.

Chart 1.9:

Number of Inmates in Federal and State Prisons and Local Jails, U.S., 1985-1999

(Numbers in 1000s)



In 1995, the United States was estimated to have the second highest reported rate of incarceration in the world (600 inmates per 100,000 population) outpaced only by Russia with a rate of 690 per 100,000 (Table 10).[38] By 1998, the incarceration rate in the U.S.was estimated at 672 inmates per 100,000.

[38]All these statistics were derived from Briefing/Fact Sheets published by The Sentencing Project, Washington, D.C.

Correctional control in the United States is disproportionately prevalent among Black men and Hispanic men. According to recent estimates by The Sentencing Project, in 1995, almost one in three (32%) young black males in the age group 20-29 was under some type of criminal justice system control (incarceration, probation, or parole), compared to 1 in 15 young White men and 1 in 8 young Hispanic males.[39]

Table 1.10:
International Rates of Incarceration, 1995
(Top 10 Nations)

Nation	Number of Inmates	Rate of Incarceration Per 100,000
Russia	1,017,372	690
United States	1,585,401	600
Belarus	52,033	505
Ukraine	203,988	390
Latvia	9,608	375
Lithuania	13,228	360
Singapore	8,500	287
Moldova	10,363	275
Estonia	4,034	270
South Africa	110,120	265

Source: Mauer, Marc, "Americans Behind Bars: U.S. and International Use of Incarceration," The Sentencing Project, Washington, D.C., 1997.

As noted above, these high rates of incarceration have sizable social and private costs. Communities pay a high price when growing fractions of men are institutionalized. Marriage rates in such communities are low and children are more likely to be raised in single-parent families and in poverty. There are not sufficient positive male role models for children growing up in these communities. In addition, these incarcerated young men themselves pay a high price in terms of reduced future employability and earnings. There also are substantial increased direct dollar costs to taxpayers from increased incarceration. According

[39]Maurer, Marc, and Tracy Huling, "Young Black Americans and the Criminal Justice System: Five Years Later," The Sentencing Project, Washington, D.C., 1995.

to estimates compiled by The Sentencing Project, in Fiscal Year 1995, state and federal governments planned $5.1 billion in new prison construction at an average cost of $58,000 for a medium security cell.[40]

While the social and private costs of incarceration are quite substantial, the highest cumulative costs over the lifetime occur among men who are involved in the criminal justice system at young ages. We have estimated incarceration rates for 18-24 year old men in 1986, 1995 and 1997 (See Table 1.11).[41] An analysis of these data indicates that the proportion of the nation's 18-24 year old men who were incarcerated more than doubled from 1.2 per 100 to 2.8 per 100 between 1986 and 1995. Two separate demographic trends underlie this sharp increase in incarceration rates among young men. First, the number of young men in the population declined by 9.7 percent or about 1.1 per cent per year over this time period. Second, during the same time period, the total number of young men in prisons and jails increased by 102 percent or an average of 11 percent per year.

In the past few years, the overall population of young men first stabilized and is now growing while the number of young male inmates stopped growing and started to modestly decline. Although there are a number of factors contributing to this trend, we believe that the improved overall state of the economy, particularly the rise in employment among young Black men, likely has had a positive impact on criminal justice involvement among young men. In the 1990s, the United States was engaged in the longest economic expansion in its history. The last national recession had ended nearly ten years earlier. Since then, the economy has been characterized by increasing employment, decreasing unemployment, and in the past few years rising real wages for young adults. Certain sectors of the economy were complaining about growing labor shortages.

[40]Briefing/Fact Sheets Published by The Sentencing Project, Washington, D.C.

[41]For earlier estimates of incarceration rates for young men and the methodologies employed in deriving these estimates,
See: Andrew Sum, Neeta Fogg, and Neal Fogg, *Out-of-School, Out of Luck...*, pp. 19-28.

Table 1.11:
Estimated Numbers of Young Male Inmates in Federal Prisons State Prisons, and Local Jails, U.S., 1986, 1995, and 1997

Year	Total Number of 18-24 Year Old Men in the Population1	Number of 18-24 Year Old Men in Prisons and Jails2	Percent of 18-24 Year Old Men in Prisons and Jails
1986	14,282,510	177,952	1.2%
1995	12,901,583	359,419	2.8%
1997	12,883,455	348,899	2.7%

Sources: [1]Current Population Surveys (CPS). The inmate population was added to the civiliannon-institutional population derived from the CPS to obtain the total young male population.
[2] Sources: (i) Bureau of Justice Statistics Bulletin "Prisoners in 1998," August 1999, NCJ 175687, p. 10, Table 15; (ii) Bureau of Justice Statistics Bulletin, "Prison and Jail Inmates at Midyear 1997," January 1998, NCJ 167247, page 2, Table 1; (iii) Bureau of Justice Statistics, "Correctional Populations in the United States, 1996," April 1999, NCJ 170013, page iv; and (iv) Bureau of Justice Statistics, U.S. Department of Justice, Washington, D.C. (See Appendix A for the methodology used to estimate the young male inmate population from BJS published data).

One of the positive effects of the current long sustained period of economic expansion is reduced criminal activity among youth. Better job prospects and higher real wages make criminal alternatives less attractive to youth. Youth who are on the margin of the criminal world will be more likely to choose the legal labor market option if it offers improved prospects and earnings. A turnaround in criminal activity requires a labor market that is strong enough and has grown for a long enough period of time to reach workers at the lower rungs of the labor market queues. According to estimates by The Sentencing Project, nearly two-thirds of prison inmates in 1991 failed to complete high school and one-third of jail inmates were unemployed prior to entering jail. As the national economic expansion continues to reach the most poorly educated groups in the economy and improves their job prospects, their involvement in the criminal justice system is likely to decline. Macroeconomic labor market conditions thus play a key role in determining the future labor market prospects of the nation's young adults.

The preliminary results are apparent in the data presented in Table 1.11. The total population of young adult men was basically unchanged between 1995 and 1997 while the young male inmate population is estimated to have declined by 10,500 or nearly 3%. Consequently, the incarceration rate declined by 1/10th of one percentage point from 2.8% to 2.7%, yielding a relative decline of 3.6%. Fewer young men in absolute and relative terms were incarcerated in 1997 compared to 1995. Despite this recent decline in the incarceration rate, the incidence of incarceration among young men remains significantly higher compared to 1986. Even the longest economic expansion in our nation's history has made only a small dent in the incarceration rate of young men. The modest positive effects of a full-employment environment on youth incarceration rates calls for a more intensive hands-on targeted approach to simultaneously address issues of youth crime and incarceration in the years ahead.

The rising numbers of young adult men over the current decade, especially among the economically disadvantaged and among race/ethnic minorities, will place added pressures on the criminal justice system, especially in high poverty areas. In the nation's poverty stricken inner cities, criminal justice involvement rates at times reach close to 40%. In far too many of these neighborhoods, the criminal justice system is the dominant form of government and adult contact for the young men who live there. It should be noted that the past steep increases in criminal justice system control rates took place in a demographic environment characterized by declining numbers of young men. That demographic situation has now reversed course. If the nation does not succeed in its efforts to continue to reduce the incidence of criminal activities among young adults and their incarceration rates, the nation's jails and prisons will face extraordinary demographic pressures in the forthcoming decade.

A variety of program approaches have been tried in the past to reduce delinquency and crime among youth. Examples of such programs include the Quantum Opportunities Program that was designed to improve the basic skills, educational attainment and employability of young economically disadvantaged teens, labor market interventions designed to improve education and job skills among disadvantaged youth like the U.S. Department of Labor's Youth Opportunity Programs

and Job Corps Programs, and early childhood intervention and parent training programs.[42] Included among the latter are programs operated by the Oregon Social Learning Center, Chicago Child Parent Center and Houston Parent Child Development Center.. Other interventions that have received considerable attention from policymakers and the media are those operated by faith-based groups like the Ten Point Coalition in Boston. This Coalition consists of black clergymen, youth workers, and probation/parole officers who make connections with youth through what they call "foot patrol" in the most gang-ridden neighborhoods of the city.

Youth residing in high poverty neighborhoods are particularly susceptible to crime. Recent experiences with several of the Youth Opportunity Area demonstration sites indicate that a significant fraction of the eligible youth, especially males, were involved in gangs and the criminal justice system. Gang activities in these neighborhoods are particularly disruptive to stable program operations and impose a number of barriers to recruiting youth to participate in the program. Some of these neighborhoods are rife with crime and disruptive gang activity. Workforce development programs in these communities need to go beyond mere workforce development issues and address the crime-related barriers to recruitment and participation in workforce programs. Collaboration with existing community organizations that are fighting crime combined with other carefully targeted and well-defined interventions are likely to be a necessary precondition to implement effective workforce development programs in these communities.

[42]For a review of these programs,
See: Marion Pines (Editor), *Making Connections: Youth Program Strategies for a Generation of Challenge, Commendable Examples from the Levitan Youth Policy Network*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Institute for Policy Studies, Policy Issues Monograph 99-02, April 1999. "Do Intervention Programs for Young Children Reduce Delinquency and Crime?" *Focus*, University of Wisconsin-Madison, Institute for Research on Poverty, Volume 19, Number 1. Summer/Fall 1997, pp. 37-44.

Chapter 2

Employment Trends Among the Nation's Out-of-School Young Adult Population in the U.S., 1989-99

One of the core measures of the labor market success of out-of-school youth is their employment rate. How successful have out-of-school youth been in obtaining jobs throughout the 1990s? How strongly have their job prospects improved as national labor market conditions strengthened from 1992 onward? Did all major subgroups of out-of-school youth benefit from these stronger labor market conditions? This chapter answers those questions by focusing on the employment-population ratio of out-of-school 16-24 year-olds as measured by the monthly Current Population Survey and reported by the U.S. Bureau of Labor Statistics.[43]

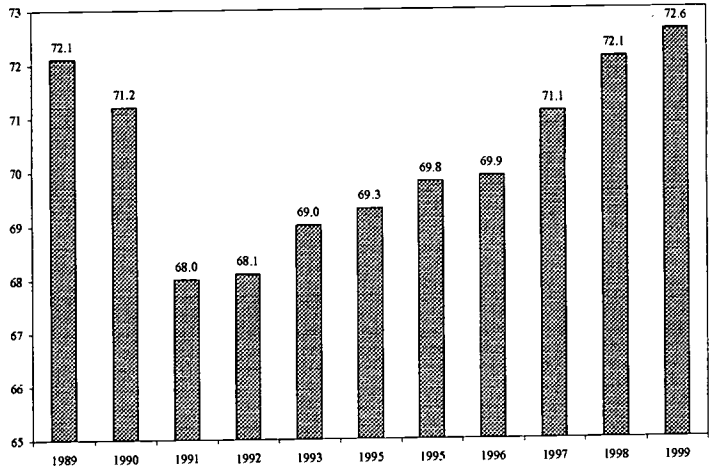
The employment/population (E/P) ratio of 16-24 year old out-of-school youth was 72.1% in 1989, the cyclical peak year of the 1982-89

[43]For other analyses of trends in the employment rates of out-of-school youth in the late 1980s and 1990s,
See: (i) Samuel Halperin, "Today's Forgotten Half: Still Losing Ground," in *The Forgotten Half Revisited*, American Youth Policy Forum, Washington, D.C., 1998; (ii) Andrew Sum, Neeta Fogg, and Neal Fogg, *Out-of-School, Out of Luck? Demographic and Structural Change and the Labor Market Prospects of At Risk Youth*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1997; (iii) Andrew Sum and Neal Fogg with Sheila Palma and Neeta Fogg, *Labor Market Conditions Among Out-of-School Youth in the U. S.*, Best Practices Workshop on School-to-Work Transition in APEC Countries. Ottawa, 1999.

[44]The U. S. economy entered a recession in the early summer of 1990 and it lasted through March 1991. Calendar year 1999 marked the eighth consecutive year of real economic growth for the U. S., a record for peace time growth.

economic growth era.[44] The E/P ratios of out-of-school youth tend to be quite cyclically sensitive, much more so than those for adults 25 and older. For example, when the national economy undergoes a recession and aggregate job opportunities decline, fewer youth enter the labor market, and unemployment rates of out-of-school youth tend to rise at an above average pace, thereby depressing their employment/population ratio. Between 1989 and 1991, the employment/population ratio of out-of-school youth declined sharply from 72.1% to 68.0%, a drop of 4.1 percentage points or 6% while the E/P ratio for the nation's adults (25 and over) declined by less than 1 percentage point over the same time period (Chart 2.1). Following 1992, the E/P ratio for out-of-school youth has increased steadily as labor market conditions improved, rising to 72.1% in 1998 and 72.6% in 1999, slightly surpassing its value at the peak of the last business cycle in 1989.

Chart 2.1:
Employment/Population Ratios for Out-of-School 16 to 24 Year Old Persons, U.S., 1989-1999
(Annual Averages, Numbers in Per Cent)



Employment rates of the nation's out-of-school youth tend to vary quite widely across major race-ethnic groups, with White youth being most likely to be employed each year followed by Hispanics and Blacks (Table 2.1). For example, during 1999, on average, 75% of White youth

were employed versus 66% of Hispanic youth and only 59% of Black youth. By 1999, the E/P ratios of each race-ethnic group either matched or surpassed those of 1989. Very similar race-ethnic differences in employment rates prevailed in each other year.

The employment rates of youth in each of these three race-ethnic groups tend to be quite cyclically sensitive. This is particularly true for Black youth whose overall E/P ratio fell by 10% between 1989 and 1991 versus declines of only 6% for Hispanics and 5 percent for Whites over the same time period. Conversely, during the strong labor market conditions which prevailed thereafter, at least until 2000, the Black youth employment rate has risen by more than ten full percentage points versus gains of only three percentage points for Whites and six percentage points for Hispanics.[45]

Table 2.1:
Trends in Employment Rates of 16-24 Year Old Out-of-School Youth by Race-Ethnic Group, Selected Years 1989-1999
(Annual Averages, in Per Cent)

Year	(A) Black	(B) Hispanic[1]	(C) White
1989	55.5	64.9	75.4
1991	50.1	60.3	71.7
1992	48.7	60.0	72.0
1995	53.3	61.4	73.2
1997	54.8	64.6	74.7
1998	57.4	66.5	75.2
1999	59.2	66.4	75.4

Sources: U.S. Bureau of Labor Statistics, Employment and Earnings, January 1990, 1992, 1993, 1996, 1998, 1999, tabulations by authors; U.S. Bureau of Labor Statistics, unpublished data from the 1999 monthly CPS surveys provided to the authors in January 2000.
(i) Hispanics can be members of any race although a substantial majority of them are classified as White in the monthly CPS household surveys.

[45]For a review of the impacts of full employment conditions on the employment prospects of young Black men in metropolitan areas across the nation,
See: Sylvia Nasar with Kirsten B. Mitchell, "Booming Job Market Draws Young Black Men into Fold," *New York Times*, May 23, 1999, pp. 1,21; (ii) Richard B. Freeman and William M. Rogers, III, *Area Economic Conditions and the Labor Market Outcomes of Young Men in the 1990s Expansion*, National Bureau of Economic Research, Working Paper 703, Cambridge, MA 1999.

Employment rates of out-of-school youth also differ considerably by their educational attainment, rising strongly and consistently with the level of formal schooling. Those youth lacking high school diplomas or GED certificates have fared the worst in the nation's job markets over the past decade.[46] Even during 1999, a year with a very low aggregate rate of unemployment (4.2%) and growing labor shortages, only 54% of young high school dropouts were employed versus 75% of high school graduates, 84% of those completing one to three years of college, and just under 90% of four-year college graduates. (Chart 2.2). Part of the substantial employment advantage of four year college graduates over high school dropouts reflects their average older age;[47] however, large gaps in employment rates by educational attainment also prevail among out-of-school youth in their early twenties. For example, among 20-24 year olds in 1999, employment/population ratios varied from a low of 60% for high school dropouts to a high of 89% for four-year college graduates.

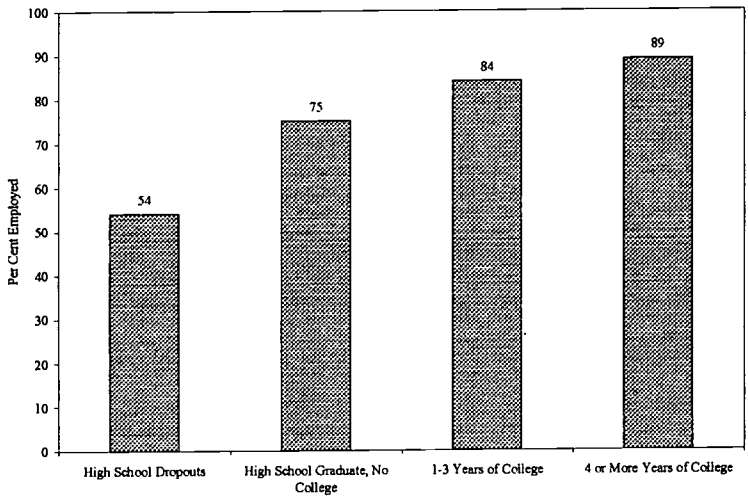
The strong positive statistical associations between the educational attainment of youth and their employment rates hold true among Black, Hispanic, and White youth. (Chart 2.3). For example, among out-of-school Black youth, annual average employment rates during 1999 rose from just 36% among high school dropouts to 64% for high school graduates to a high of 84% for four-year college graduates. Both the absolute and relative sizes of the employment gaps between Black and White out-of-school youth tend to diminish considerably as Black youth complete more years of formal schooling. Among high school dropouts, the 1999 White-Black employment gap was 22 percentage points. The size of this employment rate gap diminished to 14 percentage points for high school graduates, to less than 8 percentage points for those completing one to three years of college, and to 6 percentage

[46]The CPS survey only recently has distinguished youth with a high school diploma from those holding a GED certificate. The employment rates of 18-24 year old GED holders in 1998 were about 7 to 9 percentage points below those of high school graduates in each gender and race-ethnic group.

[47]The employment rates of out-of-school youth rise fairly steadily and strongly as they move from their teens into their mid-20s. For example, during 1999, the employment rate of 16-19 year old out-of-school youth was only 60% versus an employment rate of nearly 78 per cent for 20-24 year olds.
See: U. S. Bureau of Labor Statistics, unpublished data from the 1999 monthly CPS household surveys, tabulations by the authors.

points for those obtaining a bachelor's degree. Current and future efforts to boost the formal educational attainment of the nation's Black and Hispanic youth, including dropout prevention efforts as well as expanded college enrollment and retention programs, clearly have the potential to contribute to a further reduction in Black-White and Hispanic-White employment differences during the first decade of the twenty-first century.[48]

Chart 2.2:
Employment to Population Ratios of 16-24 Year Old
Non-Enrolled Youth, by Educational Attainment Group, U.S. 1999



The Full-Time Employment Status of the Nation's Out-of-School Youth

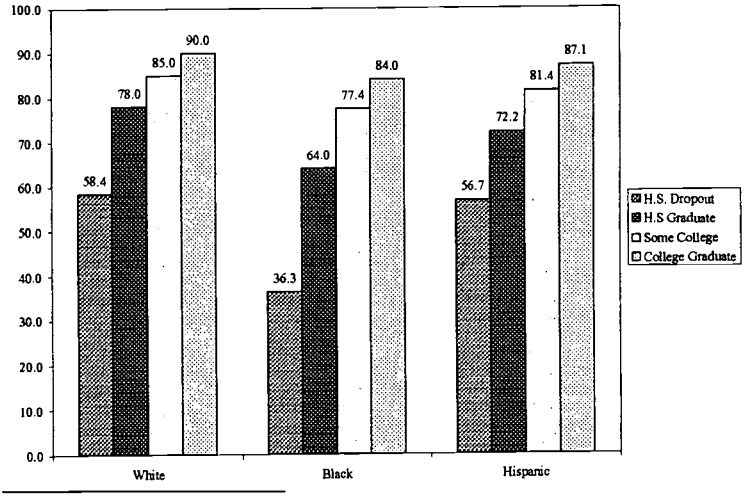
In addition to their use in estimating the employment rates of out-of-school youth, the monthly CPS labor force data also can identify the weekly hours worked by employed youth and the full-time nature of the

[48]Efforts to reduce the large gaps between Black-White achievement test scores also will be needed to improve Black educational outcomes.
See: (i) James J. Heckman, "Doing it Right: Job Training and Education," *The Public Interest*, Spring 1999, pp. 86-107; (ii) Christopher Jencks and Meredith Phillips, (Editors), *The Black-White Test Score Gap*, The Brookings Institution, Washington, D.C., 1998; (iii) Andrew Sum, *Literacy in the Labor Force,* National Center for Education Statistics, Washington, D. C., 1999.

jobs they hold. The CPS data on hours of work of the employed have been used to estimate the fraction of out-of-school youth who were employed full-time—35 or more hours per week—at various points in time over the past decade. National and local research on youth labor market experiences consistently has revealed a number of important economic advantages from full-time employment, including higher hourly wages, considerable higher weekly wages, a greater incidence of key employee benefits, including health insurance, pension coverage, increased eligibility for tuition reimbursement by the employer, a greater likelihood of being trained on the job both formally and informally by the employer, and a more substantial economic payoff in terms of higher future wages from current full-time employment.[49]

Chart 2.3:

Employment/Population Ratios of Non-Enrolled 16-24 Year Olds
By Educational Attainment & Race/Ethnic Background, U.S., 1999



[49]For earlier research findings in this area,
See: (i) Thomas L. Hungerford, "Full-Time and Part-Time Work Among Young Women," Paper Presented to the Annual Conference of the Association for Public Policy Analysis and Management, Pittsburgh, November 1996; (ii) Neeta Fogg, *An Economic Analysis of the Determinants and the Labor Market Consequences of Teenage Childbearing in the United States, 1979 to 1991*, Ph.D. Dissertation, Department of Economics, Northeastern University, Boston, 1996; (iii) Andrew Sum, Neeta Fogg, and Neal Fogg, *Out-of-School, Out of Luck? Demographic and Structural Change and the Labor Market Prospects of At Risk Youth*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1997.

The ability of employed out-of-school young adults to obtain full-time jobs also tends to be cyclically sensitive, rising during periods of strong job growth and low unemployment and declining during recessionary periods and times of slow job growth. During 1989, a cyclical peak year, slightly over 82% of all employed 16-24 year old out-of-school youth held full-time jobs. (Table 2.2). The share of employed youth securing full-time positions, however, declined below 80% in 1991 and fell further to 78% in 1995 despite improved job opportunities over the 1992-95 period. Since the mid-1990s, the share of employed out-of-school youth with full-time jobs has risen modestly, coming close to 80% in 1998 and rising to 80.5% in 1999, but still falling two percentage points below its 1989 peak rate of 82.4 %.

Table 2.2:
Per Cent of Employed 16-24 Year Old Out-of-School Youth
Working Full-Time, U.S.: Annual Averages Selected Years, 1989-1999

Year	Per Cent Working Full-Time
1989	82.4
1991	79.7
1993	78.8
1995	78.1
1998	79.9
1999	80.5

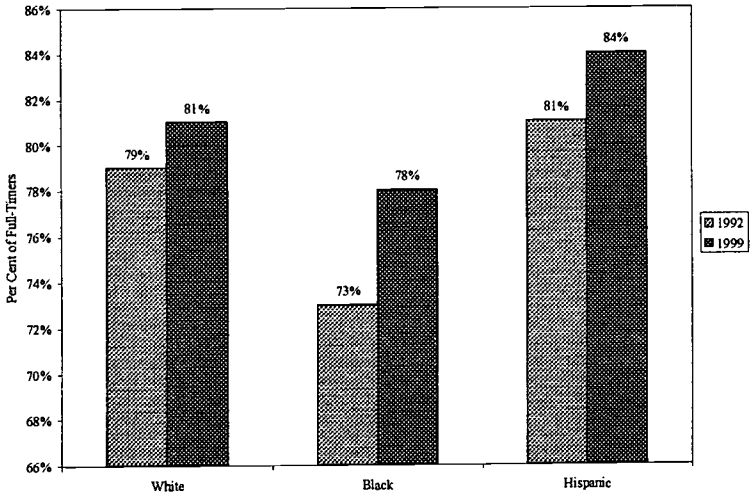
Source: U.S. Bureau of Labor Statistics, *Employment and Earnings*, January 1990, 1992, 1994, 1996, and 1999, tabulations by the authors; U.S. Bureau of Labor Statistics, unpublished data from the 1999 monthly CPS surveys, tabulations by the authors.

The fraction of employed out-of-school youth who hold full-time jobs has risen among Whites, Blacks, and Hispanics in recent years. (Chart 2.4). The gains have been particularly impressive among Black youth whose full-time employment share has risen from 73% in 1992 to 78% in 1998 and 1999. Employed Hispanic youth, whose numbers include many immigrants, were most likely to report full-time employment in both 1992 and 1999 followed by White and Black youth. The ability of employed out-of-school youth to obtain full-time jobs, however, varies considerably by their educational attainment in both high

unemployment years and more prosperous times although most educational groups tend to benefit from stronger labor market conditions. During 1999, the fraction of employed out-of-school youth with full-time jobs ranged from a low of 70% for those lacking a high school diploma or a GED certificate to a high of 92% for employed four-year college graduates.

Chart 2.4

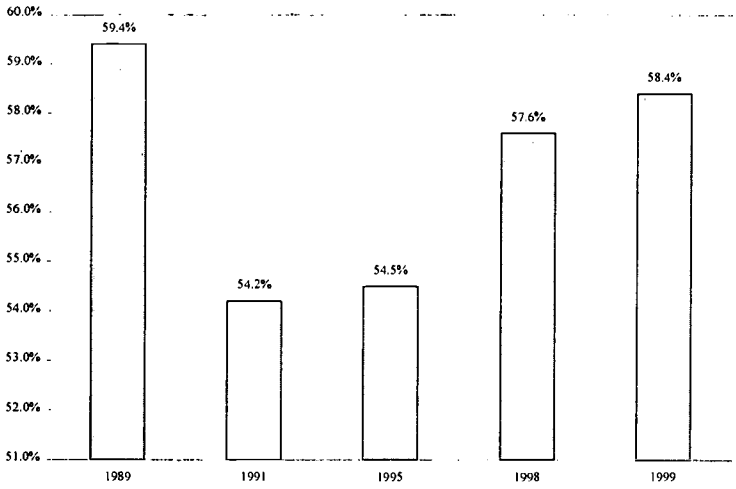
Per Cent of Employed, Non-Enrolled 16-24 Year Olds Who Were Working Full-Time by Race/Ethnic Group: U.S. 1992 and 1999



The earlier findings on the employment rates of out-of-school youth can be combined with those on full-time job shares to estimate the fraction of out-of-school youth holding full-time jobs during a given year, i.e., their full-time employment to population ratios. These full-time E/P ratios of out-of-school youth also are quite cyclically sensitive (Chart 2.5). During 1989, the peak year of the last business cycle, just under 60% of all 16-24 year old out-of-school youth held a full-time job. The full-time employment/population ratio for these youth declined considerably from 60% to 54% between 1989 and 1991, reflecting a combination of declining employment opportunities among out-of-school youth and greater difficulties in securing full-time jobs

when they were hired. The full-time employment/population ratio failed to rise to any significant degree between 1991 and 1995. As national labor market conditions continued to improve between 1995 and 1999, however, the full-time employment/population ratio for out-of-school youth rose more steadily to 58.4%, but still remained nearly one full percentage point below its 1989 peak value.

Chart 2.5:
Full-Time Employment/Population Ratios for Non-Enrolled 16-24 Year Old Youth, U.S. 1989, 1991, 1995, 1998 and 1999



The full-time employment/population ratios of out-of-school youth vary quite considerably across educational attainment groups. As a consequence of their below average employment rates and their more limited success in gaining access to full-time jobs when they do become employed, only 38% of those out-of-school youth lacking a high school diploma or a GED certificate in 1999 were employed on a full-time basis. The labor market situation among young Black high school dropouts was even considerably more depressed, with only 23% of such youth holding full-time jobs. Full-time employment to population ratios of out-of-school youth tend to rise consistently with the number of years of formal schooling completed, rising to 62% for high school graduates, to 68% for those completing one to three years of college,

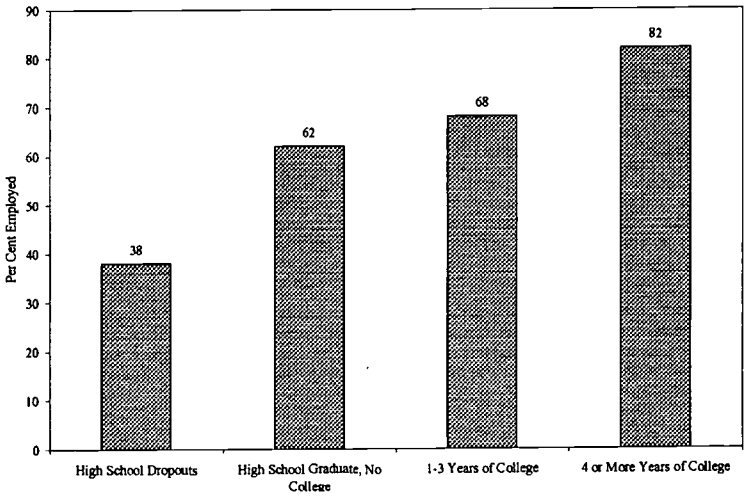
and to a high of 82% for those possessing a bachelor's or higher academic degree (Chart 2.6).[50] The considerably lower overall employment rates of young school dropouts and their lower access to full-time jobs reduces the cumulative amount of work experience that they acquire by the time they reach age 30. Recent analyses by the U.S. Bureau of Labor Statistics of the National Longitudinal Survey of Youth data on the work experiences of respondents from age 18 to 30 have revealed that high school dropouts obtained only 6.8 mean years of work experience between their 18th and 30th birthdays, versus 8.7 years for those with 12 years of schooling, and 9.0 years for those with 13 or more years of schooling.[51] The size of the gaps in cumulative years of work experience across educational subgroups are particularly large for women. Since cumulative work experience is a form of investment in human capital with very favorable rates of economic payoffs in the early work years, the more limited work experience of less educated young adults depresses their real earnings potential as they move through their twenties, placing more of them at risk of being poor and dependent.[52]

[50]As noted earlier in our discussion of employment rates, part of the full-time employment advantages of bachelor degree recipients reflect their higher average ages in comparison to young dropouts, nearly a third of whom are under age 20.

[51]These estimated years of cumulative work experience are based simply on weeks of employment, ignoring differences in hours worked per week, which also tend to favor the more well educated.
See: U. S. Department of Labor, Bureau of Labor Statistics, *Work and Family: Turning Thirty–Job Mobility and Labor Market Attachment*, Report 862, December 1993.

[52]Findings of the NLSY surveys for employed young men and women have revealed that real (inflation adjusted) hourly earnings rose by 7.4 per cent per year between ages 18 and 22, by 5.5 per cent between ages 23 and 27, and only 2.6 per cent per year between ages 28-32.
See: U. S. Department of Labor, Bureau of Labor Statistics, *Number of Jobs, Labor Market Experience, and Earnings Growth: Results from a Longitudinal Survey*, Washington, D.C., June 1998.

Chart 2.6:
1999 Full-Time Employment to Population Ratios of 16-24 Year Old Non-Enrolled Youth, by Educational Attainment Group
(Numbers in Per Cent)



Chapter 3

Labor Market Problems of the Nation's Out-of-School Youth: Trends in the 1990s

Most of the general media discussions of labor market problems faced by workers in the U.S. focus on unemployment problems; i.e., the inability of active job seekers to find any type of employment. The labor market problems of the nation's adults and especially its out-of-school youth appear in many different forms and frequently go well beyond the conventional measures of open unemployment estimated by the U.S. Bureau of Labor Statistics in its analysis of the monthly CPS household survey data. Among the other types of labor market problems experienced by out-of-school youth are a lack of active labor force attachment (including members of the so-called labor force reserve or hidden unemployed), various forms of underemployment, low weekly earnings even while employed full-time, and various types of mal-employment problems, reflecting the inability of employed youth to obtain jobs that fully utilize their existing educational, literacy, and occupational skills. Previous national research studies have shown that these mal-employment problems, especially among college graduates, do substantially reduce the private and social economic returns to schooling and training investments.[53] Knowledge of the incidence of

[53]See: (i) Russell Rumberger, "The Impact of Surplus Schooling on Productivity and Earnings," *The Journal of Human Resources*, Vol. 22, No. 1, pp. 24-50; (ii) Richard Verdugo and Naomi Verdugo, "The Impact of Surplus Schooling on Earnings," *The Journal of Human Resources*, Vol. 24, No. 4, pp. 631-643; (iii) Paul E. Harrington and Andrew M. Sum, *The Post-College Earnings Experiences of Bachelor Degree Holders in the U.S.: Estimated Economic Returns to Major Fields of Study*, Report Prepared for Portland State University Conference on Higher Education Labor Markets, March 1-3, 1998.

these alternative types of labor market problems among the entire out-of-school youth population and various subgroups of out-of-school youth over the past few years would seem indispensable for planning and designing future youth employment and training programs. Such information also would be highly useful in tracking the labor market progress of youth in avoiding such problems over time particularly over the course of the national economic growth period since 1991.[54] We have developed a classification system that identifies four different types of labor market problems encountered by out-of-school youth between the ages of 17 and 24.,[55,56]

- Open unemployment, i.e., those persons not working at the time of the CPS surveys but actively looking for a job or awaiting recall to a job from which they had been temporarily laid off and available for immediate employment (the BLS official definition of the unemployed).

- Employed part-time for economic reasons. This category includes youth who were working less than 35 hours per week at the time of the CPS survey due to either slack work at their firm or an inability to find a full-time job.[57]

[54]For a recent review of the impacts of improved labor market conditions in the 1990s on the employment prospects and real earnings of various subgroups of workers,
See: Marc-Andre Pigeon and L. Randall Wray, *Did the Clinton Rising Tide Raise All Boats?*, The Jerome Levy Economics Institute of Bard College, Public Policy Brief, No. 45, 1998.

[55]For findings of other studies using this same labor market problem typology, See: (i) Samuel Halperin, "Today's Forgotten Half: Still Losing Ground," in *The Forgotten Half Revisited;* American Youth Policy Forum, Washington, D.C., 1998; (ii) Andrew M. Sum, Neeta Fogg, and Neal Fogg, *Out-of-School, Out of Luck*, pp. 51-60; (iii) Andrew Sum, Neal Fogg, et.al., *Labor Market Conditions Among Out-of-School in the U. S.: The Problems of At-Risk Youth in the 1990s.*

[56]We have extended upward the lower age limit for defining out-of-school youth to age 17 since some states do not allow youth to drop out of school until they have reached age 17 and youth studying for a GED certificate are not allowed to receive it until their high school class has graduated.

[57]We did not impose the further requirement that such youth have been available to work full-time during the reference week. Since 1994, the U. S. Bureau of Labor Statistics does require these part-time workers desiring full-time jobs to have been available for full-time work.

- A member of the labor force overhang; i.e., a youth who was not working during the reference week and was not actively looking for a job, but wanted to be employed at the time of the survey.[58]

- Worked full-time during the reference week of the survey but was not able to obtain weekly earnings high enough to enable the person to earn an annual income above the four-person poverty line through full-time, year-round work at that wage—$320 a week in 1998.

Estimates were made of the number of out-of-school young adults experiencing each of these mutually exclusive labor market problems at the time of the March 1989, March 1991, March 1995, March 1997, and March 1999 CPS surveys (Table 3.1). The number of youth with a particular labor market problem were divided by the total number of out-of-school 17-24 year olds to generate an estimate of the incidence of each labor market problem separately and the overall incidence of such problems for all four categories combined. Estimates of the incidence of such labor market problems were generated for all out-of-school 17-24 year olds and for the following four educational attainment subgroups:

- Those lacking a high school diploma or a GED certificate

- Those holding a high school diploma or a GED certificate but with no post-secondary schooling

- Those completing 13-15 years of schooling, including associate's degree holders

- Those holding a bachelor's or higher degree

[58]Our definition of the labor force reserve goes well beyond the official BLS definition of a discouraged worker as redefined in 1994. The pool of persons in the labor force reserve is typically more than ten times as large as the count of discouraged workers in the U. S. Most members of the labor force reserve cite reasons other than personal or economic discouragement for not looking for a job at the present time. In 1999, of the 1,802,000 young adults in the labor force reserve, only 86,000 or less than five per cent would have been classified as "discouraged workers" by the BLS.
See: U. S. Bureau of Labor Statistics, *Employment and Earnings*, January 2000, "Table 35," p. 20.

Those youth who are unemployed and those jobless youth who are part of the labor force overhang should be viewed by employment and training policymakers as more of an immediate problem since they are not working at all and their available labor time is being completely underutilized, yielding lost current earnings for the youth themselves, lower future earnings as a result of less work experience, and lost real output for society as a whole. Those youth employed part-time at least have a job even though they typically work only 21 to 22 hours per week rather than the mean of approximately 42 to 43 hours for the full-time employed, and, as revealed earlier, they do not reap long-term economic payoffs from part-time work experience as high as those youth employed full-time. These "involuntary part-time" workers seldom receive any substantial formal training from their employers, and they often lack health insurance or pension benefits. While the full-time employed are fully occupied at least from an hours of work perspective, not all of them are working in jobs that utilize their existing schooling, occupational skills, or abilities, and many are confined to relatively low wage jobs. Our use of the four-person poverty line as a minimum earnings standard has been used in other wage adequacy studies in the U.S. To achieve this standard, a full-time worker (employed 40 hours per week) need only have obtained an hourly wage just under $8.00 in March 1999. This seems to be a reasonable short-term wage goal for full-time employed youth, but is nearly $3.00 higher than the prevailing federal minimum wage.

Our estimates of the incidence of labor market problems among the nation's 17-24 year old out-of-school population in March 1999 are displayed in Table 3.1. The table also presents similar estimates for the nation's adult population (25+) so that the size of these labor market problems among younger adults can be compared to those of the older adult population. In March of 1999, our estimates indicate that 41% of the nation's young adult population experienced one of the four labor market problems, with low wages from full-time employment accounting for slightly more than one-half of the total number of problems. The incidence of each of the four problems among out-of-school young adults was as follows:

- 23% were employed full-time in wage and salary jobs but could not earn weekly wages above our $320 minimum earnings threshold.[59]

[59]The CPS weekly earnings data only apply to wage and salary workers. Wage data are not collected from the self-employed.

- Just under 9% were unemployed and actively seeking work.
- Between 5% and 6% were employed part-time for economic reasons.
- Between 4% and 5% expressed a desire for employment at the time of the survey but were not actively seeking work. Relatively few of these members of the labor force reserve would have been classified as discouraged workers by the U.S. Bureau of Labor Statistics.

Table 3.1
Per Cent of Non-Enrolled Young Adults (17-24 Year Olds) and Older Adults (25+) Experiencing Various Types of Labor Market Problems, March 1999

Labor Market Problem	Young Adults (17-24)	Older Adults (25+)	(C) Young Adults As Percent of Older Adults
Unemployed	8.5	2.3	370
Employed Part-Time for Economic Reasons	5.5	1.7	324
Not in Labor Force, but Wants a Job Now	4.5	1.6	281
Works Full-Time at a Weekly Wage Less Than $320	22.9	11.8	194
Total, All Four Problems	41.4	17.4	238

Source: March 1999 CPS survey, tabulations by authors.
Note: The incidence of each labor market problem is expressed as a per cent of the out-of-school youth, civilian non-institutional population not the civilian labor force or the employed. The incidence of unemployment problems is, thus, an unemployment/population ratio rather than an unemployment rate. For example, in all of 1999, the unemployment rate for all non-enrolled 16-24 year old adults in the U.S. was 10.1%, while the unemployment/population ratio was equal to 8.2%.

Young adults were considerably more likely than their older counterparts (25+) to experience one of these labor market problems in March 1999. Overall, 41% of young adults fell into one of the labor market problem categories versus only 17% of older adults, a relative difference of 2.4 to one. In each labor market problem category, young adults were two to three times as likely as older adults to be character-

ized by one of these problems. The relative sizes of these differences between younger and older adults were largest for underemployment problems (3.24 to one) and unemployment problems (3.70 to one).

Estimates of the incidence of these labor market problems among out-of-school youth also have been generated for selected years over the 1989 to 1999 period. (Table 3.2). By tracking labor market developments over this ten year period, we can identify changes in the incidence of each youth labor market problem over the course of the business cycle. How sensitive are these youth labor market problems to changes in overall economic and labor market conditions in the nation?

In March 1989 which was near the peak of the business cycle of the 1980s, approximately 44% of all 17-24 year old out-of-school youth faced one of the four labor market problems, with 14% being either unemployed or part of the labor force reserve, another six per cent employed part-time for economic reasons, and close to 24% were working full-time but with weekly earnings less than the amount needed to raise a family of four above the federal government's official poverty line.[60] As the national economy entered the recession of 1990-91, the incidence of labor market problems among out-of-school youth rose considerably in three of the four labor market problem categories. Increases took place in the per cent of youth with an unemployment problem, those holding part-time jobs for economic reasons, and those earning low weekly wages. Only the relative size of the labor force reserve remained unchanged. The overall incidence of such problems increased to nearly 52% by March 1991, nearly eight percentage points higher than in March 1989.

During the course of the economic recovery over the following eight years, there has been continuous progress in reducing the incidence of each of these labor market problems although few gains were made in reducing low weekly earnings among full-time employed youth until the past two years. In March 1995, 49 of every 100 out-of-school youth were either unemployed, underemployed, a member of the labor force reserve, or employed full-time at weekly earnings below our minimum earnings standard. This ratio fell to 47% by March 1997 and to 41.4%

[60]The business cycle reached its peak in the early summer of 1990 when the economy entered a recession that lasted to March 1991.

in March 1999, aided by rising real wages among full-time workers. By March 1999, the overall incidence of these labor market problems had declined several percentage points below its 1989 value; however, in both periods, 23 of every 100 young adults experienced a low earnings problem. The strength of the job market for young adults in the 1990s has so far done more to improve employment opportunities than to substantively boost the real weekly earnings of the full-time employed.

Table 3.2:
The Incidence of Alternative Types of Labor Market Problems Among Out-of-School 17-24 Year Olds in the U.S.: March 1989 to March 1999
(Numbers in Per Cent)

Labor Market Problems	(A) March 1989	(B) March 1991	(C) March 1995	(D) March 1997	(E) March 1999	(F) Absolute Change, March 1991 to March 1999
Unemployed	9.0	11.1	10.0	10.1	8.5	-2.6
Employed Part-time for Economic Reasons	6.1	8.2	7.2	6.3	5.5	-2.7
Not in Labor Force But Want a Job Now	5.2	5.2	4.9	4.8	4.5	-.7
Worked Full-Time at a Weekly Wage Below the Four Person Poverty Line	23.6	27.0	26.6	26.2	22.9	-4.1
Total, All Above Problems	43.9	51.5	48.7	47.4	41.4	-10.1

Source: March 1989, 1991, 1995, 1997, and 1999 CPS surveys, tabulations by authors.

As expected, the incidence of these labor market problems among out-of-school youth varies quite considerably by educational attainment. (Table 3.3). Those young adults lacking a high school diploma or a GED certificate consistently have fared the worst on nearly all of these problems, especially unemployment and limited labor force attachment, while four-year college graduates have fared the best. In March 1999, 52 of every 100 school dropouts experienced one of these four labor market problems as did 42 of every 100 high school graduates, but only 18% of four-year college graduates. High school dropouts were three times as likely as four-year college graduates to experience one of these four labor market problems in March 1999.

Table 3.3:
Per Cent of Non-Enrolled Young Adults 17-24 Year Olds Experiencing Various Types of Labor Market Problems, by Educational Attainment, March 1999

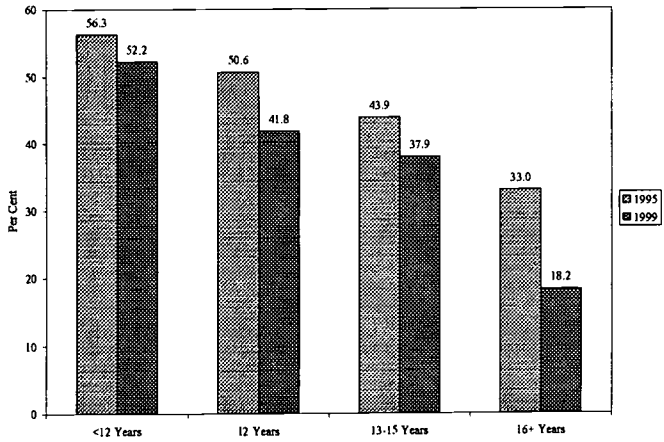
Labor Market Problem	Less than 12 Years	12 Years	13-15 Years	16 or More Years
Unemployed	14.1	8.2	5.4	2.6
Employed Part-Time for Economic Reasons	6.5	6.1	4.4	2.1
Not in Labor Force, but Wants a Job Now	8.5	4.1	2.1	1.4
Works Full-Time at a Weekly Wage Less Than $320	23.2	23.4	26.1	12.2
Total, All Four Problems	52.2	41.8	37.9	18.2

Source: March 1999 CPS survey, tabulations by authors.

Members of each of the four educational attainment subgroups were less likely to experience a labor market problem in March 1999 than they were four years earlier. (Chart 3.1). A rising labor market tide has improved labor market prospects for young dropouts as well as for high school graduates and four-year college graduates. The absolute and relative sizes of these improvements were, however, greatest for four-year college graduates and lowest for high school dropouts. The overall incidence of such problems fell from 33% to 18% for young bachelor's degree recipients while it declined by only four percentage points for young high school dropouts.

Chart 3.1:

Per Cent of Non-Enrolled 17-24 Year Old Adults Experiencing One of the Four Labor Market Problems, by Educational Attainment, March 1995 and March 1999



The ability of out-of-school youth to obtain full-time wage and salary jobs with weekly earnings above our minimum adequacy standard ($320 per week in 1999) also varied substantially by years of schooling completed (Table 3.4). In March 1999, only 38% of school dropouts held a full-time wage and salary job versus 55% of high school graduates and 78% of four-year college graduates. Of those holding full-time wage and salary jobs, approximately 69% were able to earn $320 or more per week. The share of young full-time workers with weekly earnings above this threshold also varied widely across these four educational subgroups, ranging from 42% of school dropouts to 85% of four-year college graduates.

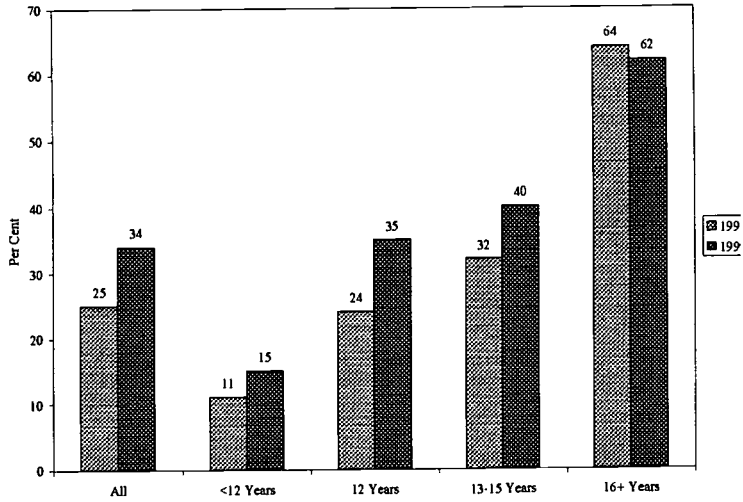
Over the past four years and especially since 1997, there has been a substantive improvement in the share of out-of-school youth who were able to secure full-time jobs with earnings above our poverty threshold. (Chart 3.2). In March 1995, only 28 of every 100 out-of-school youth had achieved such a favorable labor market outcome. By March 1999, 35% of them had done so, a 7 percentage point improvement.

Table 3.4:
Per Cent of Non-Enrolled 17-24 Year Old Adults Who Were Employed Full-Time and Earning $320 or More Per Week, March 1999

Educational Attainment	(A) Per Cent Employed Full-Time[1]	(B) Per Cent of Full-Time With Earnings of $320 or More	(C) Per Cent Employed Full-Time and Earning Above $320
All	55.0	63.8	35.1
<12 Years	37.5	42.4	15.9
12 Years	55.1	65.0	35.8
13-15 Years	64.5	68.8	44.4
16+ Years	78.0	77.8	61.0

Note[1]: Full-time employed include only wage and salary workers. Self-employed workers are excluded from the totals.
Source: March 1999 CPS survey, tabulations by authors.

Chart 3.2:
Trends in the Per Cent of Non-Enrolled 17-24 Year Old Youth Who Were Employed Full-Time and With Weekly Earnings at or Above the Four Person Poverty Line, March 1995 - March 1999



Gains in full-time employment with adequate earnings were achieved by out-of-school youth in three of the four educational groups, including young high school dropouts. Still, even by March 1999, only one of every six young dropouts had succeeded in obtaining full-time jobs that provided weekly earnings above our minimum earnings threshold of $320 per week. Among Black and economically disadvantaged youth, the proportions of dropouts with such jobs were even lower. Strong macro labor market conditions are clearly indispensable to efforts to bolster the employment and real earnings position of the nation's out-of-school youth, but by themselves they are clearly not sufficient, especially for those youth lacking any post-secondary schooling.

Employment Problems of Out-of-School Youth in High Poverty Neighborhoods

The labor market situation among the nation's out-of-school young adult population also tends to vary considerably by the social and economic conditions prevailing in their neighborhoods. Research by William Julius Wilson has documented the high levels of joblessness among young adults in high poverty neighborhoods of selected central cities, including Chicago, and he has attributed a major portion of the concentrated poverty, dependency, and social disorganization problems prevailing in these neighborhoods to these high levels of joblessness.[61] To identify and assess the labor market experiences of out-of-school young adults living in high poverty neighborhoods of the country during the 1990s, we have analyzed several unique sets of data on the labor market problems of out-of-school youth in high poverty neighborhoods.

The first of these data sets was prepared by the U.S. Census Bureau for use by the U.S. Department of Labor's Office of Policy and

[61]See: William Julius Wilson, *When Work Disappears*, Alfred Knopf, New York, 1996. For other recent ethnographic studies of life in poverty stricken inner city neighborhoods,
See: (i) LeAlan Jones and Lloyd Newman with David Isay, *Our America: Life and Death on the South Side of Chicago*, Scribner, New York, 1997; (ii) David Simon and Edward Burns, *The Corner: A Year in the Life of An Inner City Neighborhood*, Broadway Books, New York, 1997; (iii) Michelle Fine and Lois Weis, *The Unknown City: The Lives of Poor and Working-Class Young Adults*, Beacon Press, Boston, 1998.

Research in planning the Youth Opportunity Area (YOA) initiative.[62] High poverty neighborhoods are typically defined by poverty researchers as Census tracts in which 30 percent or more of the resident population would be classified as poor. Findings on the employment rates of non-enrolled 18-19 year old male and female high school graduates and dropouts classified by the poverty rate among all persons residing within their Census tract at the time of the 1990 Census are displayed in Table 3.5.[63] For each gender and educational attainment subgroup, the employment rates of these 18-19 year olds varied quite considerably with the poverty rate of their neighborhood. The higher the poverty rate of a neighborhood, the lower was the employment rate for out-of-school youth. For example, among 18-19 year old male high school dropouts, employment rates ranged from a low of 31% for those living in Census tracts with a poverty rate above 40% to a high of nearly 60% for those living in neighborhoods with a poverty rate under 10%. Among 18-19 year old female dropouts, the employment rates of those persons living in Census tracts with poverty rates of 30% or above were less than one-half as high as those of their peers living in low poverty neighborhoods.

Similar employment patterns prevailed for 18-19 year old high school graduates, for out-of-school youth in older age groups (20-21, 22-24), for Blacks, Whites, and Hispanics and for high school students.[64]

[62]These findings are based on the 1990 Census long form questionnaire. The long form questionnaire was completed by a sample of approximately 1 of 6 households across the nation. It was used in part to collect data on the labor force status of working-age respondents (16+) at the time of the Census and their employment and earnings experiences during the prior calendar year.

[63]The employment rate simply represents the employment/population ratio prevailing at the time of the Census survey, i.e., the ratio of employed youth in a given subgroup to the total number of youth in that same population subgroup.

[64]See: (i) Andrew Sum, Neeta Fogg, and Neal Fogg, *Out-of-School, Out of Luck? Demographic and Structural Change and the Labor Market Prospects of At Risk Youth*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1997; (ii) Andrew Sum and Neal Fogg with Sheila Palma and Neeta Fogg, *Labor Market Conditions Among Out of School Youth . . .*, "Table 4," p. 16.

Table 3.5:
Employment Rates of 18-19 Year Old Male and Female High School Dropouts and Graduates, Total and by Poverty Rate of Census Tract, U.S.: 1990
Poverty Rate (in Per Cent)

Group	(A) All	(B) 0-9.9	(C) 10.0-19.9	(D) 20.0-29.9	(E) 30.0-39.9	(F) 40.0+
Dropouts						
•Men	52.5	59.4	56.2	50.4	42.7	30.9
•Women	34.7	47.3	36.4	29.1	23.9	17.3
Graduates						
•Men	75.9	81.3	76.5	67.2	58.1	46.5
•Women	67.0	73.9	66.2	56.0	49.5	39.9

Beginning in the fall of 1996, the U.S. Department of Labor's Employment and Training Administration launched the Youth Opportunity Initiative aimed at improving the number and quality of employment opportunities available to 16-24 year old out-of-school youth in concentrated poverty neighborhoods in a selected number of large central cities and rural areas.[65] Findings of baseline surveys conducted in the first six sites during the winters of 1997 and 1998 revealed that only 43 of every 100 age eligible out-of-school youth in these six demonstration sites were employed. This employment/population ratio was nearly 30 percentage points lower than that of their similar-aged counterparts throughout the entire country. The employment rates of out-of-school youth in these target areas varied widely across program

[65]For a more detailed review of the mission of the demonstration, key program design features, and baseline characteristics of youth in the YOA target areas, See: Andrew M. Sum and Neeta Fogg with Sheila Palma, *The Kulick Youth Opportunity Area Demonstration for Out-of-School Youth: Early Findings on Youth Labor Market Problems, Program Design and Program Implementation Issues*, Report Prepared for the U. S. Department of Labor, Employment and Training Administration, Washington, D.C., February 1999. A shorter version of the above paper appears in the following publication: Andrew Sum Neeta Fogg with Sheila Palma, "Early Findings from the Kulick Youth Opportunity Area Demonstration for Out-of-School Youth," in *Making Connections: Youth Program Strategies for A Generation of Challenge*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, April 1999.

sites and across educational attainment subgroups. The employment rates ranged from lows of 24% to 25% in high poverty neighborhoods of South Chicago and the Bronx to highs of 50% to 60% in Boston, Houston, and rural Kentucky. As is true nationally, young high school dropouts were the least likely to be employed. The low employment rates of out-of-school youth at the time of the baseline surveys were largely attributable to extremely high unemployment rates rather than to depressed rates of labor force participation. Unemployment rates of 50% or higher were the norm. Full-time employment rates also were quite low in most sites. Only 18 of every 100 out-of-school youth in the Bronx and Chicago, 29% in Los Angeles, and 39% in Houston held full-time jobs versus 56 of every 100 out-of-school youth in the nation. The strong labor market conditions prevailing nationally had not yet favorably impacted youth in these high poverty neighborhoods.

To assist the national office of the U.S. Department of Labor's Employment and Training Administration in its efforts to evaluate the outcomes of the YOA demonstration, the U.S. Bureau of Labor Statistics produced a series of data tabulations from the CPS surveys for the months of November and December 1998 and January 1999 on the labor market status of 16-24 year olds living in neighborhoods that had poverty rates of 20% or higher at the time of the 1990 Census. Findings on the employment status of 16-24 year old non-enrolled youth in these poverty neighborhoods are summarized in Table 3.6.[66] Comparisons with the employment status of all out-of-school 16-24 year old youth in the nation during calendar year 1999 are also provided.

During the late fall of 1998 and early winter of 1999, only 60% of out-of-school youth residing in these high poverty neighborhoods were employed versus nearly 73% of their counterparts across the entire country during a similar time period.[67] Within these higher poverty neighborhoods, employment rates of out-of-school youth also varied

[66]There were an estimated 2,973,000 16-24 year old out-of-school youth living in these high poverty neighborhoods at the time of the CPS interviews. They represented approximately 1 of every 6 young adults in the entire nation.

[67]The findings for the U. S. are annual averages for Calendar Year 1999. If we exclude those youth living in high poverty neighborhoods from the total, the employment/population ratio for out-of-school youth living outside of the high poverty neighborhoods would be about 76 per cent, or 16 percentage points higher.

considerably by educational attainment, ranging from a low of 44% for high school dropouts to a high of 88% for bachelor degree recipients. (Table 3.6, Column A). Black high school dropouts in these high poverty neighborhoods experienced the most severe labor market problems, with only 31% obtaining any type of employment. In each educational attainment subgroup, except four-year college graduates, out-of-school youth in these higher poverty neighborhoods were less likely to be working than their counterparts across the country, with the size of the gaps in employment rates between these two groups ranging from 7 to 10 percentage points across educational subgroups.

Table 3.6:
Employment to Population Ratios and Unemployment Rates of Non-Enrolled 16-24 Year Olds in High Poverty Tracts and the U.S., Late Fall 1998 and Winter 1999
(Numbers in Per Cent)

Educational Group	(A) E/P Ratio, High Poverty Tracts	(B) E/P Ratio, All U.S.	(C) Unemployment Rate, High Poverty Tracts	(D) Unemployment Rate, All U.S.
All	60.2	72.6	16.9	10.1
<12	44.6	54.2	27.7	17.4
12	66.4	75.4	13.4	9.9
13-15	76.8	83.7	8.4	6.0
16+	88.3	88.9	4.2	5.0

Source: Unpublished CPS data, U.S. Bureau of Labor Statistics, November-December 1998 and January 1999, tabulations by the authors.

The lower employment rate for out-of-school youth in high poverty areas reflects a combination of more limited labor force participation and higher unemployment rates. The unemployment rate of out-of-school youth in these high poverty neighborhoods was just under 17%, seven percentage points higher than the unemployment rate prevailing among their counterparts across the entire country. The unemployment rates of out-of-school youth in these high poverty neighborhoods varied quite substantially across educational attainment subgroups, ranging from a low of only 4% for young college graduates to 13% for high school graduates and to a high of 28% for high school dropouts (Table

3.6, Column C). Thus, high school dropouts in these high poverty neighborhoods were twice as likely to be unemployed as high school graduates and nearly seven times more likely to be unemployed than four-year college graduates residing in those same neighborhoods.[68] Unfortunately, the number of young high school dropouts residing in these neighborhoods in early 1999 was nearly ten times greater than the number of young bachelor degree recipients.[69] Low educational attainment, weak reading and math proficiencies, and limited access to employers in many career labor market niches play key roles in reducing employment prospects and wages for out-of-school youth in these high poverty neighborhoods. A comprehensive and highly integrated set of career counseling, education, formal and informal job training, work experience, job placement, job development, and personal followup services will be needed to substantively boost employment and earnings opportunities for youth in these high poverty areas.

[68]The ability of employed youth in these neighborhoods to obtain a full-time jobs also varies with their level of schooling. Only 77% of employed dropouts held full-time jobs versus 81% of high school graduates and 96% of four year college graduates.

[69]Over this three month period, the estimated number of 16-24 year old dropouts residing in these high poverty neighborhoods was 1.2 million versus only 128,000 four year college graduates, a ratio of nearly ten to one.

Chapter 4

Poverty Problems Among Young Families and Their Children

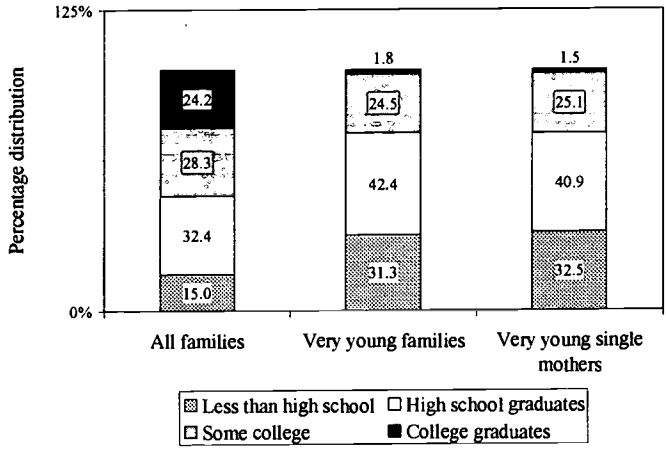
The changing fertility behavior of young adult women and the rising share of out-of-wedlock births to them were noted in Chapter 1 as was the fact that many of these unwed young mothers also have limited educational attainment. Given the poor earnings prospects of young adults with no post-secondary schooling, especially high school dropouts, the limited educational attainment and weak labor market experiences of young parents increases the risk of poverty among these families. Data presented in Chart 4.1 indicate a number of important differences in the educational attainment of different types of family householders with one or more children under 18 years of age. Among all such families in the nation, 15% of the householders failed to complete high school.[70] This ratio was twice as high (31%) among very young families—those with parents under 25 years of age—and nearly 35% among very young families headed by a never married mother.[71] The structure of very young families also is very different from that of older families. In 1998-99, one-third of all families with children were headed by a single parent, while over two-thirds of very young families with children had only one parent present in the household. Nearly 60% of very young families with children consisted of single mothers and nearly nine out of ten young single mothers in 1998-99 were never married.

[70]As defined in this section, families include primary families, subfamilies whose householder is related to the primary family householder (related subfamilies), and subfamilies whose householder is not related to the householder of the primary family (unrelated subfamilies). A subfamily is a family living in the housing unit of another family to whom the householder may or may not be related.

[71]Very young families are defined as families headed by an individual under 25 years of age. Young families are those headed by an individual under 30 years of age.

Chart 4.1:

Percentage Distribution of Families with One or More Children Under 18, by Educational Attainment of the Householder, 1998-99 Averages

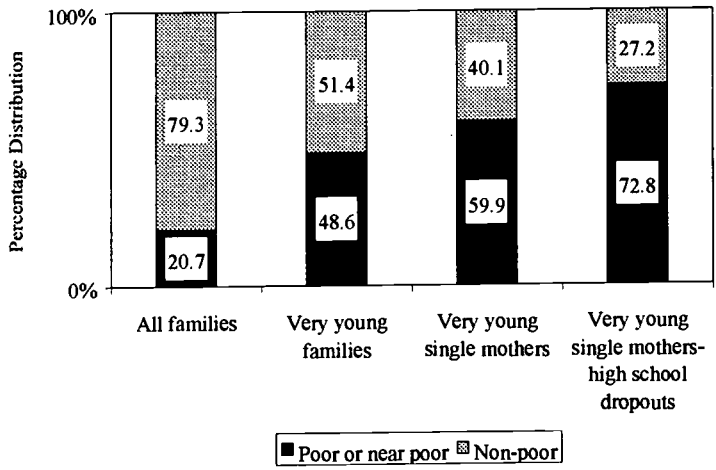


The poverty status of families in the United States is closely associated with the age and educational attainment of the householder and family structure. Families headed by young householders are considerably more likely to be poor or near poor than older families and single mother families are more likely to be poor than two-parent families.[72] For example, in 1997-98, one in five families with a child under 18 years of age had annual incomes below 125% of the poverty line. In contrast, nearly one-half of families headed by householders under 25 years of age had incomes below 125% of the poverty line in 1997-98. Among very young single mothers, six out of ten were poor or near poor and those among them who had failed to complete high school faced a three out of four chance of being poor or near poor in 1997-98 (Chart 4.2).

[72]We have defined a poor or near poor family to be one with an annual income below 125 percent of the official poverty threshold. Poor families have incomes below the poverty line while near poor families have incomes between the poverty line and 125 percent of the poverty line. The poverty status of primary families and related subfamilies was based on the income of the primary family. The poverty status of unrelated subfamilies was based on their own income and not that of the primary family household whose living quarters they shared. This practice is in accord with existing U. S. Census Bureau procedures.

Chart 4.2:

Percentage Distribution of Families with One or More Children Under 18, by Their Poverty Status, 1997-98 Averages

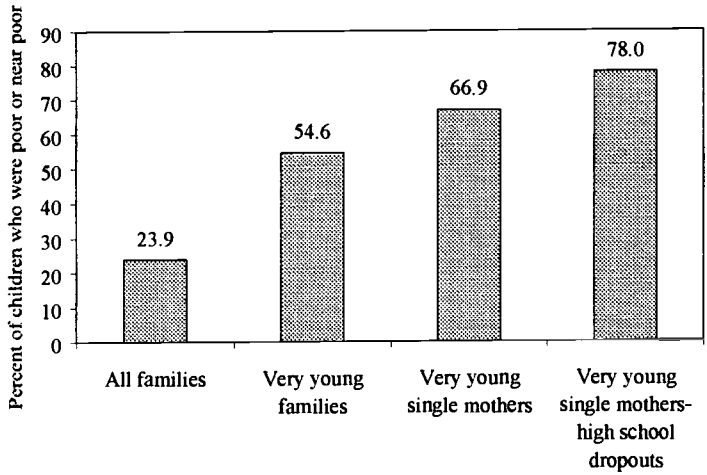


The forthcoming growth in the young adult population has potentially adverse consequences for the future well-being of the nation's children. When the share of all births to young unmarried women increases, the family composition of the nation changes, with a larger proportion consisting of younger single mothers who are much more likely to be poor and will end up raising their children in poverty conditions.[73] In 1997-98, approximately 24% of all of the nation's children lived in families with an income below 125% of the poverty line. However, two out of three children living with very young single mothers (17-24 years old) were poor or near poor. The situation was even more dire among families with mothers who failed to graduate from high school. Nearly eight out of ten children with young, single, poorly educated mothers lived in families that had an annual income below 125% of the poverty line (Chart 4.3).

[73]For example, see: David Ellwood, *Poor Support*, Basic Books, New York, 1989.

Chart 4.3:

Percent of Children Under 18 Who Were Members of Families With Incomes Below 125 Percent of the Poverty Line, by Type of Family, 1997-98 Averages

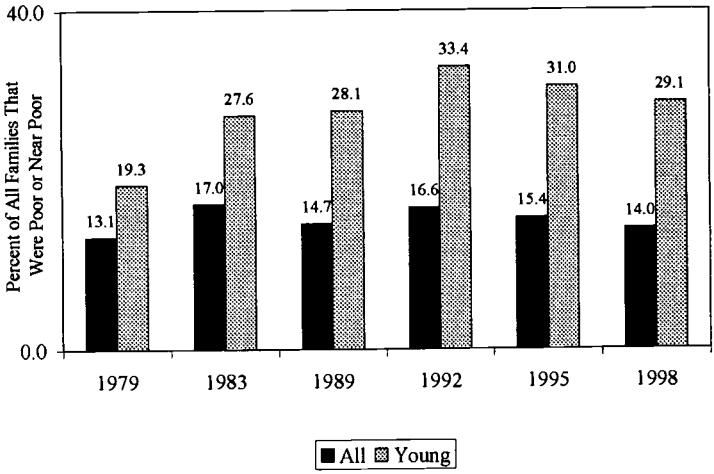


Time Trends

The percent of all families in the nation that were poor or near poor increased by one-percentage point from 13% in 1979 to 14% in 1998. In contrast, the poverty rate of young families (those with a householder between 18 and 29 years old) increased by ten-percentage points from 19% to 29% over the same time period (Chart 4.4). Poverty problems of the nation's families are cyclically sensitive. The family poverty rate increases during economic downturns and periods of slow job growth and decreases during strong economic expansions. For example, the family poverty rate increased from 13% in 1979 to 17% in 1983 as a consequence of back to back recessions in 1980 and 1981-82, declined back to 14.7% by 1989 and increased to nearly 17% in 1992 during the period of recession and slow recovery. The continued economic expansion since 1992 has contributed to a decline in the family poverty rate over the past six years. Although the national family poverty rate declined to 14% in 1998, it was still one-percentage point higher than in 1979. The poverty rate among young families also tends to increase during economic recessions. During 1989, 28% of the nation's young families were poor or near poor; however, by 1992, over

one in three young families were poor or near poor. Between 1992 and 1998, the poverty rate of young families declined by four-percentage points; however, despite seven years of economic growth, the poverty problems of young families remain slightly above their 1989 rate and well above that of 1979.

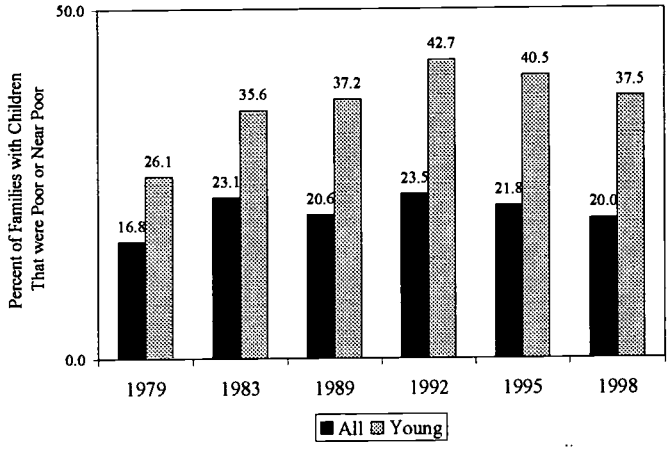
Chart 4.4
Percent of Families with Incomes Below 125 Percent of the Poverty Line, U.S. Selected Years, 1979-1998



Nationally, families with children are more likely to be poor or near poor than families without children (not surprising since the poverty measure combines the total household earnings and the number of persons in the household depending upon that income), and the gap between these two groups has widened over time. In 1998, the poverty/near poverty rate among all families with children was six-percentage points higher than the poverty/near poverty rate of all families (20% versus 14%). The poverty/near poverty rate among young families with children was 38% or eight-percentage points higher than the poverty/near poverty rate among all young families. Time trends in poverty rates among families with children were very similar to the trend in the incidence of poverty/near poverty problems among all families. In 1992, nearly one in four families with children had incomes below 125% of the poverty line (Chart 4.5). The poverty/near poverty

rate among young families with children rose quite sharply to 43% in 1992. Again, as was the case with all families, the post-1992 economic expansion made a modest dent in the poverty/near poverty rate of families with children. Between 1992 and 1998, the poverty rate among all families with children declined by 3.5-percentage points. Among young families with children under 18, the poverty rate declined by five-percentage points between 1992 and 1998 but remained slightly above its 1989 rate.[74] Economic growth still remains a necessary but clearly not a sufficient strategy to substantially reduce income inadequacy problems among young families with children.

Chart 4.5:
Families With Children Under 18With Incomes Below 125% of the Poverty Line, U.S., Selected Years, 1979-1998

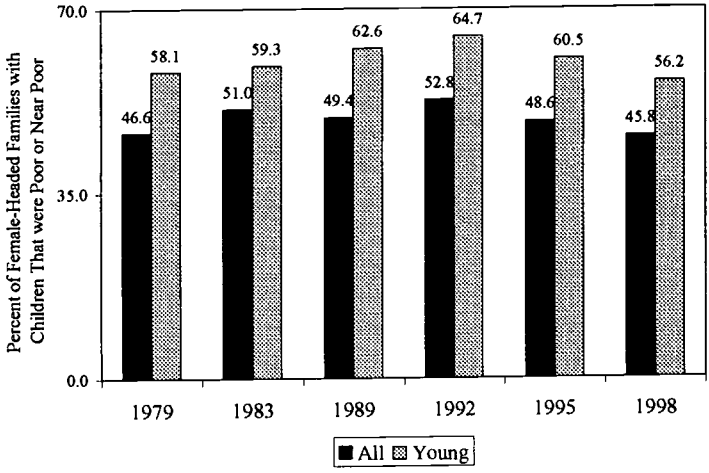


The nation's poverty problems are most severe among single mother families (Chart 4.6). This group of families also has benefitted from the strong economic growth in the 1990s. After rising to 53 % in 1992, the poverty/near poverty rate among all single mother families fell to under 46% in 1998, a decline of seven-percentage points. Still, nearly one-

[74]Given the standard error of these poverty rate estimates for young families with children, the difference between the 1989 and 1998 estimates is not statistically significant at the .05 level of significance.

half of all single mothers were poor or near poor in 1998. The poverty problems of young single mothers are more severe than those of older single mothers. In 1992, the poverty/near poverty rate of this group increased to 65% but dropped considerably to 56% in 1998 (Chart 4.6). By 1998, the incidence of poverty/near poverty problems among young single mother families was the lowest it had been over the past 20 years. Still, 56% of such families experienced an income inadequacy problem.

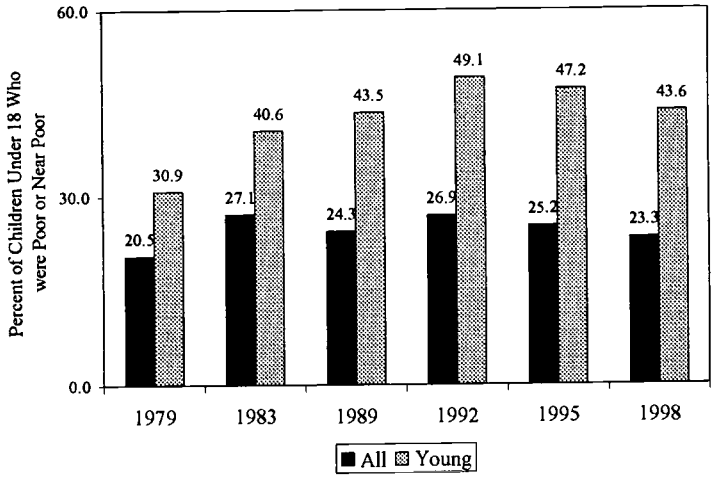
Chart 4.6:
Percent of Families Headed by Single Mothers That Were Poor or Near Poor, in the U.S., Selected Years, 1979-1998



In Chapter 1, we showed that although the total number of births to young women has declined since 1991, the birth rate and the number of births to young unmarried mothers have continued to increase, thereby raising the proportion of children who were born out of wedlock. The above poverty data clearly revealed the severity and persistence of poverty problems among single mothers, particularly among young single mothers. Given the increasing share of children being raised by young single mothers, a high proportion of the nation's children in young families are raised in poverty. Trends in the poverty/near poverty rates of children under 18 in all families and young families over the 1979-98 period are presented in Chart 4.7. Children of young family householders are more likely to be poor than their counterparts in families with older householders and the gap has been widening over time.

In 1979, 31% of the children in young families were poor or near poor, a relative incidence 50% higher than that for all children. By 1998, the relative size of the gap in poverty rates between these two groups of children had risen to nearly two to one. In 1998, almost 44% of the children of young parents were poor compared to 23% of all children under 18 years old.

Chart 4.7
Percent of Children Under 18 Living in Families That Were Poor or Near Poor, U.S. Selected Years, 1979-1998



Beyond the vicissitudes of the business cycle, the overall child poverty rate has risen modestly over the past twenty years. Since the progress achieved during the war on poverty of the 1960s and early 1970s, the child poverty rate has failed to decline. Between the early 1960s and 1973, the nation's child poverty rate declined, in large part due to an economic boom that substantially raised real family incomes. The proportion of children under 18 who were poor declined from 23% in 1964 to 14.4% in 1973[75]. Between 1979 and 1998, the proportion of

[75]These poverty rates represent the percent of children in families with incomes below 100 percent of the poverty line. Most of the other poverty estimates in this section are based on family incomes below 125 percent of the poverty line. The poverty estimates for 1964 and 1973 were derived from: Sheldon Danziger, Sandra Danziger, and Jonathan Stern, "The American Paradox: High Income and High Child Poverty," in Giovanni Cornia and Sheldon Danziger (editors), *Child Poverty and Deprivation in the Industrialized Countries, 1945-1995*, pp. 181-209, Clerendon Press-Oxford, 1997.

all children under 18 who lived in poor or near poor families increased from 20.5% to 23.3%, an increase of nearly three percentage points. The child poverty rate remained above 20% over this entire twenty-year period.

Although social spending associated with the war on poverty continued to increase in the mid to late 1970s, the economy was plagued with slower economic growth, stagnation of real family incomes, reduction in labor productivity growth, and high rates of unemployment and inflation. Between 1969 and 1979, the percent of children living in families with annual incomes under 125% of the poverty line remained constant at 20.5%.[76] The poverty rate of children increased during the back to back recessions of the early 1980s. By 1983, the child poverty/near poverty rate was 27%. The booming economy of the 1980s once again reduced child poverty but not to the level of the previous business cycle peak in 1979. In 1989, the child poverty rate was 24.3%, nearly four-percentage points above the child poverty rate in 1979. The national recession of 1990-91 wiped out the modest gains in child poverty made during the previous economic expansion. By 1992, the child poverty rate rose to the 1983 level of 27%, then fell as the economy recovered in the remainder of the 1990s.

International Comparisons

Since the early 1970s, the United States has lagged behind other industrialized nations in reducing child poverty and improving the economic well-being of children. In their comparative assessment of child poverty and deprivation in the industrialized nations, Cornia and Danziger state:

> "America has remained one of the wealthiest nations, but on many indicators of child well-being it lagged well beyond its industrial competitors and even some of the emerging nations."[77]

[76]The 1969 poverty/near poverty rates were estimated by the authors from the Current Population Survey, public use data file for March 1970.

[77]Giovanni Andrea Cornia and Sheldon Danziger (editors), *Child Poverty and Deprivation in the Industrialized Countries, 1945-1995*, Clarendon Press-Oxford, New York, 1997, p. 11.

They (Cornia and Danziger) found that, between the end of World War II and the early 1970s, the rate of progress in child welfare among industrialized nations was similar. Since the mid-1970s, however, the rates of improvement have diverged across countries. For example, Japan rose from rank 16 in 1960 to rank one in 1989 while the U.S. dropped from rank ten to rank 30 over the same time period (a lower rank represents a lower child poverty rate). In fact, their analysis reveals that stagnation in child well-being was most evident in the United States and the former Soviet Union.[78]

In their annual Progress of Nations report for 1996, UNICEF (citing the Luxembourg Income Study data) found that, among 18 industrialized nations, only Ireland and Israel have poorer children than the U.S.[79] They compared the incomes of four-person families with children at the 10th percentile in 18 industrialized countries. This comparison revealed that the average low-income American child was much worse off compared to an average low-income child in 15 out of the 17 industrialized nations. The U.S. also lagged behind other industrialized nations in the extent to which government policies and programs lifted children out of poverty. A comparison of child poverty rates before and after taxes and transfers based on the Luxembourg Income Study revealed that, in 11 out of 18 countries, child poverty was at least halved by government assistance measures.[80] The U.S. had the third highest child poverty rate (26%) before taxes and transfers were taken into account.[81] After adjusting for taxes and transfers, the U.S. child poverty rate declined only to 22% and was higher than the remaining 17 countries.

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[78]Ibid.

[79]United Nations Children's Fund (UNICEF), *The Progress of Nations, 1996*, New York, 1997.

[80]From the UNICEF *Progress of National Report, 1996*. The authors cite the findings of Lee Rainwater and Timothy Smeeding, *Doing Poorly: The Real Income of American Children in a Comparative Perspective*, Luxembourg Income Study, Working Paper No. 127, August 1995.

[81]The Luxembourg Income Study draws the poverty line at 50 percent of each country's median income after taxes and welfare benefits have been taken into account. In-kind benefits like subsidized health care are not included.

Child Poverty

Among children of young family householders, as already shown, the poverty/near poverty rate increased more dramatically from 31% in 1979 to 49% in 1992, then subsided to 44% in 1998 (Chart 4.7). Children living in single mother families regardless of the age of the householder are at a very high risk of poverty. Over one-half of all children in single mother families were poor or near poor in 1998. Among children of young single mothers, nearly two out of three lived in families with incomes below 125% of the poverty line. The longest economic expansion in the history of the United States has helped reduce child poverty, but substantial problems still remain. Prior to dropping out of the race, Presidential candidate Senator Bill Bradley referred to this unfortunate trend in the following manner:

> "We are in a time of unprecedented prosperity and yet there are still 14 million children who live in poverty. I think there is a broad consensus that we need to change that."[82]

The economic and social consequences of child poverty are pervasive and often long lasting. The insidious effects of growing up in poverty go well beyond just a short-term lack of financial resources. Children raised in poverty have an above average number of cognitive, educational, health, and nutritional problems that place them at high risk of poverty in their young adult years.[83] National longitudinal

[82]Excerpts from an interview with Senator Bradley in "Bradley's Poverty Push," by Bob Herbert, *New York Times,* October 21, 1999, A31.

[83]For a review of some of the voluminous and growing literature linking family income and children's life outcomes, See: (i) Susan Mayer, *What Money Can't Buy, Family Income and Children's Life Chances*, Harvard University Press, Cambridge, Massachusetts, 1997; (ii) Shui Fong Lam, *How the Family Influences Children's Academic Achievement*, Garland Publishing Inc., New York, 1997; (iii) Laura E. Montgomery, John L. Keily, and Gregory Pappas, "The Effects of Poverty, Race, and Family Structure on U. S. Children's Health: Data from the NHIS, 1978 through 1980 and 1989 through 1991," *American Journal of Public Health*, October 1996, v. 86, no. 10, pp. 1041-1405; (iv) Greg Duncan et al., "How Much Does Childhood Poverty Affect the Life Chances of Children," *American Sociological Review*, June 1998, vol. 63, n. 3, pp. 406-423; (v) Jane Miller and Diane Davis, "Poverty History, Marital History, and Quality of Children's Home Environments," *Journal of Marriage and the Family*, 1997, v. 59, n. 52, pp. 996-1007; (vi) Moore, K. and N. Snyder, "Cognitive Attainment Among Firstborn Children of Adolescent Mothers," *American Sociological Review*, volume 56, number 5, 1991, pp. 612-624.

research also has shown that there is an inter-generational transmission of the poverty and dependency problems of single-parent families. Children raised in single-parent families have lower cognitive skills and are less likely to complete high school, and, as adults, are more likely to have low earnings and unstable employment. There is a growing body of evidence that women raised in single-parent families are more likely to form female-headed families through either premarital births or marital disruption.[84]

Children raised by a single mother also face several other disadvantages relative to their counterparts raised in a two-parent family. Although many of these disadvantages are attributable to their economic circumstances, sociologists have enumerated other aspects of growing up in a single parent family as being detrimental to the child's well-being in the short-run and the long-run. Based on ten years of research and analysis of several national data bases, McLanahan and Sandefur unequivocally state that growing up in a single parent family (regardless of the educational attainment or marital status of the parent at birth of the child) is detrimental to the well-being of the child:

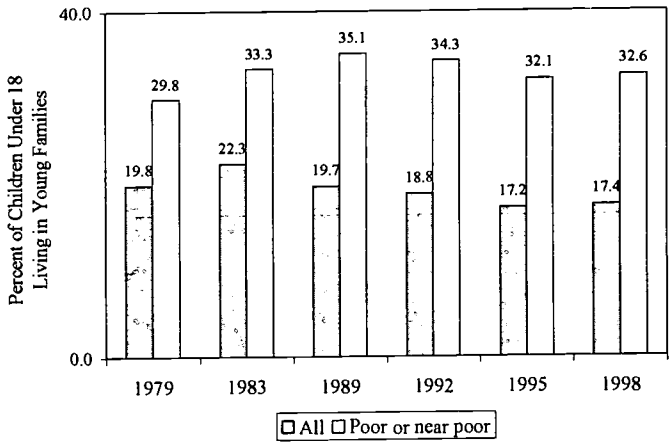
> "Children who grow up in a household with only one biological parent are worse off, on average, than children who grow up in a household with both of their biological parents, regardless of the parents' race or educational background, regardless of whether the parents are married when the child is born, and regardless of whether the resident parent remarries."[85]

[84]For a review of the findings on intergenerational transmission of poverty and single motherhood,
See: (i) Sara McLanahan and Gary Sandefur, *Growing Up with a Single Parent*, Harvard University Press, Cambridge, Massachusetts, 1994; (ii) Sara McLanahan, "The Consequences of Single Motherhood." *The American Prospect*, Summer 1994, pp. 48-58; (iii) Kahn, J. and K. Anderson, "Intergenerational Patterns of Teenage Fertility," *Demography*, volume 29, number 1, pp. 39-57; (iv) McLanahan S., and L. Bumpass, "Intergenerational Consequences of Family Disruption," Institute for Research on Poverty, Discussion Paper Number 805-86, University of Wisconsin-Madison, 1986.

[85]Sara McLanahan and Gary Sandefur, *Growing Up with a Single Parent*, Harvard University Press, Cambridge, Massachusetts, 1994, p. 1.

Poor children are disproportionately concentrated in the nation's younger families and the degree of concentration has increased over time. In 1979, while two out of ten children under 18 were members of young families, nearly three out of ten poor children lived in young families. Poor children were 1.5 times more likely to live in young families than were all children under 18 years old during that year. By 1998, the proportion of all children under 18 who lived in young families had declined to 17% while nearly one-third of all poor children under 18 lived with a parent who was under 30 years old (Chart 4.8). Thus, in 1998, poor children were nearly twice (1.9 times) as likely as all children to live in young families. The rising share of births to single young women taking place over time has resulted in greater poverty problems among their children and a higher concentration of poor children in younger families.

Chart 4.8
Percent of All Poor or Near-Poor Children Under 18 Who Were Living in Young Families (Householder Under 30), U.S. Selected Years, 1979-1998



The changing trends in births and birth rates to young women and the shifting marital composition of these births has a number of dire consequences for this nation. As noted above, those young families headed by single mothers are very likely to be poor and to remain poor. Early childbearing interferes with and restricts the educational and labor market activities of these women. Unfortunately, young single mothers are likely to be poorly educated and many acquire limited labor market

work experience. Because human capital in the form of educational attainment, high basic skills, and work experience is a prerequisite to labor market success, the long-run earnings potential of women with inadequate human capital is severely restricted.

Because of their greater barriers to employment, workforce development programs often shun young mothers. Future youth workforce development programs including those sponsored under existing welfare reform programs need to make greater efforts to recruit and effectively serve the employability needs of the likely growing numbers of young mothers in the U.S. over the next decade as well as the fathers of their children. A comprehensive set of literacy, education, job training, and job placement/retention services will likely be needed to substantively boost the future earnings potential of these women. Greater experimentation by states and local areas with earnings subsidy and expanded tax credit programs similar to those provided under the Canadian Self Sufficiency Programs, the Minnesota Family Investment Program, and the Wisconsin New Hope Program should be encouraged in the years ahead.[86] The growing surplus TANF funds available in many states should be used to fund these demonstration efforts and those to promote the employability and parenting responsibilities of non-resident fathers.[87]

[86]For a review of the design features of these programs and their outcomes and impacts,

See: (i) Social Research and Demonstration Corporation, *When Financial Incentives Encourage Work: Complete 18 Month Findings from the Self Sufficiency Project*, Ontario, September 1998; (ii) Johannes M. Bos, Aletha C. Huston, et al., *New Hope for People with Low Incomes: Two-Year Results of a Program to Reduce Poverty and Welfare Reform*, MDRC, New York, August 1999; (iii) Bill Rust, "Above Average Welfare Reform: The Minnesota Family Investment Programs," *Advocacy*, Summer 1999, Volume One, Annie E. Casey Foundation, Baltimore, 1999.

[87]Gordon Berlin, "Encouraging Work, Reducing Poverty: The Impact of Work Incentive Programs," *MDRC*, New York, New York, March 2000.

Chapter 5

Trends in the Real Weekly Earnings of Employed Young Adults

Among the most important measures of the labor market success of employed young adults is their real (inflation-adjusted) weekly and annual earnings. Data on the median weekly earnings of full-time employed young adults (16-24-year-olds) are available from the monthly CPS household surveys.[88] Findings on trends in the median real weekly earnings of full-time employed young adult men and women in the U.S. over the 1973-1999 period are displayed in Table 5.1.[89] During

[88]Prior to the late 1970s, the weekly earnings data from the CPS survey were available only for the month of May. Since then, they have been collected monthly from one-fourth of the employed wage and salary sample.
See: (i) Earl F. Mellor, "New Household Statistics on Weekly Earnings," *Employment and Earnings*, October 1980; (ii) U. S. Bureau of Labor Statistics, "Usual Weekly Earnings of Wage and Salary Workers, Fourth Quarter, Winter 1999," Washington, D.C., 2000.

[89]For an assessment of trends in the real weekly and annual earnings of subgroups of young male adults over the 1967 to 1989 period,
See: (i) Andrew Sum, Neal Fogg, and Robert Taggart, *From Dreams to Dust: The Deteriorating Labor Market Fortunes of Young Adults*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1996; (ii) Ford Foundation Project on Social Welfare and the American Future, *The Common Good*, Ford Foundation, New York, 1989; (iii) Frank Levy, "Recent Trends in U. S. Earnings and Family Incomes, "*NBER Macroeconomics, Annual 1989*, The MIT Press, Cambridge, 1989.
For more recent trends in weekly earnings of full-time employed young adults, See: Andrew Sum and Neal Fogg, *Labor Market Conditions Among Out-of-School Youth in the U. S.: The Problems of At-Risk Youth in the 1990s*, Center for Labor Market Studies, Northeastern University, Boston, June 1999, Prepared for APEC Member Conference on Best Practices in School to Work Transitions, Ottawa, Canada, 1999.

the decade of the 1960s, the median weekly earnings of young adult men, including high school dropouts and graduates, increased quite steadily and strongly. Growth in the median real weekly earnings of young men and women slowed during the late 1960s and early 1970s as the national labor market had to absorb growing numbers of early members of the baby boom generation (those born from 1946 to 1964); however, the real weekly earnings of both young men and women did continue to grow, rising by 8% and 7%, respectively, between 1967 and 1973.[90]

The Decline of Median Real Weekly Earnings

Since 1973, the median real weekly earnings of full-time employed young men and women have declined considerably although strong labor market conditions over the past three years have helped boost recent real weekly earnings for both groups.[91] Between 1973 and 1979, the median real weekly earnings (in constant 1997 dollars) of full-time employed young men fell by 8%, then declined by another 17% between 1979 and 1989 despite a substantial reduction in the number of young adults (18-24) in the resident population, and they fell by another 10 per cent between 1989 and 1996. (Table 5.1). Since 1996, median real weekly earnings of young men have increased from $314 to $343, a rise of $29 or 9%. Still during 1999, the median real weekly earnings of full-time employed young men were 26 % below their peak level in 1973.

The median real weekly earnings of full-time employed young women have been characterized by similar time trends as those of young men; however, the rate of decline in the real weekly earnings of women was only 40% as high as that of young men over the 1973-99 period (-11% versus -26%). As a consequence of these gender differences in the relative rates of decline, the median weekly earnings of young women have risen relative to those of young men over the past 26 years. In 1973, the median weekly earnings of full-time employed

[90]See: Andrew Sum, Neal Fogg, and Robert Taggart, *Ibid.*, Table 1, p. 6.

[91]The weekly earnings data pertain only to those employed persons holding full-time wage and salary jobs. The self-employed are excluded from the totals; however, they account for fewer than 5 per cent of the young adult employed.

young women were equal to only 76% of those of young men. By 1989, their weekly wages had risen to 90% of that of young men, and they have varied within the 91% to 92% range over the past four years.

Table 5.1:
Median Real Weekly Earnings of Full-Time Employed Young Adults Under 25 Years of Age, by Gender, U.S.: 1973-97
(in Constant 1997 Dollars)

Year	(A) Men	(B) Women	(C) Women As % of Men
1973	$463	$350	75.6%
1979	$424	$334	78.8%
1989	$351	$318	90.6%
1991	$336	$314	93.4%
1995	$319	$290	90.9%
1996	$314	$290	92.3%
1998	$329	$300	91.2%
1999	$343	$312	90.9%
Percent Change 1973-89	-24%	-9%	
Percent Change 1989-99	-2%	-2%	
Percent Change 1973-99	-26%	-11%	

Sources: (i) U.S. Bureau of Labor Statistics, *Monthly Labor Review*, 1974; (ii) U.S. Bureau of Labor Statistics, Employment and Earnings, January 1990 to January 2000; (iii) U.S. Bureau of Labor Statistics, unpublished historical weekly wage data for the U.S., 1979-1998, tabulations by authors.

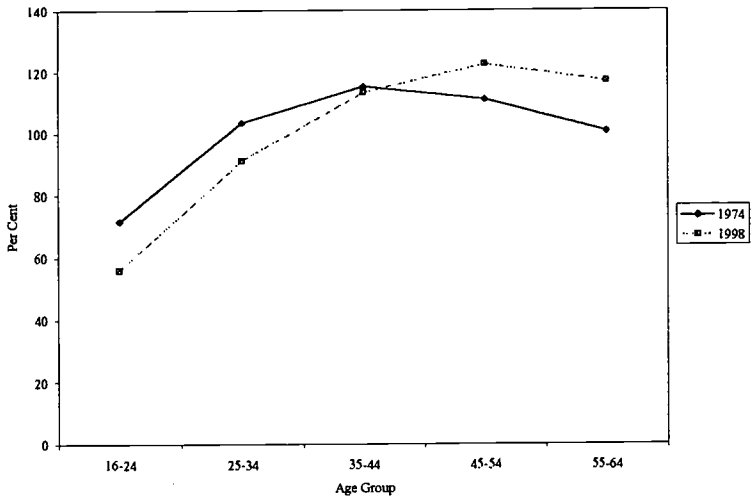
The secular decline in the real weekly earnings of males over the past 25 years was not confined to young men. Other older employed males, especially those 25-34 years old, also experienced a substantial erosion in their real weekly earnings position (Table 5.2). The trends in real weekly earnings among these older men over the 1974-1998 period varied sharply across age groups. Those men under age 45 experienced substantive wage declines while those 45 and older experienced modest real wage improvements over the 1974-98 period. The age/weekly earnings profile of males was considerably steeper in 1998 than it was in 1974 (Chart 5.1).

Table 5.2:
Trends in Real Weekly Earnings of Full-Time Employed Men by Age Group, U.S., 1974 and 1998

	1974 (in 1998 Dollars)	1998	Percent Change 1974-1998
All	641	598	-6.7%
16-24	459	334	-27.2%
25-34	665	544	-18.2%
35-44	738	677	-8.3%
45-54	711	732	+3.0
55-64	644	699	+8.5
65+		482	

Sources: Thomas Bradshaw and John F. Stinson, *Monthly Labor Review*, 1975; U.S. Bureau of Labor Statistics, Web Site, Historical Series on Weekly Wages of Full-Time Wage and Salary Workers.

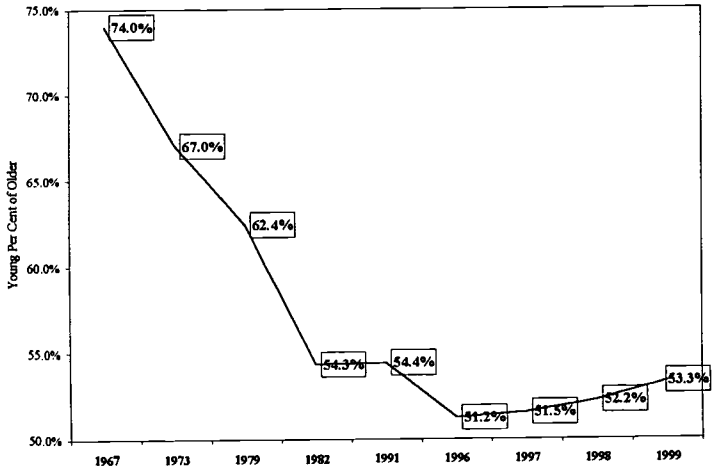
Chart 5.1:
Relative Weekly Earnings of Full-Time Employed Males by Age Group, 1974 and 1998, Numbers in Per Cent
(Base Group = All Employed Males)



As a consequence of these divergent trends in the real weekly earnings of younger and older men, the relative weekly wage position of young men (under 25) deteriorated considerably over most of the 1967-99 period. As recently as 1967, the median weekly earnings of full-time employed young men were nearly three-fourths as high as those of older men. (Chart 5.2). This relative weekly wage ratio, however, declined to 67% by 1973, to 62% by 1979, and to 54% by 1989. Further declines in the relative wage position of young men occurred between 1989 and 1996 when the relative weekly earnings of young men dropped to only 51% of that of older men (25+). Over the past three years, stronger real wage growth for young men has boosted their relative wage position by two full percentage points to 53%. The deterioration in the absolute and relative earnings position of young adult men over the past few decades had lengthened the stage of "economic adolescence" and has reduced the ability of many young men to form independent households, to marry, and to provide adequate financial support for their children, including child support for non-custodial children. The greatest increase in the incidence of family poverty problems in the U.S. since 1973 has taken place among young families with children (those with a head under 30 years of age), with the poverty rate of this group more than doubling to 35% between 1973 and 1992 and diminishing only modestly over the past six years.[92]

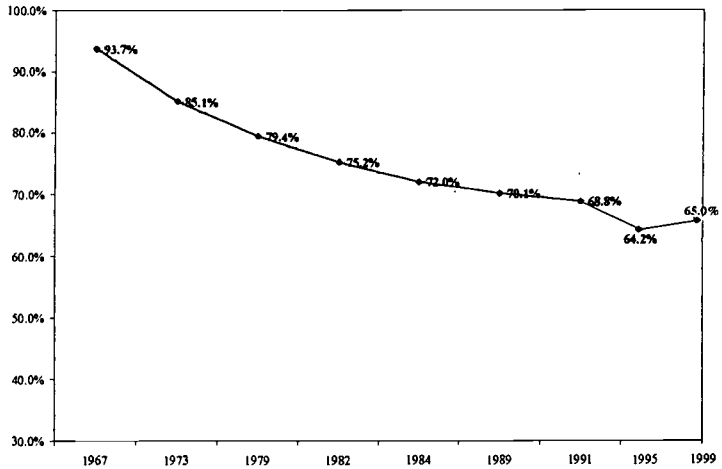
[92]See: Andrew M. Sum, Clifford Johnson, and Neal Fogg, "Young Workers, Young Families, and Child Poverty," in *Of Heart and Mind: Social Policy Essays in Honor of Sar A. Levitan*, (Editors: Garth Mangum and Stephen Mangum), W. E. Upjohn Institute for Employment Research, Kalamazoo, 1996.

Chart 5.2:
Median Weekly Earnings of Full-Time Employed Young Men Relative to Older Men (25 and Over), Selected Years, 1967-1999
(in Per Cent)



The relative weekly wage position of young women also deteriorated over most of the 1967-99 period. During 1967, the median weekly earnings of full-time employed young women were equal to nearly 94% of those of their older employed female counterparts, but this ratio declined to 79% by the end of the 1970s, to 70% in 1989, and fell below 63% in 1998, but rose to 65% in 1999 following a strong gain in the median real weekly earnings of full-time employed young women during the past year (Chart 5.3). Unlike the situation among young men, the decline in the relative wage position of full-time employed young women was attributable to improved real wages among employed adult women (25+). While young women's real weekly earnings declined after 1973, the real weekly earnings of older adult women (25+) rose, increasing by 16% between 1973 and 1999. The age earnings profiles of full-time employed women have become more steeply sloped since the late 1960s, reflecting higher weekly earnings as adult women gain more experience in the labor market, particularly among well-educated women.

Chart 5.3:
Median Weekly Earnings of Young Women (16 to 24) Relative to Older Women (25 and Over), 1967-1999



The Weekly Earnings of Employed Out-of-School Youth by Educational Attainment

The weekly earnings of employed out-of-school youth vary considerably by their full-time/part-time employment status and their educational attainment. Over the past two decades, there also have been growing gaps in the median weekly earnings of employed out-of-school adults by educational attainment with high school dropouts and graduates with no post-secondary schooling experiencing severe absolute and relative wage declines.[93] For example, among full-time employed 17-21 year olds, median real weekly earnings of high school dropouts declined by 26% between 1973 and 1994 while those of high school

[93]See: (i) Andrew Sum and W. Neal Fogg, *The Labor Market Problems of the Nation's Out-of-School Youth Population*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, May 1996; (ii) Robert Zemsky, Daniel Shapiro, et.al., *The Transition from Initial Education to Working Life in the United States of America*, National Center for Postsecondary Improvement, Stanford University School of Education, Stanford, 1998.

graduates with no post-secondary schooling declined by 21% over the same time period.[94]

Findings of a more recent analysis by Robert Zemsky and his colleagues of weekly wage trends among full-time employed young adults (men and women combined) reveal quite similar results. While the real weekly earnings of bachelor degree recipients remained unchanged between 1981 and 1996, those of full-time employed 16-24 year olds in each other educational attainment subgroup declined considerably (Table 5.3).[95] The relative size of these weekly wage declines ranged from 22% for those young workers with one to three years of college to just under 40% for those failing to obtain a high school diploma.

Table 5.3:
Average Weekly Earnings of Full-Time Employed Young Adults 16-26 Years Old by Years of Schooling Completed, U.S.: October 1981 and October 1996 (in 1996 Dollars)

Group	(A) 1981	(B) 1996	(C) Percent Change 1981 - 1996
No High School Diploma	$366	$224	-38.8%
High School Diploma, No College	$388	$287	-26.0%
1-3 Years of College	$441	$346	-21.6%
Bachelor's or Higher Degree	$522	$521	-.2%

Source: October 1981 and October 1996 CPS Surveys, tabulations by Robert Zemsky, Daniel Shapiro, et.al., in *The Transition from Initial Education to Working Life in the United States of America*, p. 27.

The steep declines in the real weekly earnings of young men with no post-secondary schooling also have had a number of adverse consequences for their labor force behavior and cumulative work experience. The decline in real weekly earnings reduces the incentive for young men to seek legitimate employment. Since the mid-1970s, as noted earlier, there has been a steep drop in the fraction of young male dropouts, particularly Black dropouts, with any paid employment during the

[95]It is not clear from the discussions in the text or the tables whether the average weekly earnings refer to the median or to the mean.

year.[96] For example, among 20-29 year old male high school dropouts, 94% reported some paid employment in 1973 versus only 84% in 1995. These reductions in employment rates reduce the cumulative amount of work experience that these young men bring with them to the labor market in their later adult years, thereby lowering their earnings potential later in life. The decline in real weekly earnings from legal employment also increases the attractiveness of criminal activities, further reducing their job market prospects in later life.[97]

Clearly, young adult labor markets in the 1990s tend to reward human capital investments in schooling at considerably higher rates than they did in the 1970s and early 1980s. These changes in wage levels by schooling backgrounds of workers in turn are associated with deep rooted changes in the industrial and occupational structure of job opportunities that have been made available to young adults over the past two decades. These fundamental shifts in the job structure have adversely affected the economic fortunes of young adult workers with limited formal schooling and basic skills.

To obtain more current information on the pattern of weekly earnings of employed young adults by educational attainment in the U.S. in the late 1990s, we analyzed the findings of the monthly CPS household surveys for calendar years 1997 and 1998.[98] Estimates of the median weekly earnings of employed 16-24 year olds by school enrollment sta-

[96]For a review of the evidence on trends in the incidence of employment among young adult men,

See: (i) Andrew M. Sum, Neeta Fogg, and Neal Fogg, *Out-of-School Out of Luck?*, pp. 76-82; (ii) Stephanie Aaronson, *Looking Ahead: Young Men, Wage Growth, and Labor Market Participation*, Preliminary Draft of Ph.D. Dissertation, Columbia University, January 2000. Aaronson also finds that expected returns to work experience play a significant role in influencing the decision of men to actively participate in the labor force.

[97]For evidence on the links between labor market activities and criminal activities among young men,

See: (i) Richard B. Freeman, "Why Do So Many Young American Men Commit Crimes and What Might We Do About It," *Journal of Economic Perspectives*, Winter 1996, Vol. 10, No. 1, pp. 25-42; (ii) Richard B. Freeman, *Crime and the Job Market*, National Bureau of Economic Research, Working Paper No. 4910, Cambridge, 1994.

tus, educational attainment, and gender in the U.S. during 1997 and 1998 are displayed in Table 5.4 and Charts 5.4 and 5.5. Among employed out-of-school youth, these median weekly earnings ranged from $220 for those lacking a high school diploma or a GED to a high of $462 for those with a bachelor's or more advanced degree. High school dropouts fared the worst on each of the weekly wage measures, earning anywhere from 17% to 23% less than employed high school graduates in each of the three employment categories (all, full-time, and part-time). With minor exceptions, the median weekly earnings of the young adult employed tend to rise continuously with their years of schooling, with earnings being considerably higher for bachelor degree holders, both for all workers and for those in each gender group. Among all out-of-school employed, bachelor degree holders earned 65% more per week than employed high school graduates with diplomas and GED certificates. (Table 5.4, Column A and Chart 5.4). The relative size of the weekly earnings gap between employed bachelor degree holders and high school graduates was 62% for men and nearly 70% for women.[99]

Findings in Table 5.4 and Chart 5.5 also reveal substantial wage advantages of college educated young adults holding full-time jobs. The median weekly earnings of full-time employed 16-24 year olds ranged from a low of $260 for those lacking a high school diploma or a GED certificate to $312 for high school graduates/GED holders with no post-secondary schooling to a high of $481 for those holding a bachelor's degree (Chart 5.5). Full-time employed bachelor degree holders earned 54% more per week than high school graduates. For full-time employed men and women, the relative sizes of these weekly earnings advantages of bachelor degree holders were 62% and 61%, respectively.

[98]The monthly CPS household surveys collect data on the weekly earnings of employed wage and salary workers from one-quarter of the sample; i.e., the members of the out-going rotation groups.

[99]Admittedly, part of the earnings advantages of bachelor degree holders is attributable to their higher ages on average. However, regression-adjusted earnings differences also remain quite high for college graduates. In an earnings regression for full-time employed 18-24 year olds, we find a 60% earnings advantage for both male and female bachelor degree recipients.

Table 5.4:
Median Weekly Earnings(1) of 16-24 Year Olds, by School Enrollment Status, Educational Attainment, and Full-Time/Part-Time Status, Total and by Gender, Average of 24 Months, 1997-1998

	(A) Total	(B) Male	(C) Female
All Workers	$231	$254	$201
Student	$120	$120	$118
Lacks diploma or GED	$220	$241	$182
High School Graduate, GED	$280	$320	$250
Some College, Associate's Degree	$300	$320	$280
Bachelor's Degree and Above	$462	$519	$423
Full-time workers	$315	$323	$292
Student	$280	$300	$273
Lacks diploma or GED	$260	$280	$230
High School Graduate, GED	$312	$331	$280
Some College, Associate's Degree	$323	$350	$300
Bachelor's Degree and Above	$481	$538	$450
Part-time workers	$121	$125	$120
Student	$105	$105	$103
Lacks Diploma or GED	$138	$150	$124
High School Graduate, GED	$180	$200	$185
Some College, Associate's Degree	$192	$200	$185
Bachelor's Degree and Above	$286	$320	$276

Source: Monthly Current Population Surveys, January 1997 to December 1998, public use tapes, tabulations by authors.

Note: Weekly earnings data only apply to wage and salary workers who were employed and at work during the reference week.

Chart 5.4:
Median Weekly Earnings of Employed, Non-Enrolled 16-24 Year Olds by Educational Attainment, U.S. 1997-98

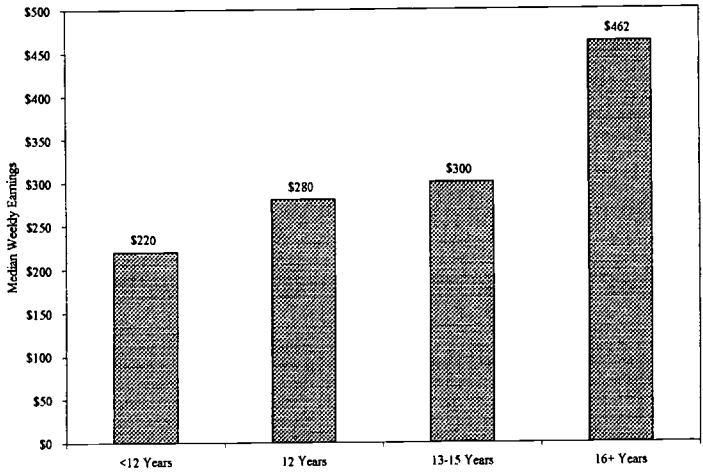
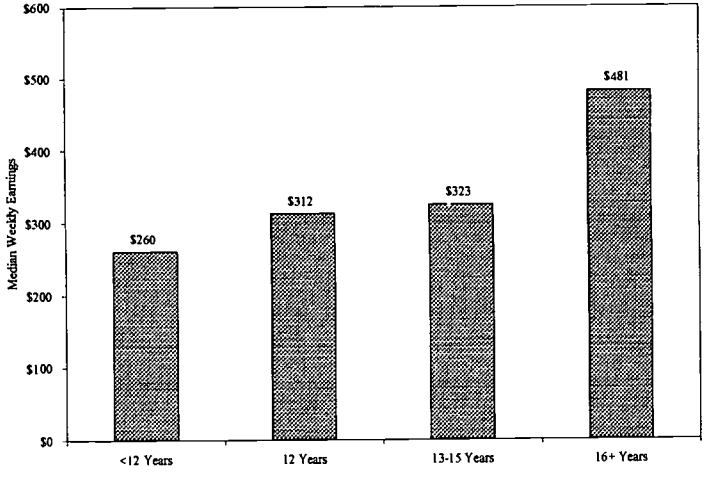
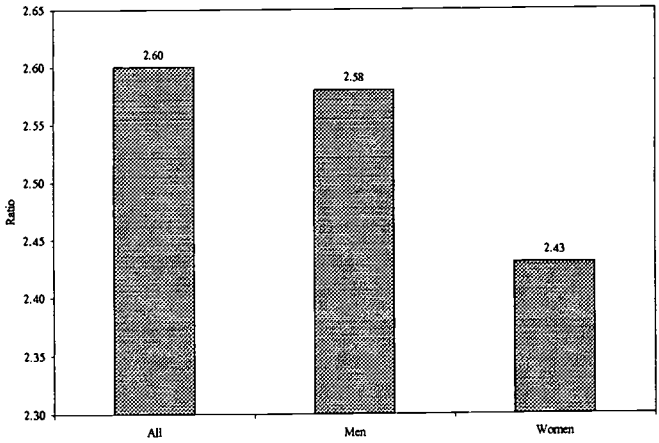


Chart 5.5:
Median Weekly Earnings of Out-of-School, Full-Time Employed 16-24 Year Olds, by Educational Attainment, U.S. 1997-98



Findings of the wage analyses in Table 5.4 clearly reveal the substantial weekly earnings advantages of working full-time. The median weekly earnings of full-time employed young adults during 1997 and 1998 were $315 versus only $121 for those employed part-time, representing an absolute difference of nearly $200 or a relative difference of 160% in favor of full-time workers. The ratio of the median weekly earnings of full-time workers to that of part-time workers was 2.58 for men and 2.43 for women (Chart 5.6).[100] Not only do these full-time employed workers enjoy substantial current weekly wage advantages, but as noted earlier, they are much more likely than their part-time counterparts to receive key employee benefits (health insurance coverage, vacation pay, pension benefits), be trained on the job, be offered formal training, and benefit more from their work experience in the future. Even among the part-time employed, there are very sizable differences in weekly earnings by years of schooling completed. Part-time employed bachelor degree holders received median weekly earnings twice as high as those received by young high school dropouts.

Chart 5.6:
Ratio of the Median Weekly Earnings of 16-24 Year Old, Full-Time Wage and Salary Workers to Those of Part-time Workers, U.S.: 1997-98



[100]The relative size of the weekly earnings advantages of the full-time employed are somewhat smaller in each educational group than for all of the employed since the better educated are more likely to work full-time.

Weekly Earnings of Young High School Dropouts, High School Graduates, and GED Holders

One of the research issues debated by labor economists and youth workforce development program evaluators in recent years has been that of the economic value of the GED certificate.[101] The national research evidence on the benefits of obtaining a GED has been somewhat mixed, with Tyler, Murnane and Willett recently finding fairly substantial annual earnings gains for young White dropouts from acquiring a GED while there are typically no earnings gains for non-White dropouts.

Until recently, the U.S. Census Bureau did not separately identify high school diploma holders from GED certificate holders in conducting the monthly CPS household surveys. Beginning in 1998, however, the U.S. Census Bureau has distinguished GED holders from those adults obtaining a regular high school diploma. The findings of the monthly CPS household surveys for calendar year 1998 were used to examine the employment rates and weekly earnings of young adults who completed 10 to 12 years of school by their GED and high school diploma status.[102] Findings of our analysis of the employment rates for 16-24 year olds reveal that young GED holders (all, men, and women) were more likely to be employed than high school dropouts but were less likely to be working than high school graduates with a regular high school diploma.[103] For example, only 56% of 16-24 year old dropouts

[101]For a recent review of the empirical evidence on these issues,
See: John H. Tyler, Richard Murnane, and John B. Willett, *Estimating the Impact of the GED on the Earnings of Young Dropouts Using A Series of Natural Experiments*, National Bureau of Economic Research, Cambridge, February 1998. The findings of their own analyses of the earnings effects of the GED indicate that obtaining a GED raises the expected 1995 annual earnings of young white GED holders by 10 to 19 per cent, but has no significant effect on the annual earnings of young non-White dropouts primarily Blacks. The acquisition of the GED appears to raise both the probability of employment and the average hourly wages of young adults.

[102]Among full-time employed, 18-24 year old GED holders, the median years of schooling completed in 1998 was 11 years. Approximately 17% of the full-time employed GED holders reported completing 9 or fewer years of school.

[103]The employment rates are the equivalent of the employment-to-population ratios for each of these groups where the population measure is the civilian non-institutional population.

were employed versus 67% of GED holders and 76% of graduates possessing a regular high school diploma (Table 5.5). The employment rate advantages for GED holders over high school dropouts was nine percentage points for men and 14 percentage points for women, but both male and female GED holders were less successful in obtaining employment than each of their counterparts with regular high school diplomas (10.6 and 8.3 percentage points, respectively).[104]

Table 5.5:
Employment Rates of 16-24 Year Olds Completing 10 to 12 Years of Schooling by GED/High School Diploma Status and Gender, U.S., 1998
(Average of 12 Months)
(Numbers in Per Cent)

Educational Attainment	(A) Both Sexes	(B) Men	(C) Women
Not a high school graduate/No GED	56.1	63.7	47.0
GED holder	67.3	72.5	60.9
High school diploma holder	76.4	83.1	69.2
High school diploma - GED	+9.1	+10.6	+8.3

Source: Monthly CPS surveys, January-December 1998, tabulations by authors.

The median weekly earnings of employed 16-24 year olds with 10-12 years of schooling were identified to determine how well employed GED holders fared in comparison to both comparably aged high school dropouts and graduates. Findings for all GED holders as well as for men and women separately reveal that their median weekly earnings substantially outpaced those of employed high school dropouts and statistically matched those of regular high school graduates. During calendar year 1998, the median weekly earnings of employed, young adult GED holders were $298 versus only $237 for high school dropouts and $290 for those possessing high school diplomas. The earnings patterns were quite similar for men and women. In a separate multivariate statistical analysis of the determinants of the weekly earnings of full-time

[104]In a separate analysis for White and Black non-Hispanic youth, we find that Black GED holders were considerably less likely than Black diploma holders to be employed in 1998, an employment rate gap of nearly 16 percentage points.

employed 18-24 year olds in the U.S. during 1998, we find that there was no significant difference in the weekly earnings of GED holders and high school graduates while GED holders earned 8% to 24% more than their counterparts who dropped out of high school and did not obtain a GED certificate. Dropouts who completed more years of high school tend to earn more than their peers who dropped out earlier. The findings are quite similar for men and women. Obtaining a GED in the late 1990s, ceteris paribus, tends to significantly improve employment and weekly earnings prospects for young high school dropouts in the U.S.[105]

Wage Inequality Among Full-time Employed Young Adults

A more complete understanding of the weekly earnings position of young adults in the U.S. in recent years would go beyond an analysis of the median weekly earnings to identify the earnings of young workers at various points along the entire distribution. A number of wage inequality studies in the U.S. and other countries have identified the earnings of workers at the 10th and the 90th percentiles of the distribution and used the ratio of the earnings at the 90th and 10th percentiles as a measure of the degree of inequality between the best paid and lowest paid workers in society.[106]

[105]Part of the favorable effects of the GED in the CPS survey data is likely attributable to their higher literacy and numeracy proficiencies relative to dropouts lacking a GED certificate.
See: (i) Andrew M. Sum, *Literacy in the Labor Force*; (ii) John H. Tyler, Richard Murnane, and John B. Willett, *op.cit.*

[106]For a review of earlier studies of trends in wage inequality in the U. S. and other countries using similar measures of wage inequality,
See: Richard B. Freeman and Lawrence F. Katz, "Rising Wage Inequality: The U. S. Versus Other Advanced Industrial Countries," in *Working Under Different Rules*, Russell Sage Foundation, New York, 1994; (ii) Francine Blau and Lawrence M. Kahn, *Wage Inequality: International Comparisons of Its Sources*, American Enterprise Institute for Public Policy Research, Washington, D.C., 1996; (iii) Andrew M. Sum, Neeta Fogg, Neal Fogg, and Paul E. Harrington, *The State of the American Dream in New England*, The Massachusetts Institute for A New Commonwealth, Boston, January 1996; (iv) U. S. Bureau of Labor Statistics, *Usual Weekly Earnings of Wage and Salary Workers*, 1999, Washington, D.C., January 2000.

We have analyzed the monthly CPS surveys for the years 1997 and 1998 to estimate the entire weekly earnings distribution for full-time employed young adults (under 25 years of age) and identify the earnings of those at the 10th and 90th percentiles of the distribution. Estimates were derived for all young full-time workers, for men and women separately, and for key educational attainment subgroups. Findings in Table 5.6 reveal a considerable degree of variation in the weekly earnings of young full-time wage and salary workers in the U.S. in recent years. Among all full-time young adult workers regardless of schooling, the weekly wages of those at the 10th percentile were only $200 versus $576 for those at the 90th percentile, yielding a relative earnings ratio of 2.88 or nearly three to one (Table 5.7, Section C). Wage inequality is quite substantial among both men and women although in most cases the relative degree of inequality was somewhat higher among men than women.[107] Wage inequality as measured by the 90/10 relative earnings ratio was quite substantial among workers in each educational attainment subgroup; however, the comparative degree of inequality tended to rise as the educational attainment of young workers increased. For example, the 90/10 relative wage ratio ranged from 2.38 for young high school dropouts to 2.61 for high school graduates to a high of just under 3.00 for four-year college graduates. This pattern of higher wage inequality for better-educated young adult workers held true for both men and women. Bachelor degree recipients in both gender groups were characterized by the highest degree of weekly earnings inequality, reflecting growing differences in economic returns to major fields of study and to basic literacy and numeracy proficiencies.[108]

[107]The only exception to this general pattern was that for full-time employed students. Here inequality is extremely high for both men and women, with women actually experiencing a modestly higher degree of inequality.

[108]Findings of the National Adult Literacy Survey data for 1993 reveal that the economic payoff in the form of higher weekly and annual earnings to stronger literacy and numeracy proficiencies is highest for college educated workers. See: Andrew M. Sum, Literacy in the Labor Force, Chapter 7.

Table 5.6:
Weekly Earnings of Full-Time Employed 16-24 Year Olds at the 10th and 90th Percentiles of the Earnings Distribution by School Enrollment Status/Educational Attainment, and Gender, Average of 24 Months, 1997-1998

	(A) 10th Percentile			(B) 90th Percentile			(C) Ratio of 90/10 Weekly Earnings		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	$200	$200	$185	$576	$600	$519	2.80	3.00	2.81
Student	$154	$170	$144	$519	$560	$481	3.37	3.30	3.34
Less than H. S.	$180	$192	$158	$429	$462	$340	2.38	2.40	2.16
H.S. Graduate, GED	$200	$209	$193	$523	$577	$440	2.61	2.76	2.29
Some College, Associate's Degree	$206	$214	$200	$560	$600	$500	2.72	2.80	2.50
Bachelor's and Above	$268	$288	$250	$800	$865	$712	2.99	3.00	2.85

Source: Monthly Current Population Surveys, January 1997 to December 1998, tabulations by authors.

Wage inequality among full-time wage and salary workers does not diminish as they get older. Findings of the 1999 CPS surveys with respect to the degree of wage inequality among full-time wage and salary workers 25 and older clearly indicate a considerably higher degree of wage inequality among these older adult workers (Table 5.7). The weekly earnings of full-time adult workers at the 90th percentile was $1,260 versus only $284 for those at the 10th percentile, a multiple of 4.44 versus only 2.88 for young adult workers. As was the case for young adults, the comparative degree of wage inequality for older adults tended to widen as they acquired more formal schooling. The ratio of the weekly earnings of workers at the 90th percentile to those at the 10th percentile was 3.16 for high school dropouts but rose to 4.07 for those adult workers holding a bachelor's or more advanced academic degree during calendar year 1999. While rising educational attainment clearly improves weekly earnings prospects for young and older adult workers, for men and for women, and for Whites, Blacks, and Hispanics, it does not yield a lower degree of weekly earnings inequality among such workers. The designers of future youth and adult workforce development policies and programs need to obtain a more comprehensive understanding of the labor market forces underlying the high degree of wage and earnings inequality among the nation's workers.

Table 5.7:
Weekly Earnings of Adult (25 and Older) Full-Time Wage and Salary Workers in the U.S. at the 90th and 10th Percentiles: 1999

Educational Attainment	(A) 90th Percentile	(B) 10th Percentile	(C) 90/10 Ratio
All	$1,260	$284	4.44
< 12 Years	$680	$215	3.16
12 Years	$932	$270	3.45
13-15 Years	$1,079	$300	3.60
16+ Years	$1,749	$430	4.07

Source: U.S. Bureau of Labor Statistics, *Usual Weekly Earnings of Wage and Salary Workers: 1999,* January 2000, tabulations by authors.

Trends in the Real Annual Earnings of Young Adult Men and Women, 1973-1998

The most comprehensive and economically and socially important measure of the labor market success of young adult workers is their real annual earnings; i.e., how much they are able to earn in inflation-adjusted dollars from their paid employment during an entire calendar year. The annual earnings of young employed adult workers are influenced by a number of labor market behaviors, including the number of weeks that they work during the year, their average hours of work per week of employment, and their real hourly earnings. Previous analyses of trends in the median real annual earnings of employed 20-29 year old men in the U.S since the early 1970s have revealed a steep deterioration in the annual earnings of those young adult men with no post-secondary schooling. The transition to male adulthood in particular has become a much more treacherous one for the members of the Forgotten Half; i.e., those men with no post-secondary education.[109] As Andrew Sum and Neal Fogg argued in an earlier work on the changing nature of the transition from adolescence to early adulthood:

> "Over this period (1973 to 1989), U.S. labor markets were subject to a substantial degree of turbulence and they were transformed in a number of substantive ways, with important consequences for the early school-to-work transition of the nation's non-college bound youth. Greater delays in access to career labor market jobs, and the disappearance of many well-paid, entry-level jobs in manufacturing industries, have contributed to declines in the real earnings of many young male adults with no post-secondary schooling and to an extension of the period of economic adolescence."[110]

[109]For a review of the economic and social experiences of The Forgotten Half: See: William T. Grant Foundation Commission on Work, Family, and Citizenship, *The Forgotten Half: Non-College Youth in America*, Washington, D.C. 1988.

[110]See: Andrew M. Sum and W. Neal Fogg, "The Adolescent Poor and The Transition to Early Adulthood," in *Adolescence and Poverty: Challenge for the 1990s*, (Editors: Peter Edelman and Joyce Ladner), Center for National Policy Press, Washington, D.C., 1991. For a comparison of the nature of the transition from high school to the adult work world during the 1950s and the 1990s, See: Barbara Schneider and David Stevenson, *The Ambitious Generation*, University of Chicago Press, Chicago, 1999.

Findings on time trends in the median real annual earnings of employed young adult men and women (20-29 years old) are displayed in Table 5.8. The data series provides annual earnings data for selected years over the 1973 to 1998 period. The year 1973 represented the post-World War II peak annual earnings for young adult men, especially those with no post-secondary schooling, while the 1998 annual earnings data are the most recent available data from the March Current Population Survey. Data for calendar year 1999 are not available at this writing.

The annual earnings of young adult men and women are quite cyclically sensitive, rising during periods of strong economic growth and declining during recessionary periods as a result of fewer hours of paid employment and lower real hourly wages. We have generally selected cyclical peak years for our earnings analysis. The data for 1973, 1979, and 1989 represent cyclical peak years while the 1998 data represent earnings eight years into the growth cycle that began in March 1991. The annual earnings data pertain to all 20-29 year old men and women who reported some paid employment during a calendar year. The nominal earnings data for each year have been converted into constant 1998 dollars via use of the CPI-UX1 index of the U.S. Bureau of Labor Statistics.[111]

The median real annual earnings of most subgroups of young adult men have deteriorated to a considerable degree since 1973; however, the changing economic fortunes of employed young adult men have varied considerably by their educational attainment. During 1998, the median real annual earnings level of employed 20-29 year old males in the U.S. was $19,000 (in 1998 dollars). (Table 5.8). This median earnings level was 20% below that obtained by employed young adult men

[111]Use of the CPI-UX1 price index rather than the CPI-U index for the time period 1973-82 yields a seven percentage point lower rate of inflation, thus thereby producing more conservative estimates of real earnings for the years 1973 and 1979. For futher information on the construction and use of the CPI-UX1 index,

See: U. S. Bureau of the Census, Current Population Reports, Consumer Income, *Measuring the Effect of Benefits and Taxes on Income and Poverty, 1990*, Series P-60, No. 176, "Appendix H and I," U. S. Government Printing Office, Washington, D.C., 1991.

in 1973 and nearly 4% below their real earnings in 1989, the previous cyclical peak. Those young men lacking a high school diploma or a GED certificate experienced the largest relative decline in their annual earnings (-34%), but they were closely followed by young men who graduated from high school but did not complete any years of post-secondary schooling (-25%). (Chart 5.7). Even those young males who completed one to three years of post-secondary schooling experienced a 9% decline in their real annual earnings over the 1973-98 period. Only those male adults who obtained a bachelor's degree were able to improve or maintain their real earnings position. Employed male bachelor degree recipients with no post-graduate schooling in 1998 had median annual earnings that were 5% above those of 1973 while males with 17 or more years of schooling simply maintained their real earnings over this 25 year period. As a consequence of these highly divergent growth paths in the real annual earnings of young men, the absolute and relative size of the earnings differences between better educated and less educated employed young adult men widened considerably over the past 25 years. For example, in 1973, the median annual earnings of employed young adult men with a high school diploma exceeded that of male high school dropouts by 35%, however, by 1998 this gap had widened to 54% (Table 5.9). Also in 1973, the median annual earnings of male bachelor degree recipients were only 15% above those of high school graduates; however, during 1998, the relative size of the earnings advantage of young male college graduates had widened to 60%.[112]

[112]The supply of young male college graduates in the early 1970s substantially outpaced the growth in demand, sharply reducing the relative earnings advantages of young male college graduates. Frequent concerns about overeducation were expressed in the mid to late 1970s.
See: Richard B. Freeman, *The Overeducated American*, Academic Press, New York, 1975.

Table 5.8
Trends in the Median Real Annual Earnings
of Employed 20-29 Year Old Men and Women in the U.S.,
Selected Years 1973 to 1998
(in constant 1998 $)

	1973	1979	1989	1995	1998	Absolute Change 1973-98	Percent Change 1973-98
Males							
Total	$23,829	$22,027	$19,717	$16,471	$19,000	-$4,829	-20.3%
White	$24,453	$23,635	$21,033	$18,182	$20,000	-$4,453	-18.2%
Black	$17,958	$17,125	$15,774	$14,974	$15,000	-$2,958	-16.5%
Hispanic	$20,637	$18,306	$15,117	$12,835	$15,000	-$5,637	-27.3%
<12 Yrs	$19,574	$17,181	$13,803	$12,835	$13,000	-$6,574	-33.6%
12 Yrs	$26,591	$24,230	$19,719	$17,541	$20,000	-$6,591	-24.8%
13-15 Yrs	$24,174	$24,670	$23,085	$19,252	$22,000	-$2,174	-9.0%
16 Yrs	$30,535	$29,296	$31,549	$26,739	$32,000	$1,465	4.8%
>16 Yrs	$35,225	$32,380	$32,863	$32,087	$35,000	-$225	-0.6%
Females							
Total	$11,562	$13,216	$13,466	$12,835	$14,000	$2,438	21.1%
White	$11,986	$13,414	$14,459	$13,369	$15,000	$3,014	25.1%
Black	$11,051	$12,555	$11,830	$11,230	$12,000	$949	8.6%
Hispanic	$9,670	$11,280	$11,830	$10,535	$11,500	$1,380	18.9%
<12 Yrs	$6,759	$7,159	$7,415	$6,537	$7,000	$241	3.6%
12 Yrs	$12.121	$13,745	$13,145	$11,979	$13,000	$879	7.2%
13-15 Yrs	$13,813	$15,419	$16,452	$14,974	$15,800	$1,987	14.4%
16 Yrs	$18,994	$19,824	$25,469	$22,461	$24,600	$5,606	29.5%
>16 Yrs	$27,538	$24,230	$24,976	$27,167	$30,000	$2,462	8.9%

Sources: March 1974, 1980, 1990, 1996, and 1999 CPS surveys, tabulations by authors.
Notes: (1) The CPI-UX1 index of the U.S. Bureau of Labor Statistics was used to convert each year's nominal earnings into their constant 1998 dollar equivalents.
(2) Employed 20-24 year old students are included in the totals for both men and women but are not separately identified in the educational breakouts.

Chart 5.7:
Per Cent Change in the Median Real Annual Earnings of Employed 20-29 Year Old Men in the U.S. by Educational Attainment, 1973 to 1998

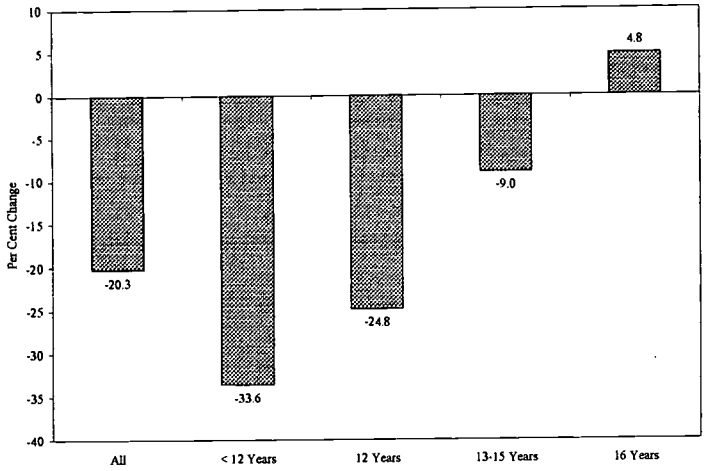


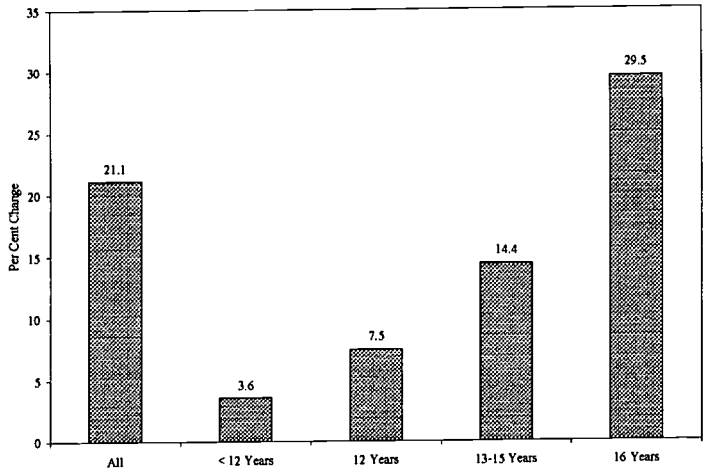
Table 5.9:
Trends in the Relative Annual Earnings of Employed Young Adult Men and Women in Selected Educational Attainment Subgroups, U.S.: 1973, 1989, and 1998
(Numbers in Per Cent)

Gender Group/Educational Comparison	(A) 1973	(B) 1989	(C) 1998
Men			
High School Graduate/High School Dropout	135.8	142.6	153.8
Bachelor's Degree/High School Graduate	114.8	160.0	160.0
Women			
High School Graduate/High School Dropout	179.3	177.3	185.7
Bachelor's Degree/High School Graduate	156.7	193.8	189.2

In contrast to the trends in the real annual earnings of young men, the nation's young adult women experienced gains in their real annual earnings over the 1973-98 period, with median real annual earnings rising by 21%. (Table 5.9). Gains in annual earnings for these young women

were strongest in the 1970s, were only modest in the 1980s (+2%), and fell during the early 1990s before rebounding strongly between 1995 and 1998, aided by rising real weekly earnings and more hours of paid employment. Similar to the general patterns of earnings changes among young adult men, the relative size of the gains in the annual earnings of young adult women over the past 25 years varied with their level of formal schooling. (Chart 5.8). Employed female dropouts in 1998 earned about 4% per cent more in 1998 than they did in 1973, and high school graduates improved their real annual earnings by 7%; however, the annual earnings of employed bachelor degree recipients rose by just under 30%. The relative size of the annual earnings advantage of college educated women increased from 57% above those of high school graduates in 1973 to nearly 90% higher in 1998.

Chart 5.8:
Per Cent Change in the Median Real Annual Earnings of Employed 20-29 Year Old Women in the U.S. by Educational Attainment, 1973 to 1998

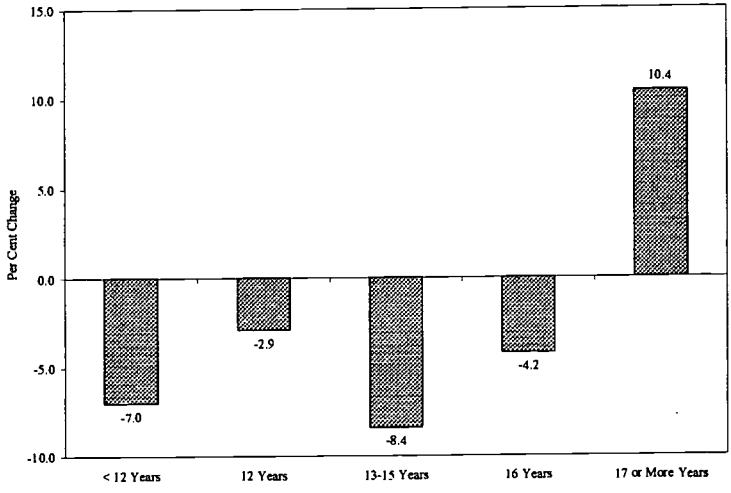


The Earnings Experiences of Young Adult Employed Men and Women in the 1990s

As noted above, the real annual earnings of employed young adults tend to be quite cyclically sensitive. As overall labor market conditions improve, young adults tend to be employed more often, work more

weeks and hours per year, and obtain higher wages. As a consequence, their real annual earnings tend to improve over the course of the growth stage of the business cycle. Earnings developments during the 1990s clearly bear this out. (Table 5.10). Between 1989 (a cyclical peak year) and 1992 (the first full year of recovery from the 1990-91 recession), the median real annual earnings of young adult men (in constant 1995 dollars) declined by nearly 18%. The median real earnings of young men remained fairly stable between 1992 and 1995, but then increased by more than $1,800 or nearly 12% between 1995 and 1997-98 as job growth remained quite strong and aggregate unemployment rates declined below 5%. Still, during the 1997-98 period, the median real annual earnings of employed young adult men still remained nearly $1,200 or 6.5% below the level that they had obtained during 1989. Nearly every educational attainment subgroup of young men earned less in 1997-98 than they did at the end of the 1980s. The only group of employed young men who improved their real annual earnings between 1989 and 1997-98 were those holding a Master's or more advanced degree. This group's 1997-98 median annual earnings were equal to just under $34,000 or 10 % higher than their 1989 level. (See Chart 5.9).

Chart 5.9:
Per Cent Change in the Median Real Annual Earnings of Employed 20-29 Year Old Men 1989 to 1997-98 by Educational Attainment



Similar though somewhat less strong cyclical swings also characterized young adult women's annual earnings during the 1990s. Young women's median real earnings declined by 6% during the early 1990s, remained basically unchanged between 1992 and 1995 and have risen by 6% since 1995. The 1997-98 median real annual earnings of young adult women were only 1% above those of 1989. As was the case among young men, however, the annual earnings experiences of young women during the 1990s varied by educational attainment. (See Table 5.10, Column F). The only group of employed young women that succeeded in boosting their real earnings were those holding a Master's or more advanced degree. Women in this educational group experienced a real earnings increase of 21% (Chart 5.10). Women in every other educational group, including bachelor's degree recipients, saw their median real annual earnings decline during the 1990s.

Table 5.10:
Trends in the Median Real Annual Earnings of Employed 20-29 Year Old Men and Women, by Educational Attainment(2), Selected Years, 1989 to 1997-98
(in Constant 1995 Dollars)

Gender and Education	(A) 1989	(B) 1992	(C) 1995	(D) 1997-1998 Average	(E) Absolute Change, 1989 to 1997-98	(F) Relative Change, 1989 to 1997-98
Men						
All	$18,435	$15,207	$15,400	$17,238	-$1,197	-6.5%
<12 Yrs	$12,905	$10,862	$12,000	$12,002	-$903	-7.0%
12 Yrs	$18,437	$16,294	$16,400	$17,896	-$541	-2.9%
13-15 Yrs	$21,584	$17,380	$18,000	$19,780	-$1,804	-8.4%
16 Yrs	$29,497	$27,156	$25,000	$28,253	-$1,244	-4.2%
>16 Yrs	$30,726	$32,587	$30,000	$33,928	+$3,202	10.4%
Women						
All	$12,590	$11,862	$12,000	$12,717	+$127	1.0%
<12 Yrs	$6,933	$6,517	$6,112	$6,311	-$622	-9.0%
12 Yrs	$12,290	$10,862	$11,200	$11,775	-$515	-4.2%
13-15 Yrs	$15,363	$13,578	$14,000	$14,601	-$762	-5.0%
16 Yrs	$23,813	$21,725	$21,000	$22,847	-$966	-4.1%
>16 Yrs	$23,352	$28,242	$25,400	$28,268	+4,916	21.0%

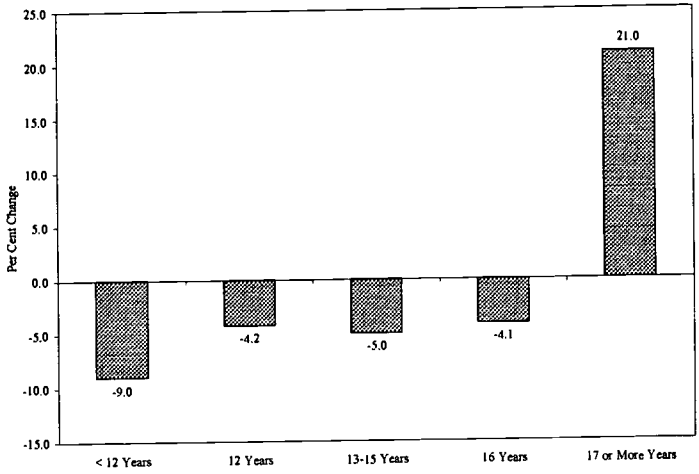
Note: (1) The CPI-U price index of the U.S. Bureau of Labor Statistics was used to convert the nominal annual earnings of workers in each year into their constant 1995 dollar equivalents.

(2) All educational groups, except the (all group), excludes persons enrolled in school at the time of the March CPS surveys.

rces: March 1990, 1993, 1996, 1998, and 1999 CPS surveys, tabulations by the authors.

Chart 5.10:

Per Cent Change in the Median Real Annual Earnings of Employed 20-29 Year Old Women 1989 to 1997-98 by Educational Attainment



The Annual Earnings of Employed Young Adults by Educational Group in the Late 1990s

The changing industrial and occupational mix of jobs in the U.S. economy and the changing nature of job duties within some occupations over the past two decades has considerably altered the demand for workers by education and literacy levels.[113] These shifts in the pattern of labor demand by skill combined with shifts in labor supply by educational level have substantially affected the real annual earnings prospects of young adult workers, both men and women, in various educational subgroups. On average, during calendar years 1997 and 1998,

[113]For alternative explanations of the economic forces influencing the rise in earnings inequality among all workers in the U. S. by skills level,
See: (i) Federal Reserve Bank of New York, *Economic Policy Review*, January 1995, Vol. 1, No. 1; (ii) Federal Reserve Bank of Boston, *Earnings Inequality*, May/June 1996, Boxton; (iii) Howell, David R., "Technological Change and the Demand for Skills in the 1980s: Does Skill Mismatch Explain the Growth of Low Earnings," Jerome Levy Economics Institute, Working Paper No. 101, November 1993; (iv) Sheldon Danziger and Peter Gottschalk, *America Unequal*, Harvard University Press, Cambridge, 1995; especially Chapter 7.

the median annual earnings of employed 20-29 year old men was $17,238; however, these annual earnings estimates ranged from a low of $12,000 for those men lacking a high school diploma or a GED certificate, to nearly $17,900 for high school graduates, to $28,200 for those men holding a bachelor's degree, and to a high of nearly $34,000 for those with a master's or higher degree. (Table 5.10). The absolute and relative sizes of these annual earnings differences of men by educational group are quite substantial. Employed male high school dropouts earned 33% less than high school graduates while associate and bachelor degree recipients, respectively, earned 27% and 58% more than employed male high school graduates. (Table 5.11). Both the absolute and relative size of the annual earnings gaps between male associate and bachelor degree recipients and high school graduates have widened considerably over the past two decades. Post-secondary schooling has become an increasingly important human capital investment in providing access to higher skills and higher wage jobs in the New American Economy. Males with no high school diploma face very bleak current and long-term labor market prospects, while those with no further education or training beyond high school are also at a disadvantage.

Table 5.11:
Relative Median Annual Earnings of Employed 20 to 29 Year Old Men and Women by Educational Attainment, U.S.: 1997-98 Averages
(Base Group is High School Graduates)

Educational Group	(A) Men	(B) Women
<12 Years	67.0	53.6
12 Years	100.0	100.0
Associate Degree(1)	127.3	142.1
16 Years	157.9	194.0
Master's Degree or Higher	189.6	240.0

Note: (1) Findings for associate degree holders are based solely on the 1997 annual earnings experiences of men and women in this educational subgroup.

The annual earnings of employed young adult women in recent years have been even more strongly associated with their formal schooling backgrounds, reflecting the tendency for better educated women to

work more hours during the year and to obtain considerably higher hourly earnings when they do work.[114] During the 1997-98 period, the median annual earnings of all employed young women were $12,700 (Table 5.10); however, the median earnings of these women ranged from a low of $6,300 among high school dropouts, to $11,775 for high school graduates, and to highs of $22,850 and $28,300 for those women holding a bachelor's and master's or more advanced degree, respectively. Employed female high school dropouts obtained median annual earnings only 54% as high as those of high school graduates while those employed women holding associate's and bachelor's degrees obtained median annual earnings that were 42% and 94%, respectively, higher than those of high school graduates. Women with a master's or higher degree earned 240% as much as high school graduates. The growing economic advantages of a college education for women have been instrumental in substantively raising the college attendance rate among new female high school graduates since the late 1970s. In the 1990s, female high school graduates have been more likely than their male counterparts to attend college in the fall immediately following graduation and are acquiring college degrees at a higher rate than men.

Trends in Annual Earnings Inequality Among Young Adult Men, 1973 to 1998

Over the past two decades, the distribution of wages and earnings among U.S. workers has become more unequal and has become a source of growing concern to many labor market analysts and some economic policymakers.[115] The potential sources of the increase in

[114]Women's labor force participation and labor supply behavior tend to be positively influenced by their expected market wage. Even holding the wage constant, however, better educated women tend to work more hours during the year.

[115]See: (i) Frank Levy and Richard Murnane, "U. S. Earnings Levels and Earnings Inequality: A Review of Recent Trends and Proposed Explanations,: Journal of Economic Literature, September 1992, pp. 1333-1381; (ii) Freeman, Richard B. Lawrence F. Katz, "Rising Wage Inequality: The United States vs. Other Advanced Countries," in Richard B. Freeman (Editor), *Working Under Different Rules* (New York: The Russell Sage Foundation), 1995, pp. 29-62. There are also a number of interesting articles concerning wage inequality in the Federal Reserve Bank of New York's, *Economic Policy Review*, January 1995, Volume 1, Number 1.

income and earnings inequality were identified by President Clinton in a 1995 address to a national convention of newspaper editors.

> "...the technology revolution and the global economy. These are dividing opportunity at home and abroad. The middle class is splitting apart, and the fault line is education."[116]

Rising earnings premiums for the better educated, more literate, more technically skilled, and more experienced workers are believed to underlie a major part of this growth in inequality.[117] Most previous empirical studies of rising wage and earnings inequality in the U.S. have focused on all men, or all employed women, or on workers in particular occupational groups rather than on inequality among workers in specific age subgroups.[118] To rectify this shortcoming of many previous inequality studies, we will examine whether earnings inequality also has been rising among young male adult workers in the nation. To assess trends in earnings inequality, we have generated estimates of the annual earnings distribution for young adult men (20-29 years old) in 1973, 1995, and 1998 and identified trends in the share of total annual earnings received by young men in various segments of the earnings distribution during each of these years. The analysis is performed for

[116]See: *The Boston Globe*, Saturday, April 5, 1995, p. 1.

[117]For a review of the evidence on changing wage inequality for adult workers in the U. S.,
See: Chinhui, John and Kevin M. Murphy, "Inequality in Labor Market Outcomes," *Economic Policy Review*, Federal Reserve Bank of New York, January 1995, (ii) Lawrence Katz and Kevin M. Murphy, "Changes in the Wage Structure, 1963-1987: Supply and Demand Forces," *Quarterly Journal of Economics*, 1992, pp. 35-78; (iii) Richard B. Freeman and Lawrence F. Katz, "Rising Wage Inequality: The United States Versus Other Advanced Countries," in Richard B. Freeman (Editor), *Working Under Different Rules*, the Russell Sage Foundation, New York, 1995, pp. 29-62; (iv) Garth Mangum, Stephen Mangum, and Andrew Sum, *A Fourth Chance for Second Chance Programs: Lessons from the Old for the New*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1998.

[118]In an earlier monograph by the authors, we examined trends, in annual earnings inequality among young adult men between 1973 and 1995,
See: Andrew Sum, Neeta Fogg, and Neal Fogg, *Out-of-School, Out of Luck?* pp. 87-95.

all young men and for high school dropouts, high school graduates, and four-year college graduates.

In conducting this analysis, young adult men were divided into ten equally sized groups, called deciles, based on the absolute size of their annual earnings. Conceptually, young men were arrayed in rank order from the lowest earner to the highest earner and then combined into ten groups of equal size. There are three key questions about these annual earnings distributions that we wish to address. First, what happened to the mean real annual earnings of young men in each decile of the distribution over time? Second, what share of the aggregate earnings of all young men was received by earners in each decile of the earnings distribution in each time period? Third, how did the changes in earnings inequality among young adult men over the 1973 to 1998 period vary across key educational attainment subgroups? The primary purpose of the analysis is to ascertain whether the relative size of the changes in real earnings were uniform across the entire earnings distribution or whether the earlier observed earnings declines for the average young man were confined to those in the bottom or middle of the distribution. We also wish to identify whether the patterns of change in the real annual earnings of young men over the 1973-1998 period were uniform across each educational subgroup or whether they varied systematically across these groups.

Before presenting the findings, one key methodological issue must be addressed. In estimating the distribution of annual earnings of young adult men, how should men with no paid employment during the year be treated? Should they be included in the analysis and assigned a zero earnings level or should they be excluded? If the share of young adult men with no paid employment during the year had remained constant over time, their exclusion from the analysis would make little difference for the results. However, since 1973, there has been a secular rise in the fraction of young adult men with no paid employment, with particular steep declines among Black men and high school dropouts (Table 5.12).[119]

[119]As noted in earlier sections of this monograph, the share of young adult men with some paid employment during a calendar year tends to be cyclically sensitive, rising during periods of economic growth and declining during recessionary periods. With the exception of 1995 and 1998, each of the years in Table 1 were cyclical peak years. The year 1998 did, however, represent the eighth year of continuous economic growth since the end of the recession in March 1991.

Table 5.12:
Per Cent of 20-29 Year Old Males in the Civilian Noninstitutional Population of the U.S. with Some Employment During the Calendar Year, Total and by Race/Ethnic and Educational Attainment Group, Selected Years 1973 to 1998

Group	(A) 1973	(B) 1979	(C) 1989	(D) 1995	(E) 1998	(F) Absolute Change, 1973-98	(G) Percent Change, 1973-98
Total	94.3%	93.5%	92.4%	89.3%	89.8%	-4.5	-4.8%
White, non-Hispanic	95.1%	95.1%	94.8%	92.9%	92.2%	-2.9	-3.0%
Black, non-Hispanic	90.2%	84.7%	81.4%	78.4%	79.6%	-10.6	-11.8%
Hispanic	92.3%	92.4%	92.1%	86.9%	90.0%	-2.3	-2.5%
Less than 12 Years	93.9%	89.8%	88.0%	84.2%	85.9%	-8.0	-8.5%
12 Years	96.5%	96.7%	95.0%	92.1%	93.2%	-3.3	-3.4%
13-15 Years	96.7%	87.1%	92.7%	93.3%	93.3%	-3.4	-3.5%
16 Years	97.5%	98.6%	96.4%	94.6%	94.3%	-3.2	-3.3%
17 or More Years	97.6%	97.2%	93.5%	92.4%	93.4%	-4.2	-4.3%

Sources: March 1974, 1980, 1990, 1996, and 1999 CPS surveys, tabulations by authors.

In 1973, slightly over 94% of all 20-29 year old men in the civilian non-institutional population of the U.S. (including college students) reported some paid employment during the calendar year. This ratio has modestly but steadily declined over the past 25 years, falling to 92% in 1989 and to slightly below 90% in 1998.[120] This employment rate does, however, continue to remain cyclically sensitive, declining during recessions and periods of slow overall job growth and rising during periods of strong economic growth. The absolute and relative sizes of these employment declines among young adult men over the 1973 to 1998 period varied quite considerably across race-ethnic and educational attainment subgroups. In 1998, the employment rates for White, non-Hispanic and Hispanic males were only two to three percentage points below those of 1973; however, the Black male employment rate declined by nearly 11 percentage points over the same time period. Male high school dropouts were characterized by the largest decline in employment rates (an 8 percentage point drop) over this time period while members of the other educational subgroups experienced declines of 3 to 4 percentage points in their employment rates.

The March CPS work experience surveys collect information on the primary reason of the jobless for not working at all during a calendar year. Among the possible responses are "attending school." The estimates presented below exclude those young men who did not work at all during a given calendar year because they were going to school, but include all others with zero reported earnings. It is our contention that young adult men not enrolled in school should be attached to the labor market.

Findings in Table 5.13 present estimates of the mean real annual earnings of young adult men in each decile of the annual earnings distribution in 1973 and 1998. The findings for all young men reveal that mean annual earnings declined by 11% between 1973 and 1998. However, the relative sizes of these earnings losses were considerably higher in the lower and middle portions of the earnings distribution. For example, real annual earnings declined by 65% among those men in the

[120]Findings for young adult women were quite different than those for men. The employment rate of young adult women in 1998 was 80.4%, nearly 11 percentage points above that of 1973. Employment rates of these young adult women rose in each race-ethnic and educational attainment group.

bottom decile (primarily as a result of an increased fraction of zero-earners) and by 29% among those in the second lowest decile. The relative sizes of the real annual earnings declines tend to fall continuously as one moves up the earnings distribution, from 26% among those with earnings in the third decile to 29% among those with earnings in the fifth and sixth deciles to only 9% among those with earnings in the second highest decile. Among young men in the top decile of the earnings distribution, mean annual earnings in 1998 were actually 14% higher than they were in 1973. This was the only group of young adult men to experience a gain in their real annual earnings between 1973 and 1998. Their relative earnings position also improved markedly over this period. The mean earnings of men in the top decile of the distribution was 2.38 times as high as that of the overall mean earnings level in 1973, but had risen to 3.06 times the overall mean in 1998. Clearly, earnings inequality among the nation's young adult men had widened considerably over the past 25 years.

Table 5.13:
The Mean Real Annual Earnings of 20-29 Year Old Men in the U.S. by Decile Of the Earnings Distribution, U.S.: 1973 and 1998
(in Constant 1998 Dollars)

Decile	(A) 1973	(B) 1998	(C) Percent Change
All	$24,216	$21,592	-11%
First	$1,335	$467	-65%
Second	$5,912	$4,197	-29%
Third	$11,346	$8,418	-26%
Fourth	$16,414	$12,287	-25%
Fifth	$20,740	$15,833	-24%
Sixth	$25,589	$19,552	-24%
Seventh	$29,856	$24,046	-19%
Eighth	$34,193	$29,391	-14%
Ninth	$40,175	$36,554	-9%
Tenth	$57,814	$66,152	14%

Source: March 1974 and March 1999 CPS surveys, tabulations by authors.
Note: All persons with no paid employment citing "school" as the main reason for not working were excluded from the analysis.

Trends in the real annual earnings of young adult men diverged considerably over the past 25 years by educational attainment. For example, the mean annual earnings of young male high school dropouts declined by 30% and those of high school graduates fell by 24% while the mean annual earnings of those men with 16 or more years of schooling increased by 8% over the same time period. (Table 5.14). Among men in these three educational subgroups, the relative sizes of the change in mean annual earnings varied considerably by decile of the earnings distribution. For example, among male high school dropouts, the declines in earnings ranged from 118% and 66% for those in the bottom two deciles to a low of 9% for those in the top decile. Among male high school graduates, the relative decline in annual earnings ranged from 90% and 59%, respectively, for those in the bottom two deciles to a low of only 3% for those in the top decile. Among male four-year college graduates, annual earnings increased across the board; however, the relative size of these gains varied from 1% to 23% with those in the top decile gaining the most.

These highly divergent changes in the real annual earnings of young adult men at various points along the earnings distribution clearly would be expected to have a substantial impact on earnings inequality. One widely utilized measure of inequality is the share of aggregate earnings received by persons in each decile of the earnings distribution. If every young man had exactly the same annual earnings, then the share of aggregate earnings received by men in each decile of the earnings distribution would be exactly 10 %. Since, for a variety of reasons, young men differ considerably in their annual earnings, the share of earnings received by those in the bottom deciles of the earnings distribution will be less than their proportionate share of the population while those in the top deciles of the distribution will receive a relatively high share of aggregate earnings. To identify time trends in the shares of earnings received by young men in each decile of the distribution, we analyzed the findings of the March CPS work experience and income supplements for the years 1974, 1996, and 1999.

Table 5.14:
The Mean Real Annual Earnings of 20-29 Year Old Men in the U.S. by Decile of the Earnings Distribution and by Educational Attainment, 1973 and 1998 (in Constant 1998 Dollars)

Educational Attainment Decile	(A) 1973	(B) 1998	(C) Percent Change
Less than 12 years			
All	$19,911	$13,941	-30%
First	$310	$-56	-118%
Second	$4,611	$1,556	-66%
Third	$9,508	$4,597	-52%
Fourth	$13,588	$7,938	-42%
Fifth	$16,886	$10,551	-38%
Sixth	$20,299	$12,812	-37%
Seventh	$24,186	$15,228	-37%
Eighth	$28,565	$18,654	-35%
Ninth	$34,798	$23,371	-33%
Tenth	$49,011	$44,647	-9%
12 Years			
All	$26,712	$20,315	-24%
First	$3,028	$314	-90%
Second	$11,530	$4,731	-59%
Third	$16,855	$9,444	-44%
Fourth	$20,788	$13,570	-35%
Fifth	$24,367	$16,950	-30%
Sixth	$27,891	$20,032	-28%
Seventh	$31,492	$23,638	-25%
Eighth	$35,225	$27,333	-22%
Ninth	$40,388	$32,402	-20%
Tenth	$56,108	$54,632	-3%
16 or More Years			
All	$32,510	$35,254	8%
First	$3,326	$3,888	17%
Second	$11,547	$12,400	7%
Third	$18,402	$19,489	6%
Fourth	$24,454	$25,437	4%
Fifth	$29,423	$30,326	3%
Sixth	$33,537	$34,433	3%
Seventh	$37,784	$38,248	1%
Eighth	$43,097	$44,407	3%
Ninth	$49,919	$53,947	8%
Tenth	$74,984	$92,028	23%

Source: March 1974 and March 1999 CPS surveys, tabulations by authors.
Note: All persons with no paid employment citing "school" as the main reason for not working were excluded from the analysis.

Findings on the shares of total annual earnings received by all 20-29 year old men in each decile of the earnings distribution in 1973, 1995, and 1998 are presented in Table 5.15. The results appearing in this table indicate that there was a considerable degree of earnings inequality in all three years. For instance, in 1998, the lowest decile of earners received just 0.2% of aggregate earnings while the second lowest decile received only 2.1% of aggregate earnings. In fact, those men in the bottom half of the earnings distribution for that year received just 18% of the total earnings received by all 20-29 year old adult males in 1998. In contrast, those young men in the two highest deciles received 47% of total earnings, with 30% of earnings accruing to only those in the top decile. The top decile of earners obtained aggregate earnings equal to that of all young men in the bottom 63 % of the distribution while those in the top quintile obtained nearly as much earnings as those in the bottom eight deciles combined.

Table 5.15:
Shares of Total Annual Earnings Received by 20-29 Year Old Males(1) by Decile of the Earnings Distribution, U.S.: 1973, 1995, and 1998

	(A) 1973	(B) 1995	(C) 1998	(D) Percentage Point Change, 1973 to 1998
First	0.6%	0.2%	0.2%	-0.4
Second	2.4%	1.7%	2.1%	-0.3
Third	4.7%	3.6%	4.0%	-0.7
Fourth	6.8%	5.5%	5.4%	-1.4
Fifth	8.6%	7.3%	6.5%	-2.1
Sixth	10.6%	9.2%	9.7%	-0.9
Seventh	12.3%	11.4%	11.4%	-0.9
Eighth	14.1%	13.9%	13.6%	-0.5
Ninth	16.6%	17.5%	16.7%	0.1
Tenth	23.9%	30.1%	30.4%	6.5

Source: March 1974, 1996, and 1999 CPS surveys, tabulations by Center for Labor Market Studies.

Note(1): Men with no earnings during the year were included in the analysis unless they cited schooling as the major reason for not working during the year

Comparisons of the findings on earnings inequality in 1995 and 1998 reveal that the growth in inequality among young adult men seems to have been halted over the past three years as a consequence of stronger labor market conditions. While the share of aggregate earnings obtained by men in the top decile increased modestly from 30.1% to 30.4%, men in the eight and ninth deciles were estimated to have experienced declines in their share of earnings (-.3 and -.8 percentage points, respectively) while those men in the second and third lowest deciles improved their share of aggregate earnings. The bottom half of the earnings distribution had a combined share (18.2%) that was essentially identical in both years.

The distribution of annual earnings among young men in each educational subgroup became more unequal between 1973 and 1998; however, the increase in inequality was greater among those men with no post-secondary schooling. Among male high school dropouts, the top decile of earners increased their share of earnings from 24.6% in 1973 to 32.8% in 1998, a gain of 8.2 percentage points while earners in nearly every other decile of the distribution lost part of their share over the same time period (Table 5.16). During 1998, the top two deciles of male earners in the high school dropout distribution obtained nearly one-half of all earnings received by dropouts during that year. Among male high school graduates, the top decile of earners also boosted their share of earnings considerably between 1973 and 1998, with their share rising from 21% to 27%. The second highest decile of earners also improved their share by 2.5 percentage points while all those in the bottom 60 per cent of the distribution experienced a decline in their share of aggregate earnings. The share of earnings obtained by high school graduates in the bottom half of the earnings distribution fell from nearly 29% in 1973 to 22% in 1998.

Among the nation's male four-year college graduates, earnings inequality also rose between 1973 and 1998, with the top two deciles boosting their combined share of annual earnings from 38.5% to 41.6% over this time period. The rise in their combined share of earnings was, however, markedly less than that of high school graduates and dropouts. Still, in 1998, the top decile of earners among bachelor degree recipients obtained cumulative annual earnings nearly equal to that of the bottom 50%. Even four year college graduates were not immune to the

general rise in earnings inequality that took place among young adult men over the past 25 years. Rising earnings inequality among young men is not simply due to a rise in earnings differentials by years of schooling. Other important labor market forces also are at work, sorting men into loser and winner categories, including growing inter-industry and inter-occupational differentials and rising premiums attached to strong literacy and numeracy proficiencies. An informed understanding of the sources of rising earnings differentials among young adult men needs to be obtained by those involved in youth workforce development policymaking and program planning at the nation, state, and local levels.

Table 5.16:
Shares of Total Annual Earnings Received by 20-29 Year Old Men[1] by Decile of the Earnings Distribution by Educational Attainment, U.S.: 1973 and 1998

Decile	(A) 1973	(B) 1998	(C) Percentage Point Change, 1973 to 1998
Less than 12 years			
First	0.2%	-0.1%	-0.3
Second	2.3%	0.8%	-1.5
Third	4.8%	3.4%	-1.4
Fourth	6.8%	5.5%	-1.3
Fifth	8.5%	6.8%	-1.7
Sixth	10.2%	10.3%	0.1
Seventh	12.1%	10.7%	-1.4
Eighth	14.3%	13.2%	-1.1
Ninth	17.5%	16.5%	-1.0
Tenth	24.6%	32.8%	8.2
12 Years			
First	1.1%	0.2%	-0.9
Second	4.3%	2.3%	-2.0
Third	6.3%	4.6%	-1.7
Fourth	7.8%	7.3%	-0.5
Fifth	9.1%	7.7%	-1.4
Sixth	10.4%	9.9%	-0.5
Seventh	11.8%	10.4%	-1.4
Eighth	13.2%	12.8%	-.4
Ninth	15.1%	17.6%	2.5
Tenth	21.0%	27.3%	6.3
16 or More			
First	1.0%	1.2%	0.2
Second	3.6%	3.3%	-0.3
Third	5.7%	5.6%	-0.1
Fourth	7.5%	7.2%	-0.3
Fifth	9.1%	8.6%	-.5
Sixth	10.3%	8.8%	-1.5
Seventh	11.6%	11.2%	-0.4
Eighth	13.3%	12.5%	-0.8
Ninth	15.4%	17.0%	1.6
Tenth	23.1%	24.6%	1.5

Source: March 1974 and March 1999 CPS surveys, tabulations by Center for Labor Market Studies.

Note[1]: Men with no earnings during the year were included in the analysis unless they cited schooling as the major reason for not working during the year.

Part II

Improving Future Labor Market Outcomes For Out-of-School Young Adults

The continued high incidence of employment and earnings problems among many of the nation's out-of-school young adults, particularly those with no post-secondary schooling, are likely to remain with us over the first decade of the twenty-first century. In fact, such problems may even intensify in some areas as greater numbers of young adults begin to enter the labor market over the decade.

As noted in our earlier discussion of changing demographic developments, the projected growth in the number of 16-24 year olds will substantially outpace that of earlier decades. Over the 1998-2008 period, the number of 16-24 year olds conservatively will rise by 4,862,000 versus growth of only 277,000 in the prior decade.[121] One-fifth of the increase in the nation's entire working-age population will come from this age group, an above fraction of which will consist of immigrants and race-ethnic minorities. The magnitude and intensity of the labor market problems confronting young adults can, however, be diminished somewhat in the future through a concerted set of actions and behaviors on the part of young adults themselves, their parents, the nation's high schools, youth employment and training agencies, community-based organizations, post-secondary educational institutions, employers in both the private and public sectors, and labor unions. The remainder of this monograph will be devoted to an assessment of the role of increased formal schooling, stronger academic achievement and literacy/numeracy proficiencies, expanded opportunities for early work experience, and increased access of youth to employer-based training in improving the early post-high school employment and earnings experiences of the nation's young adults during the first decade of the twenty-first century.

[121] See: Howard N. Fullerton, Jr. "Labor Force Projections to 2008: Steady Growth and Changing Composition," *Monthly Labor Review*, November 1999, pp. 19-32.

Chapter 6

Educational Strategies for Out-of-School Youth

Formal education clearly has become one of the dominant factors determining the labor market success of adults in the U.S. in recent decades. Those young adults who complete more years of schooling have heightened success in obtaining access to employment, securing full-time jobs, and avoiding unemployment. They also earn considerably higher weekly and annual wages when they do work and are much less likely to end up being poor or near poor in their young adult years than their counterparts with limited formal schooling. Those young adults who leave school without obtaining a high school diploma fare the worst on every employment and earnings measure. A high school diploma by itself, however, no longer provides as sure a path to a middle class life style as it did in the 1960s and early 1970s, especially for men.[122] The ability to complete substantial post-secondary schooling or formal skill training programs will have important long-term impacts on the occupational status of men and women and their lifetime weekly and annual earnings.

[122]Evidence on this issue is well laid out in the following books and monographs:
(i) Clifford Johnson and Andrew M. Sum, *Declining Earnings of Young Men: Their Impact on Poverty, Adolescent Pregnancy, and Family Formation*, Children's Defense Fund, Washington, D.C., 1987; (ii) Gordon Berlin and Andrew M. Sum, *Toward a More Perfect Union: Basic Skills, Poor Families, and Our Economic Future*, Ford Foundation, New York, 1988; (iii) Andrew M. Sum, Robert Taggart, and Neal Fogg, *Withered Dreams: The Declining Economic Fortunes of America's Non-College Educated Males and Their Families*, Report Prepared for the William T. Grant Foundation Commission on Work, Family, and Citizenship, Washington, D.C., 1988; (iv) Frank Levy, *Dollars and Dreams: The Changing American Income Distribution*, Russell Sage Foundation, New York, 1987; (iv) Richard J. Murnane and Frank Levy, *Teaching the New Basic Skills*, The Free Press, New York, 1996.

The growing importance of formal educational attainment to the economic success of workers in today's economy was highlighted prominently by President Clinton in his January 2000 State of the Union address to the U.S. Congress. In his presentation, the President remarked that:

> "Because education is more than ever key to our children's future, we must make sure that all our children have the key. That means universal preschool and afterschool, the best trained teachers in every classroom, and college opportunities for all our children."

Evidence in support of the President's assertions is substantial. The educational attainment of the nation's out-of-school young adults during calendar year 1999 was strongly associated with their labor force and employment status. On every labor force measure, the success rate of young adults rose consistently with their educational attainment (Table 6.1). The per cent of 16-24 year old out-of-school youth who actively participated in the labor market increased from 65% among those lacking a high school diploma to just under 84% for high school graduates and to a high of nearly 94% for those holding a bachelor's or higher degree. Young adults with more formal schooling were clearly more likely to be working or actively looking for work. Strengthened educational attainment among young adults could, thus, play an important role in combating growing labor shortages across the country.

When they do actively participate in the labor force, better-educated young adults are considerably less likely to be unemployed. The unemployment rates of out-of-school youth in the United States during 1999 ranged from a low of 5% for bachelor degree recipients to a high of 17% for those youth lacking a high school diploma. GED holders with no post-secondary schooling are included in the totals for high school graduates. A separate analysis of the 1998 labor force status of 18-24 year olds with no post-secondary schooling found that the unemployment rate of GED holders was 17% versus only 9.5% for similar-aged youth with a regular high school diploma.[123] In each gender and race-ethnic group, except Hispanics, the unemployment rate of young GED holders

[123]This analysis was based on the monthly CPS household surveys for January-December 1998. The analysis was confined to those high school graduates and GED holders who were not enrolled in school at the time of the surveys.

was nearly twice as high as that of high school graduates with regular diplomas.[124]

Table 6.1:
Labor Force and Employment Activities of 16-24 Year Old Out-of-School Youth in the U.S. by Educational Attainment: 1999
(Numbers in Per Cent)

Labor Force Activity Measure	(A) High School Dropout	(B) High School Graduate	(C) 1-3 Years of College	(D) Bachelor's Degree or Higher
Civilian Labor Force Participation Rate	65.5	83.7	89.1	93.5
Unemployment Rate	17.4	9.9	6.0	5.0
Employment/Population Ratio	54.1	75.4	83.7	88.9
Full-time Employment/Population Ratio	37.8	61.9	68.5	81.9
•Men	48.6	71.0	75.4	85.6
•Women	24.7	51.8	62.3	79.4
•White	41.2	64.3	67.7	82.8
•Black	23.3	51.7	64.6	77.7
•Hispanic	47.4	58.9	68.8	77.4

Source: U.S. Bureau of Labor Statistics, unpublished CPS tabulations, calculations by authors.

[124]Among Hispanics, the unemployment rates of both groups were essentially identical at 11% with GED holders modestly but not significantly less likely to be unemployed.

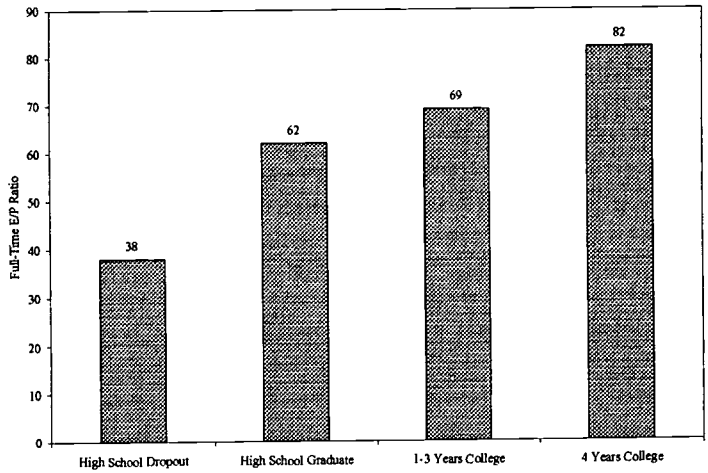
As a consequence of their higher rates of labor force participation and their lower rates of unemployment, better-educated young adults were more likely than their less-educated counterparts to be employed in 1999. The employment/population ratios of out-of-school young adults ranged from 54% for high school dropouts to 75% for high school graduates to just under 89% for four-year college graduates (Table 6.1). When they were employed, better-educated young adults were more likely to be working full-time. Only 70% of employed young high school dropouts were holding full-time jobs (35 or more hours per week) versus 82% of high school graduates and 92% of four-year college graduates. Adjusting each group's employment rate for the share of the employed that were classified as full-time yields full-time employment ratios ranging from a low of only 38% for high school dropouts to 62% for high school graduates and to a high of 82% for four-year college graduates.[125](Chart 6.1).

The full-time employment rates of young adults rose uniformly with their years of completed formal schooling for men and women and for Whites, Blacks, and Hispanics. For each of the above demographic groups, the gaps between the full-time employment rates of bachelor degree holders and high school dropouts ranged from 30 to 55 percentage points.

[125]The full-time employment/population ratio is obtained by multiplying the employment/population ratio for each group by the share of the employed holding full-time jobs. Algebraically, we can express this relationship in the following manner: EFT/P = (E/P) (EFT/E)

where: E_{FT} = Full-time employed; E = Employed; P = Civilian non-institutional population.

Chart 6.1:
Full-Time Employment-to-Population Ratios of Out-of-School 16-24 Year Olds, by Years of Schooling Completed, U.S.: 1999
(in %)



As young adults move from their early 20's to their late 20's, they accumulate higher amounts of paid work experience which raises both their current and future annual earnings. Findings of the NLSY surveys from 1980 through 1990 have revealed that the rate at which young adults acquire such additional work experience tended to be positively correlated with their years of formal schooling.[126] From age 22 through age 27 inclusively, average weeks worked by young adults in the U.S. during the 1980s ranged from 180 weeks for those lacking a high school diploma to 248 for high school graduates and to a high of 260 to 262 weeks for those with one or more years of college. The relationship between years of schooling and weeks of employment was especially strong for young adult women. Women who received bachelor degrees worked more than twice as many weeks (264 versus 114 weeks) as their counterparts who failed to obtain a high school diploma.

[126]See: Jonathan R. Veum and Andrea B. Weiss, "Education and the Work Histories of Young Adults," Monthly Labor Review, April 1993, pp. 11-20.

The weaker employment records of young adults with limited formal schooling were partly attributable to their greater difficulties in finding work when they did seek employment.[127] Mean cumulative weeks of unemployment from ages 22 through 27 ranged from only 10 weeks for bachelor degree recipients to 15 weeks for high school graduates and to a high of nearly 22 weeks for high school dropouts. Among both young adult men and women, high school dropouts tended to experience two to three times as many weeks of unemployment as bachelor degree recipients. (Table 6.2). The fraction of total weeks in the labor force spent unemployed from age 22 to age 27 was three times higher among young high school dropouts than among bachelor degree recipients in the U.S. over the decade of the 1980s.

The employment advantages of better-educated young adults persist as they move into their 30's. Recent analyses of the NLSY survey data for the years 1991-95 reveal large employment advantages in favor of adults with more years of school as they move from their late 20's through their late 30's.[128] Over the entire 1991-95 period, the average male in the study was employed during 87% of the maximum available 312 weeks; however, the per cent of weeks employed ranged from only 75% for men lacking a high school diploma or a GED certificate to a high of 95% for men holding a bachelor's or more advanced academic degree (Table 6.3).[129] Among women, the sizes of the employment

[127]Other national longitudinal research on the re-employment experiences of non-employed young adult men and women has found that years of schooling tend to significantly raise the probability of becoming re-employed for both men and women.

See: Lisa M. Lynch, "The Youth Labor Market in the Eighties: Determinants of Re-Employment Probabilities for Young Men and Women," *Review of Economics and Statistics*, Vol. 71, No. 2, 1989, pp. 37-45.

[128]The findings in Table 6.2 were published by the U. S. Bureau of Labor Statistics in a news release in June 1998.

See: U. S. Bureau of Labor Statistics, *Number of Jobs, Labor Market Experience, and Earnings Growth: Results from A Longitudinal Survey*, Washington, D.C., June 24, 1998.

[129]Among both men and women with no post-secondary schooling, those persons holding a GED certificate were less likely to be employed than those with a regular high school diploma over this five year period. Among men, the employment rate gap was 12 percentage points while among women it was 8 percentage points.

gaps across educational subgroups were even greater. For example, women without a high school diploma or a GED certificate worked only 49% of the time between 1991 and 1995 while high school graduates were employed nearly 69% of the time, and four year college graduates worked 81% of the time. Among Whites, Blacks, and Hispanics, the fraction of time that respondents were employed rose consistently with their level of schooling. The effects were strongest for Black, non-Hispanics. As Blacks acquired more schooling, the gaps between the employment rates of Whites and Blacks narrowed considerably, being completely eliminated for those with a bachelor's degree.

Table 6.2:

Average Number of Weeks Worked and Number of Weeks Unemployed From Age 22 through Age 27 by Educational Attainment, Total and by Gender (U.S. Cumulative 1978 to1990)

Weeks Worked	(A)	(B)	(C)	(D)
Gender	High School Dropout	High School Graduate	Some College (1-3 Years)	Bachelor's Degree or Higher
All	180.3	247.8	261.9	259.1
Men	252.9	277.8	271.8	252.4
Women	114.1	217.6	254.0	264.2

Weeks Unemployed	(A)	(B)	(C)	(D)
Gender	High School Dropout	High School Graduate	Some College (1-3 Years)	Bachelor's Degree or Higher
All	21.7	14.7	11.5	9.9
Men	23.7	16.0	13.1	12.6
Women	21.9	13.5	10.3	7.7

Source: Jonathan Veum and Andrea B. Weiss, *Monthly Labor Review*, April 1993.

The educational attainment of employed young adults also has had substantial impacts on their average weekly and annual earnings in recent years. Over the 1997-98 period, the median weekly earnings of

employed 16-24 year olds ranged from a low of $220 for those persons lacking a high school diploma or a GED certificate to $280 for high school graduates to a high of $462 for bachelor degree recipients. (Table 6.4). A small part of the weekly earnings advantages of better-educated young adults is attributable to the fact that they work more hours during the week than their less-educated counterparts. When the analysis is confined to those persons holding full-time wage and salary jobs, the median weekly earnings range from $260 for high school dropouts to a high of $481 for bachelor degree recipients.[130] The median weekly earnings of full-time employed high school graduates exceeded those of high school dropouts by 20 per cent while bachelor degree recipients earned 54% more than high school graduates with no post-secondary schooling.

Table 6.3:
Per Cent of Total Weeks Between 1991 and 1995 that Persons Were Employed by Educational Attainment, Gender, and Selected Race-Ethnic Group
(Persons 31-38 Years Old in 1995)

Educational Attainment	(A) All	(B) Men	(C) Women	(D) White	(E) Black	(F) Hispanic
All	79.4	87.4	71.2	81.6	70.1	74.8
Less than a high school diploma or GED	—	75.2	48.8	68.8	48.2	62.2
High school graduate, no college	—	86.8	68.9	80.3	69.0	75.3
Some college, no degree	—	86.7	76.6	82.7	77.3	79.0
Associate's Degree	—	91.9	75.0	82.2	78.8	85.6
Bachelor's or higher degree	—	95.4	81.1	88.2	90.7	88.7

Source: National Longitudinal Surveys of Youth, 1991-95, tabulations by U.S. Bureau of Labor Statistics, 1998

[130]The findings on weekly earnings are confined to those young adults holding wage and salary jobs. The data on annual earnings include the self-employed as well as wage and salary workers.

The annual earnings advantages of better-educated young adults (20-29 years old) also are quite considerable. This holds true for both men and women. Over the 1997-98 period, the median annual earnings of employed young adult men ranged from only $12,800 for those lacking a high school diploma or a GED certificate to $19,131 for high school graduates to a high of over $30,000 for those men holding a bachelor's or higher degree. The median annual earnings of male high school graduates exceeded that of dropouts by nearly 50 % while college-educated men obtained median annual earnings 58% higher than those of high school graduates.[131] The relative annual earnings differences among employed young adult women were even greater, with college-educated women obtaining median annual earnings that were nearly twice as large as those of employed high school graduates. The substantial size of the relative annual earnings advantages of college educated women was due to a combination of more weeks and hours of employment as well as higher hourly wages. Young women's labor supply tends to respond positively to expected market wages, and college- educated women experience less unemployment and underemployment than their less-educated counterparts. As a consequence, college-educated women are more likely to voluntarily supply more hours of labor during the year and are more successful in securing paid employment for all of their desired hours of work.[132]

[131]The relative size of the mean earnings differences between the groups were even greater than the relative differences between the median earnings of these two groups.

[132]In labor market parlance, these findings imply that the labor supply curve for young women is upward sloping and that college educated women are more likely than their less educated counterparts to be found on their labor supply curves. For findings on the influence of higher wages on the labor force participation and labor supply behavior of women with children, including single mothers,

See: (i) J. Graham and A. Beller, "The Effects of Child Support Payments on the Labor Supply of Female Family Heads," Journal of Human Resources, Vol. 24, pp. 665-688; (ii) Neeta P. Fogg, *An Economic Analysis of the Determinants and the Labor Market Consequences of Teenage Childbearing in the United States, 1979-91*, Unpublished Ph.D. Dissertation, Department of Economics, Northeastern University, Boston, 1997.

The large relative weekly wage gaps between college-educated young workers and their less-educated counterparts tend to widen even further as they move from their mid 20's through their early 30's.[133] Findings of the NLSY surveys over the entire 1979-95 period reveal that the growth rates of real hourly earnings for men and women as they move from their mid 20's to their early 30's tend to increase with additional years of schooling, being considerably higher for those adults with 16 or more years of schooling. Among men, real hourly earnings increased at an annual average rate of 6.1% from age 23 through age 27. (Table 6.4). These annual growth rates in real hourly earnings ranged from a low of 3.4% for those men lacking a high school diploma to a high of 10.5% for those males with a bachelor's or higher degree.

Table 6.4
Average Annual Growth Rates in Real Hourly Earnings of Employed Young Adults in Selected Age Groups Over the 1978-95 Period, by Gender (Persons 31 to 38 Years Old in 1995)

	(A) Men		(B) Women	
Educational Attainment	(i) 23-27 Years Old	(ii) 28-32 Years Old	(i) 23-27 Years Old	(ii) 28-32 Years Old
All	6.1	2.3	4.9	2.9
<12	3.4	1.1	2.9	.9
12	3.8	1.1	3.3	2.9
13-15	7.7	2.1	4.7	2.4
16 or +	10.5	5.4	8.3	4.4

Source: National Longitudinal Surveys of Youth, 1978-95, tabulations by U.S. Bureau of Labor Statistics, 1998.

[133]The real hourly earnings of adult workers rise faster in their early to mid 20's than they do at later stages in their adult working lives. The analysis of the NLSY data for the years 1978-95 revealed that real hourly earnings increased at an annual average rate of 7.4 per cent from age 18 through 22, by 5.5 per cent between ages 23 to 27, and by only 3.6 per cent from ages 28 through 32. See: U. S. Bureau of Labor Statistics, *Number of Jobs, Work Experience...*

As men move through the labor market from their late 20's through their early 30's, the average growth rates in their real hourly earnings slow considerably overall, but remain much higher for college-educated males. The annual average growth rate of real earnings for all employed men from ages 28 to 32 was only 2.3%; however, these growth rates varied from lows of 1.1% for men with a high school diploma or less to a high of 5.4% for men who completed four or more years of college (Table 6.5). Over this five year period, this represents a compound growth rate of 30% in the hourly earnings for college-educated men, but gains of only 5.6% for high school graduates and dropouts. The patterns of real wage growth by years of schooling completed were quite similar (though somewhat less extreme) for women, with college-educated women faring the best in each age group.[134] Very similar patterns in wage gains by years of schooling also prevailed for Whites, Blacks, and Hispanics.

The weekly earnings advantages of better-educated full-time workers tend to rise in both absolute and relative terms as they gain more experience in their later adult working lives. To illustrate this result, findings on the 1999 median weekly earnings of full-time employed adult men and women (25 and older) are displayed in Table 6.6. The median weekly earnings of employed high school graduates (both men and women) were $490 versus only $346 for high school dropouts, a relative difference of 42% in favor of high school graduates while those adults holding a bachelor's or higher degree had median weekly earnings of $860, or 76% higher than those of high school graduates. The earnings advantages of better-educated adults are quite considerable for both men and women. The median weekly earnings of full-time employed college graduates (25 and older) exceeded those of high school graduates by 68% and 83% for men and women, respectively.

[134]The gaps in annual growth rates between college educated and high school educated women were somewhat smaller than those for men in each of our two age groups.

Table 6.5:
Weekly and Annual Earnings of Employed Out-of School Adults by Years of Schooling Completed, U.S.1997-98

Earnings Outcomes	(A) High School Dropout	(B) High School Graduate or GED Holder	(C) 1-3 Years of College Associate Degree	(D) Bachelor's or Higher Degree
Median Weekly Earnings for Employed 16-24 Year Old Out-of-School Youth, 1997-98	$220	$280	$300	$462
Median Weekly Earnings for 16-24 Year Old Full-Time Employed Out-of-School Youth, 1997-98	$260	$312	$323	$481
Median Annual Earnings of Employed 20-29 Year Old Men, 1997-98 (in 1998 Dollars)	$12,831	$19,131	$21,145	$30,202(1)
Median Annual Earnings of Employed 20-29 Year Old Women, 1997-98 (in 1998 Dollars)	$6,746	$12,587	$15,608	$24,423(1)

Note: (1) Findings apply only to bachelor's degree holders.
Source: Monthly CPS surveys, January 1997- December 1998, tabulations by authors.

Table 6.6:
Median Weekly Earnings of Full-Time Wage and Salary Workers (25+)
By Gender and Years of Schooling Completed, 1999 Annual Averages

Gender	(A) High School Dropouts	(B) High School Graduates	(C) 1-3 Years College Including Associate's	(D) Bachelor's or Above
All	346	490	580	860
Men	395	580	665	977
Women	290	405	488	740

Source: U.S. Bureau of Labor Statistics, *Usual Weekly Earnings of Wage and Salary Workers: 1999*, January 2000.

Lifetime Earnings of Men and Women, by Years of Schooling

Another more comprehensive approach to illustrating one of the key economic advantages of completing more years of formal schooling involves estimating the lifetime earnings of workers in various educational subgroups. How much, on average, can men and women expect to earn over their working lives by completing more years of schooling?[135] To answer this question, we used the findings of the March 1998 and March 1999 CPS surveys to estimate the mean annual earnings of men and women by single age group from age 18 to 64 for the following six educational attainment subgroups:[136]

- Primary and high school dropouts (no GED)
- High school graduates and GED holders, no college
- Associate degree holders
- Bachelor's degree recipients, no post-graduate work
- Bachelor's and higher degree recipients
- Master's and higher degree recipients

[135]The lifetime earnings advantages that we estimate are gross earnings differences with no statistical adjustment for pre-existing differences, such as academic ability, between men and women with varying levels of schooling that might be expected to influence their earnings. Other research work by the authors indicate that adjustments for ability differences would only reduce the gross earnings differences between college graduates and high school graduates by 15 to 20 percent.

See: Andrew Sum, *Literacy in the Labor Force*, Chapter 7.

[136]For each age/educational subgroup, we took the simple two year average of the real annual earnings of 1997 and 1998.

The mean expected lifetime earnings (as of 1997 to 1998) of men from ages 18 through 64 in each of the above educational subgroups are displayed in Table 6.7 and Chart 6.2.[137] The mean expected lifetime earnings of all men (based on prevailing 1997-98 earnings levels) through age 64 were $1,576,000. The size of these lifetime earnings streams varied quite widely by years of schooling completed, ranging from a low of $769,000 for those men lacking a high school diploma to a high of $3,122,000 for those men holding Master's or higher degrees. Men obtaining a high school diploma could be expected to earn $415,000 more over their working lives than high school dropouts, those with an Associate's degree will earn $356,000 more than male high school graduates,[138] and Bachelor's degree recipients (no post-graduate work) will earn nearly $1 million more than their counterparts with only a high school diploma.[139] Finally, men who obtain a Master's or higher degree can be expected, on average, to earn nearly one million dollars more than men with only a Bachelor's degree.

[137]The mean annual earnings of each group of men include those with no paid employment during the year. Those men with no employment were assigned an annual earnings of zero. Similar procedures were employed for women.

[138]For a review of the estimated earnings impacts of credits completed and associate degrees obtained at community colleges across the U. S.,
See: (i) Thomas S. Kane and Cecilia Elena Rouse, "Labor Market Returns to Two- and Four-Year College," *American Economic Review*, June 1995, Vol. 85, No. 3, pp. 600-614; (ii) Thomas J. Kane and Cecilia Elena Rouse, "The Community College: Educating Students at the Margin Between College and Work," *Journal of Economic Perspectives*, Volume 13, Number 1, Winter 1999, pp. 63-84; (iii) Andrew M. Sum, *Literacy in the Labor Force*, National Center for Education Statistics, Washington, D.C., 1999.

[139]We recognize that these earnings gain occur over the entire work life and need to be converted into present dollar terms via use of some discount rate and compared to the private costs of such investments, including foregone earnings. Our calculations of private rates of return on college investments based on average tuition and fees at public and private universities and colleges and adjustments of college earnings differences for the higher ability of college educated workers still yield private rates of return in the 15 to 18 per cent range for men and women, respectively.

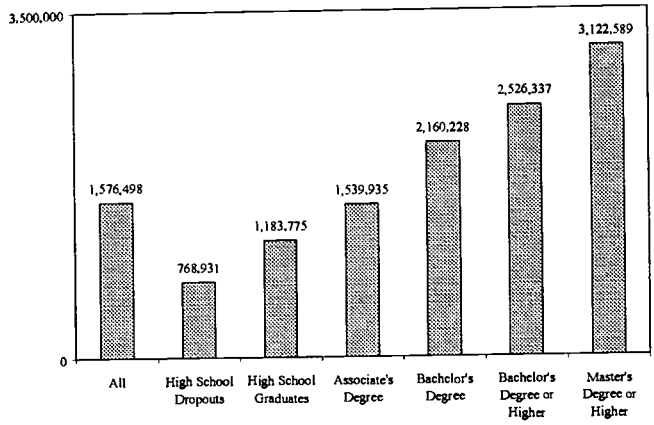
Table 6.7:
Mean Lifetime Earnings, Hours of Paid Employment, Hourly Wages, and Incidence of Poverty of 18-64 Year Old Males by Educational Attainment, U.S.: 1997-98 Average

Educational Attainment	Lifetime Earnings	Lifetime Hours	Lifetime Earnings Divided by Lifetime Hours	Lifetime Incidence of Poverty
All	1,576,498	85,234	18.50	8.9%
High School Dropouts	768,931	68,364	11.25	22.1%
High School Graduates	1,183,775	83,709	14.14	8.7%
Associate's Degree	1,539,935	88,330	17.43	4.3%
Bachelor's Degree	2,160,228	92,113	23.45	3.3%
Bachelor's or More	2,526,337	93,314	27.07	3.1%
Master's Degree or More	3,122,589	95,569	32.67	2.6%

Source: March 1998 and March 1999 CPS surveys, public use tapes, tabulations by authors.

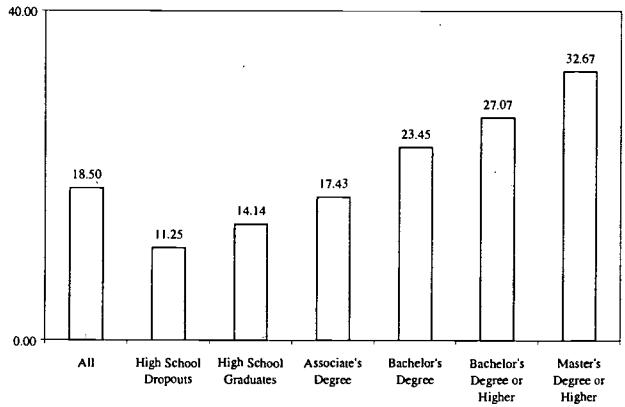
Note: Lifetime earnings are calculated from ages 18 to 64. Findings exclude 18-24 students since their earnings could not be uniquely identified with a given educational subgroup.

Chart 6.2 :
Mean Lifetime Earnings of Males Through Age 64 by Educational Attainment
(1997-98 Averages)



The higher lifetime earnings of males who complete more schooling are attributable to a combination of more hours of work and higher hourly earnings. At the higher schooling levels (a bachelor's degree or higher), the bulk of the lifetime earnings advantages are due to higher hourly earnings. For example, the lifetime earnings of male high school graduates exceed those of dropouts by nearly 54% (Chart 6.3). This earnings advantage of high school graduates is a consequence of both 22% more hours of work over the lifetime and a $2.90 or 26% hourly wage advantage.[140] The mean lifetime earnings advantage of male bachelor degree recipients over high school graduates was equal to nearly one million dollars or 82%. Male bachelor degree recipients will work about 10% more hours than high school graduates over their working lives, and they will earn approximately 66% more per hour ($23.45 versus $14.14). The bulk of the annual earnings advantages of college-educated males are, thus, attributable to higher hourly earnings rather than to more work hours. Similar relationships explain the large lifetime earnings advantages of men with Masters and more advanced degrees.[141]

Chart 6.3:
Mean Lifetime Hourly Earnings of Males Through Age 64 by Educational Attainment
(1997-98 Averages)



[140]A 22% hours difference multiplied by a 26% hourly wage advantage yields a 54% annual earnings advantage (1.22*1.26=1.54).

[141]Men with Masters and higher degrees work only 4 per cent more hours over their work lives than bachelor degree recipients but obtain hourly earnings that are nearly 40% higher.

The lifetime earnings of women from ages 18 through 64 by educational attainment are displayed in Table 6.8 and in Chart 6.4. Similar to the findings for men, there are large differences in lifetime earnings among women in these six educational groups although the absolute size of these differentials are smaller than those prevailing among men.[142] The mean expected lifetime earnings of women as of 1997-98 was $788,000.[143] The mean values of these lifetime earnings range from a low of $294,000 for women lacking a high school diploma or a GED certificate to a high of $1,571,000 for women with a Master's or higher degree. Women with a high school diploma or GED certificate will earn $313,000 or 106% more than those lacking a diploma. The doubling of expected lifetime earnings for women with a high school diploma was the result of a substantially greater number of work hours (52%) and 36% higher mean hourly earnings. (See Table 6.8). Those women who failed to graduate from high school had mean hourly earnings of only $7.70 per hour. Women who obtain a bachelor's degree had lifetime earnings of $1,114,000. These earnings were $508,000 or 83% higher than those of women with only a high school diploma. The higher lifetime earnings of bachelor degree recipients over and above those of high school graduates were primarily due to a 60% higher hourly earnings advantage, but they also worked 15% more hours over their lifetime. Women with more schooling, thus, work more hours over their lifetime and obtain considerably higher hourly earnings than their less educated counterparts. These substantial lifetime earnings advantages of college educated women prevailed among Black, Hispanic, and White, non-Hispanic women in the late 1990s in the U.S.

[142]The higher lifetime earnings of men are a consequence of both more hours of work and higher hourly earnings than women, with higher hourly earnings accounting for a larger share of the differences as we move up the educational ladder.

[143]These lifetime earnings estimates are likely quite conservative for the future since more women are projected to be active in the civilian labor force in the future, will likely work somewhat more hours per year, and increase their real weekly earnings, especially as their educational attainment continues to improve. Between 1998 and 2008, the U. S. Bureau of Labor Statistics projects that the labor force participation rate of women ages 25 to 54 will rise from 76.5% to 79.7%.

See: Howard N. Fullerton, Jr., "Labor Force Projections to 2008," Table 3, p. 24.

Table 6.8:
Mean Lifetime Earnings(1), Hours of Paid Employment, Hourly Wages, and Incidence of Poverty of Women in the U.S., by Educational Attainment (1997-98 Average)

Educational Attainment	Lifetime Earnings	Lifetime Hours	Lifetime Earnings Divided by Lifetime Hours	Lifetime Incidence of Poverty
All	$787,950	60,045	13.12	13.5%
High School Dropouts	$293,750	38,146	7.70	34.9%
High School Graduates	$606,795	58,115	10.44	14.2%
Associate's Degree	$902,109	67,199	13.42	7.0%
Bachelor's Degree	$1,114,420	66,619	16.73	4.1%
Bachelor's or More	$1,570,792	69,538	18.24	3.8%
Master's Degree or More	$1,570,792	71,600	21.94	2.7%

Source: March 1998 and March 1999 CPS surveys, public use tapes, tabulations by authors.

Note: (1) Lifetime earnings are calculated from age 18 through 64. Findings exclude 18-24 year old students.

Chart 6.5:
Mean Lifetime Earnings of Women Through Age 64
by Educational Attainment
(1997-98 Average)

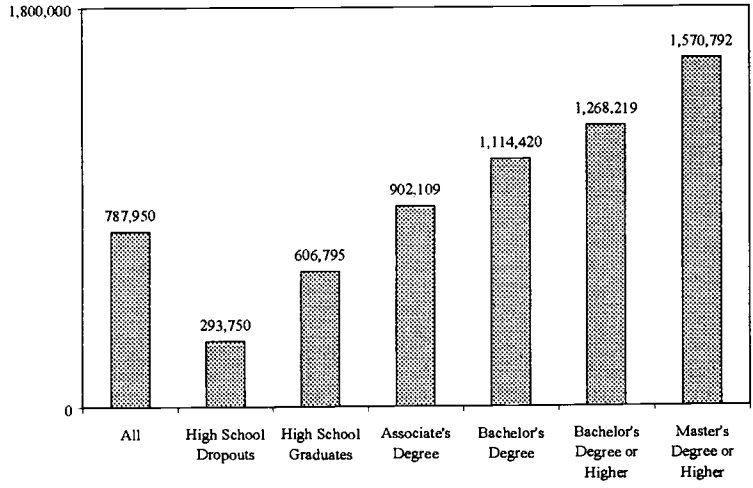
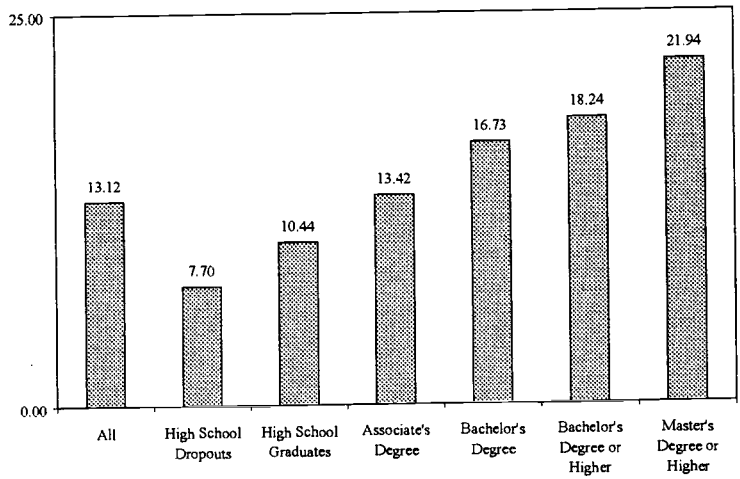


Chart 6.6:
Mean Lifetime Hourly Earnings of Women Through Age 64,
by Educational Attainment
(1997-98 Average)



Educational Attainment and Lifetime Poverty Experiences of Adults

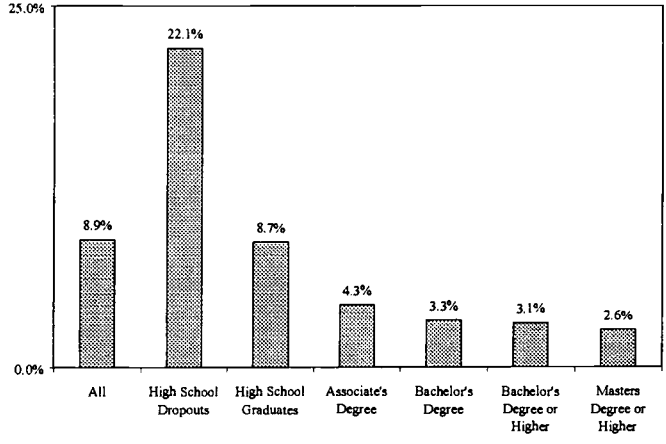
Among the many economic and social benefits of increased formal schooling is that of a reduced likelihood of poverty throughout one's adult life. The reduced employability and earnings potential of poorly educated adults places more of them at risk of poverty and economic dependency over their entire adult life span, increasing the fiscal burden on the rest of society from higher cash and in-kind assistance, including TANF benefits, Supplemental Security Income for the disabled, general relief payments, food stamps, rental housing subsidies, and Medicaid benefits.[144] To identify the degree to which increased formal schooling reduces the lifetime poverty exposure of adults, we estimated the average per cent of time (in years) that an adult with a given level of school-

[144]Increased educational investments in youth and adults can generate benefits for both the recipients of such investments and the public at large. For examples of the public or spillover benefits from increased educational attainment especially among minority youth, See: The Rand Corporation, *Closing the Education Gap: Benefits and Costs*, Santa Monica, 1999, especially, "Chapter Two: The Public Benefits of Education."

ing would be in poverty between the ages of 18 and 64. Estimates were derived separately for men and women, using the findings from the March 1998 and March 1999 CPS household surveys.[145]

For all men, the average expected incidence of poverty over the 18-64 age range was just under 9% (Chart 6.7). Given the 47 years covered by this life span, this implies that the average male would spend between 4 and 5 years of his adult life in poverty. The expected lifetime incidence of poverty among men did, however, vary quite widely by their educational attainment, ranging from a high of 22% for high school dropouts to slightly under 9% for high school graduates to a low of under 3% for those men holding a Master's or higher degree. Expected years in poverty, thus, ranged from a high of 10.4 years for men lacking a high school diploma to a low of 1-2 years for those with a Master's or higher degree, a relative difference of nearly nine to one.

Chart 6.7:
Average Yearly Incidence of Poverty of Males Through Age 64, by Educational Attainment
(1997-98 Average)

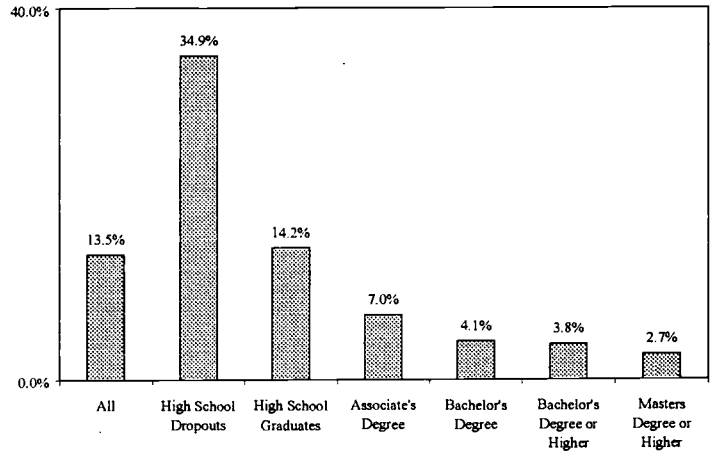


[145]The poverty rate for adults in each educational attainment category were estimated for single year age groups from age 18 to 64. The fraction of adults who were poor in 1997 and 1998 were summed and divided by two to obtain a simple, unweighted two year average. Each year of age was weighted equally in determining the fraction of time spent in poverty.

Overall, women are more likely than men to spend their adult years in poverty; however, there is an extremely strong association between the expected incidence of poverty among adult women and their years of formal schooling.[146] (See Chart 6.8). The average incidence of poverty among all women over their adult years (18 to 64) was 13.5% based on their 1997 and 1998 experiences, yielding an expected 6.3 years in poverty. The expected incidence of poverty varied from a low of 2.7% for women with a Master's or higher degree to a high of nearly 35% for women who failed to obtain a high school diploma or a GED certificate. At each higher level of educational attainment, the average incidence of poverty declined steadily though not uniformly. Very substantial declines in the expected incidence of poverty occurred as we move from those women lacking a high school diploma to those holding an Associate's degree. Women obtaining an Associate's degree would be expected to spend only 3.3 years in poverty versus an expected 16.4 years of poverty conditions for women lacking a high school diploma, a relative difference in lifetime poverty of five times. Leaving high school without a diploma and a solid base of academic skills is the equivalent of committing economic suicide for both men and women. The attainment of some post-secondary schooling by adults does not completely eliminate the likelihood of their being poor, but it does substantially reduce the expected number of years that they will spend in poverty in their adult years. Increased formal schooling for women and men, thus, appeared to be an effective anti-poverty strategy as the nation closed out the twentieth century.

[146]The absolute and relative size of the gaps between the poverty incidences of men and women vary considerably by educational attainment, being much smaller for those women with a bachelor's or higher degree.

Chart 6.8:
Average Yearly Incidence of Poverty of Women Through Age 64, by Educational Attainment, (1997-98 Average)



Recent Trends in Educational Attainment and College Attendance Among Young Adults

Given the critical role played by formal education in determining success in today's U.S. labor markets and its likely growing importance for labor market success in future years, it seems particularly desirable to ask how well the nation has been faring in improving educational outcomes for young adults in recent years as measured by years of schooling completed and college attendance rates. On this front, the news is typically positive, although a number of important educational gaps remain. First, the fraction of the nation's young adults (16-24) who are neither enrolled in school nor a high school graduate (or GED holder) has been declining over the past two decades.[147] According to analyses of CPS survey data by the National Center for Education Statistics, the per cent of 16-24 year olds who had left school without acquiring a diploma or a GED certificate had declined from 15% in 1972 to 11% in

[147]See: Center of Education Policy and American Youth Policy Forum, *Do You Know...The Good News About American Education?*, Washington, D.C., 1999.

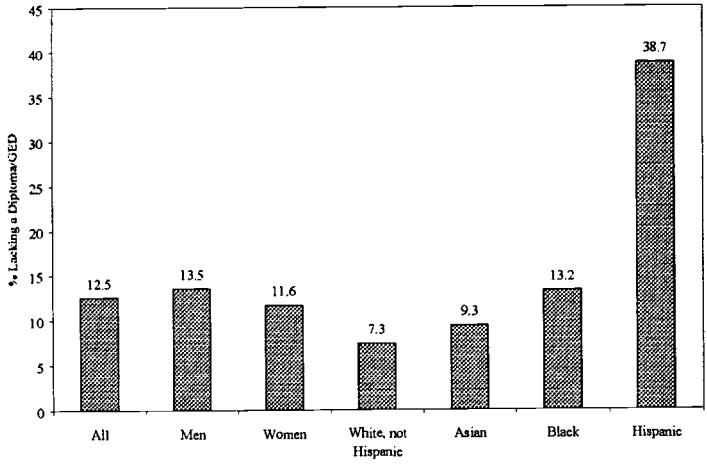
1997.[148] The declines were particularly strong for Black and Hispanic youth although both Black (13%) and Hispanic youth (25%) were more likely than Whites (8%) to have left school without obtaining a diploma or a GED certificate in 1997.

Our own analysis of 1996-98 CPS data for the entire nation revealed that one of eight 25-34 year olds lacked a high school diploma or a GED certificate (Chart 6.9). Men (13.5%) were more likely than women (11.6%) to have failed to acquire such a credential and Hispanics (39%) were three times more likely than Blacks (13%) and five times more likely than White, non-Hispanic adults (7%) to have done so. A majority (60%) of the 25-34 year old Hispanic population were foreign immigrants, and the dropout rate among foreign- born Hispanics was nearly three times higher than that of native-born Hispanics (52% vs. 19%). The educational deficits of young, new immigrants are only now beginning to receive attention from the national media.[149] The adult basic education system and youth workforce development systems have lagged considerably behind in addressing the employability problems of this rapidly growing segment of the young adult population.

[148]See: U. S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1998, Washington, D.C.
These estimates understate the number of 16-24 year olds who have left or will leave high school without a regular high school diploma for several different reasons. First, during 1998, we estimate that there were 844,600 persons 16-24 years old without any post-secondary education who reported holding a GED certificate rather than a regular diploma. This group was equal to 2.5% of the 16-24 year old population. Second, many 16-24 year olds were still enrolled in high school and some of them will not obtain a regular diploma. Third, the 16-24 year old population figures exclude inmates of institutions, especially jails and prisons, many of whom did not graduate from high school.

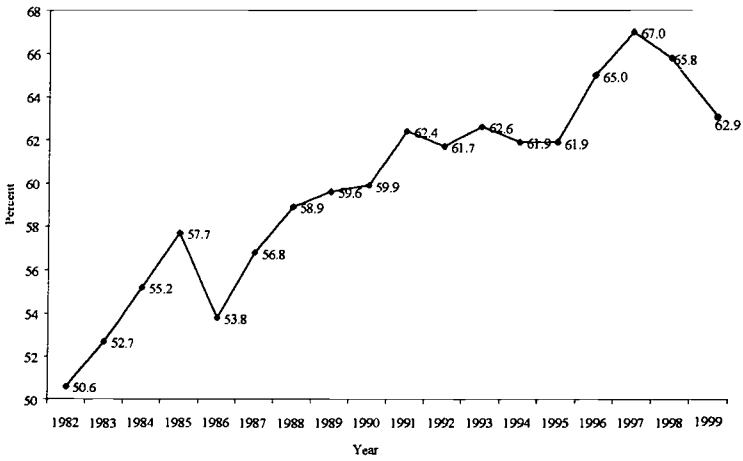
[149]See: Karen W. Arenson, "Scaling the Barriers of Literacy and Language," *The New York Times*, March 11, 2000, pp. 1, 33.

Chart 6.9:
Per Cent of 25-34 Year Olds in the Civilian Non-institutional Population of the U. S. Who Lacked a High School Diploma or a GED Certificate, Total and By Gender and Race/Ethnic Origin, 1996-98
(Three Year Averages)



A rising fraction of the nation's annual output of new high school graduates has been attending college since the early 1980s. (Chart 6.10). In 1981 and 1982 only 50 to 51 per cent of each year's graduating class were attending a two or four year college or university in the autumn immediately following graduation. By the end of the decade, the college enrollment rate had risen to 59% and continued to rise through the late 1990s, reaching all time highs of 66 to 67% in the fall of 1997 and 1998.

Chart 6.10:
Trends in the Per Cent of New High School Graduates
Attending College in the Fall of the Year Following Graduation, U.S.: 1982-1998



Gains in college enrollment rates were quite strong for men and for women and for Whites, Blacks, and Hispanics (Table 6.10). There, however, has been a widening gender gap in college enrollment rates between men and women, with the advantage in favor of women rising to 7 percentage points in the late 1990s. The gender gap in college enrollment rates for Blacks and Hispanics in major central cities is often quite substantial and should be a policy concern for educators, youth workforce development professionals, and advocacy groups for families. While college enrollment rates have improved considerably, close attention also needs to be paid to college retention, especially for high school graduates from low socioeconomic status (SES) families and Black and Hispanic youth.[150] Findings from the U.S. Department of Education's Beginning Postsecondary Student Longitudinal survey reveal very high attrition rates from two and four-year colleges, especially among youth from low SES families.[151] For example, among

[150]For examples of such studies,
See: (i) Paula R. Knepper, *Student Progress in College: NSL72Postsecondary Education Transcript Study, 1989*, Washington, D.C., February 1989; (ii) John Tuma and Sonya Gies, *High School and Beyond: 1992 Descriptive Summary of 1980 High School Sophomores 12 Years Later*, National Center for Education Statistics, Washington, D.C., January 1995.

[151]See: U. S. Department of Education, National Center for Education Statistics, *Findings from the Condition of Education, 1997: Postsecondary Persistence and Attainment*, Washington, D.C., July 1997.

those post-secondary students who first enrolled in a community college during the 1989-90 school year, nearly 24% had obtained either an Associate's or Bachelor's degree by 1994. The share of students obtaining a degree varied from a low of 12% for those living in families in the bottom quartile of the SES distribution to a high of 36% for those in the top quartile of the distribution. Clearly, attrition rates were considerably higher for community college students from low SES families. Similarly large gaps in Bachelor's degree attainment rates by SES status prevailed among those post-secondary students who first enrolled in a four-year college or university during the 1989-90 school year. Simply boosting college enrollment rates of high school graduates from minority and lower SES backgrounds is clearly not sufficient to guarantee high rates of ultimate degree attainment.[152]

Table 6.10:
Trends in the College Attendance Rates of New High School Graduates in the U.S. by Gender and Race-Ethnic Group, Selected Years, 1982-83 to 1997-98
(Numbers in Per Cent)

Years	(A) Men	(B) Women	(C) White(1)	(D) Black(1)	(E) Hispanic
1982-83	50.5	52.8	53.5	37.5	48.7
1988-89	57.3	61.2	58.6	48.9	56.2
1993-94	60.2	64.3	63.2	53.2	55.7
1997-98	63.0	69.7	67.7	60.8	56.5
Percentage Change, 1982-83 to 1997-98	+12.5	+16.9	+14.2	+23.3	+7.8

Note: (1) Hispanics can be members of any race. They are included in the White and Black totals appearing in this table.
Source: U.S. Bureau of Labor Statistics, October CPS survey supplements, tabulations by authors.

[152]Twelve years after the initial High School and Beyond interviews with high school sophomores in 1980, only 15% of those from families in the bottom quartile of the SES distribution who initially enrolled in a postsecondary institution had obtained an Associate's or Bachelor's degree versus 40% of those from the middle two quartiles and 78% of those in the top quartile.

See: John Tuma and Sonya Geias, *op.cit.*

The proportion of young adults holding a Bachelor's degree also has risen modestly over the past 15 years although it has not quite kept pace with the growing demand for college graduates in the nation's labor markets.[153] Women, in particular, have made impressive gains in obtaining Bachelor's degrees as have Asians whose college-educated ranks have been augmented by the arrival of very well-educated recent immigrants, many of whom attended college in the United States.[154] On average, over the 1996-98 period, 27% of all 25-34 year olds in the nation's civilian non-institutional population held a bachelor's degree. Women (28%) were slightly more likely than men (27%) to possess a Bachelor's degree; however, Bachelor's degree attainment rates varied considerably across race-ethnic groups. Asian and Pacific Islanders had the highest Bachelor's degree attainment rate (49%) followed by White, non-Hispanics at 32% and much further behind by Blacks (15%) and Hispanics (11%). (Chart 6.11). The low rate of degree attainment by Hispanic adults is partly attributable to the very high fraction of foreign immigrants among the 25-34 year old Hispanic population, many of whom arrived in the U.S. with limited schooling.[155] Only 8% of 25-34 year old Hispanic immigrants possessed a Bachelor's degree over the 1996-98 period versus 15% of native-born Hispanics. (Table 6.11).

[153]Between 1983 and 1998, the share of 25-29 year olds holding a bachelor's degree increased from 26% to 31%. The gains, however, were considerably larger for women than for men and for Whites than for Blacks or Hispanics. In 1998, Whites were twice as likely as Blacks or Hispanics to have held a Bachelor's degree.

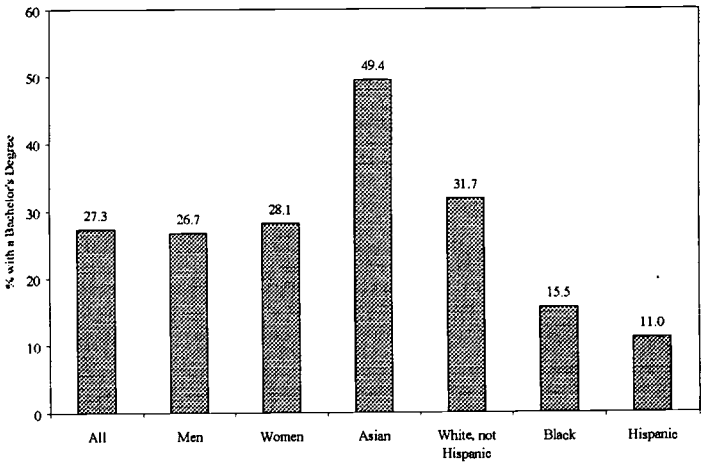
See: Center on Education Policy and American Youth Policy Forum, *Do You Know The Good News*, p. 29.

[154]Over the 1996-98 period, we estimate that 25-34 year old Asian immigrants were modestly more likely than native born Asians to possess a bachelor's degree (50% vs. 47%).

[155]For a recent review of the educational accoomplishments and problems of Hispanic adults in the U. S.,

See: Anthony P. Carnevale, *Education = Success: Empowering Hispanic Youth and Adults*, Educational Testing Service, Princeton, New Jersey, 1999.

Chart 6.11:
Per Cent of 25-34 Year Olds in the Civilian Noninstitutional Population With a Bachelor's or Higher Degree, Total and by Gender and Race-Ethnic Origin: U.S. 1996-98



Source: Monthly CPS surveys, January 1996-December 1998, tabulations by authors.

Table 6.11:
Per Cent of 25-34 Year Olds Holding a Bachelor's or More Advanced Degree in the U.S., by Race/Ethnic Origin and Nativity Status, U.S.: 1996-98
(3 Year Averages)

Race/Ethnic Group	(A) Native Born	(B) Foreign Born
All	27.8	24.8
Asian and Pacific Islander	46.8	50.2
Black, not Hispanic	14.9	23.4
Hispanic	15.0	8.2
White, not Hispanic	31.2	43.6

Source: Monthly CPS surveys, January 1996 to December 1998, tabulations by Center for Labor Market Studies.

The importance of education to labor market success in the U.S. has been widely recognized by many recent immigrant arrivals. In a New York Times article on immigrants in the public school systems of New York City, Mrs. Ginger Dokie, a Liberian immigrant with three school-aged children, commented that,

> "They say this is the land of opportunity But they forget to tell you that opportunity comes only with education. Here, it is not good to be a dummy, especially in New York. If you can't read, you're going nowhere. I don't want my children to be lost."[156]

Among the native-born, however, the Bachelor's degree attainment rates of both Blacks and Hispanics were only one-half as high as college completion rates among White non-Hispanics. Reducing the large gaps in Bachelor's degree attainment rates currently prevailing among race-ethnic groups should be a major priority of the nation's high schools and colleges in the years ahead. In a recent set of remarks to a high school audience in Little Rock, Arkansas, Texas Governor George W. Bush remarked that:

> " Our common ground is found in our common schools. And we must make those schools worthy of all our children. This, I believe, is the next advance in the cause of equality, the next frontier of civil rights." [157]

[156]See: Karen W. Arenson, "Scaling the Barriers of Literacy and Language," *The New York Times*, March 11, 2000, p. 33.

[157]See: Frank Bruni, "Bush Takes Education Ideas to Scene of Integration Battle," *The New York Times*, March 25, 2000, p. A8.

Chapter 7

The Basic Academic Skills and Literacy/Numeracy Proficiencies of Teens and Young Adults

While frequent attention has been paid by public policymakers and the national media to the need for expanding reading and literacy programs for preschoolers and students in the early elementary grades, the literacy and numeracy needs of young adults, especially out-of-school young adults, are often neglected.[158] Children's advocates and early childhood educators often have cited the first three years of childhood as the critical period for brain development and cognitive skill acquisition. The White House Conference on Early Childhood Development and Learning gave a further impetus to the movement stressing the importance of brain development in the first three years, leading some educators and policymakers to advocate far greater interventions during those years. Yet more recent research has suggested that the brain develops over a much longer time period, including the adolescent years and into the 20s, with powerful implications for learning interventions.[159] As John T. Bruer has recently argued:

[158]Presidential candidate George W. Bush recently has announced a five year, five billion dollar proposal to "confront a national emergency. Too many of our children cannot read."

See: Clifford J. Levy, "Citing a Crisis, Bush Proposes Literacy Effort," *The New York Times*, March 29, 2000, pp. A1, 18

[159]See: (i) John T. Bruer, *The Myth of the First Three Years*, The Free Press, New York, 1999; (ii) R. A. Thompson, "Early Socio-personality Development," in W. Damon (ed.) *Handbook of Child Psychology*, 5th edition, Wiley, New York, 1998; (iii) Johanna Seltz, "Teen Brains are Different," *the Boston Sunday Globe*, May 25, 2000, pp. E-1, E-5; (iv) Sharon Begley, "Mind Expansion: Inside the Teen-age Brain," *Newsweek*, May 5, 2000, p. 65.

> Experience-dependent brain changes continue to occur throughout your child's (and your own) life....children and adults who partake of educational opportunities can improve their intelligence scores and literary skills. For most learning, particularly learning culturally transmitted skills and knowledge such as reading, mathematics, and music, the windows of experience dependent opportunity never close.[160]

Efforts to bolster the academic achievement and literacy proficiencies of the nation's young adults, both in-school and out-of-school, also should be given a major priority by national, state, and local educational and workforce development policymakers and program administrators over the next decade. The basic academic skills of adolescents (reading, math, writing, critical reasoning skills) exert a profound influence on their educational desires and expectations, their school behavior and performance, their high school graduation rates, their enrollment rates in post-secondary educational programs, and their completion of post-secondary schooling.[161]

National longitudinal research over the past two decades consistently has shown that adolescents who have more solid academic proficiencies have stronger aspirations for post-secondary schooling and are more likely to expect to fulfill their aspirations, enroll more often in academic courses during high school, spend more of their school hours

[160]John T. Bruer, *Op.Cit.*, pp. 187-88.

[161]For a review of national research findings on these issues,
See: Andrew M. Sum and W. Neal Fogg, "The Adolescent Poor and the Transition to Early Adulthood," in *Adolescence and Poverty: Challenge for the 1990s* (Editors: Peter B. Edelman and Joyce Ladner), Center for National Policy Press, Washington, D.C., 1991.
For individual studies related to these topics,
See: (i) Samuel Peng, William B. Fetters and Andrew S. Kolstad, *High School and Beyond: A National Longitudinal Study for the 1980s: A Capsule Description of High School Seniors*, U. S. Department of Education, Washington, D.C., 1981; (ii) Charles F. Manski and David A. Wise, *College Choice in America*, Harvard University Press, Cambridge, 1983; (iii) Calvin C. Jones, Susan Campbell, and Penny A. Sebring, *Four Years After High School: A Capsule Description of 1980 Seniors*, U. S. Government Printing Office, Washington, D.C., 1986; (iv) Paula Knepper, *Student Progress in College: NLS 72 Post-Secondary Education Transcript Study*, 1984, U. S. Department of Education, Washington, D.C., 1989.

in such courses, and do more homework. Those students with weaker basic academic skills are considerably more likely to fall behind academically, to experience more serious attendance and behavioral problems, and to leave high school before graduation. Of those who do drop out, the return rate to school and GED programs is higher for those with stronger basic academic proficiencies. Among those who enroll in GED preparation programs, pass rates are considerably higher for those with stronger basic academic skills, and those GED holders with stronger academic proficiencies are more likely to complete some post-secondary schooling and earn more when they do work. Literacy and math proficiencies also have important payoffs in the labor market, particularly as young adults reach their mid-20s,[162] and the sizes of these wage and earnings payoffs become larger over the work life as adults gain more experience in the labor market. The age-earnings profiles of more literate workers are considerably steeper than those of less literate workers.[163]

The importance of a strong base of academic skills for success in school and the world of work has been widely recognized by most researchers, educators, and even the media. In the 1980s movie Lean on Me, Joe Clark, the principal of a beleaguered inner-city high school in New Jersey, summed up these findings in a succinct and straightforward manner to the students in his high school. "If you don't develop these basic skills, you are going to be locked out of the American Dream."

To illustrate the strength of the simple statistical associations between the basic academic skills of adolescents in the U.S. and their eventual educational attainment, we analyzed the findings of a series of longitudinal studies conducted over the past two decades in the U.S. One of these studies was the National Longitudinal Survey of Youth

[162]For a review of the growing importance of strong basic academic proficiencies for success in today's labor markets,
See: (i) Richard J. Murnane and Frank Levy, *Teaching the New Basic Skills*, The Free Press, New York, 1996; (ii) Andrew M. Sum, *Literacy in the Labor Force*, National Center for Education Statistics, Washington, D.C., 1999; (iii) Christopher Winship and Sanders D. Korneman, "Economic Success and the Evolution of Schooling and Mental Ability," in *Earning and Learning; How Schools Matter*, Brookings Institution Press, Washington, D.C., 1999, pp. 49-78.

[163]See: Andrew Sum, *Ibid.*

(NLSY). We have used the NLSY public use tapes to track the schooling experiences of a national sample of 14-18 year olds in 1979 over a twelve year period, i.e., through May 1991. These individuals were part of the original national sample of 12,693 youth between the ages of 14 and 21 who were selected to participate in the National Longitudinal Survey of Youth (NLSY). During 1980, these youth were administered the Armed Services Vocational Aptitude Battery (ASVAB), an aptitude test used by the U.S. Department of Defense to determine eligibility for enrollment in a branch of the nation's armed services and to assign recruits to specific jobs and occupational training clusters.[164] Scores on four of the ten subtests comprising the ASVAB test (word knowledge, reading, arithmetic reasoning, and numerical operations) were combined to form the Armed Forces Qualification Test (AFQT). Scores on this test can range from 0 to 105. The entire distribution of the AFQT test scores for the original sample of 14-18 year olds was analyzed and used to assign each sample member into one of five test score quintiles, each containing 20% of the weighted sample of 14-18 year old respondents. The AFQT test scores of these youth are used to represent their basic academic proficiencies as adolescents.

The NLSY sample was interviewed annually from 1979 to 1996 to obtain information from respondents on a wide array of schooling and labor market behaviors and experiences including employment, wages, and incomes.[165] Findings of the 1991 surveys on the educational attainment of these youth as of May 1991 are displayed in Table 7.1 and Chart 7.1 by quintile of the AFQT test score distribution. As of May 1991, 12% of these youth had not completed 12 years of schooling. The fraction of youth failing to graduate from high school varied considerably across the five AFQT test score quintiles. Nearly 39% of the youth in the lowest quintile failed to graduate from high school versus only 5%

[164]For a review of the key features of the ASVAB test, the AFQT subtests, and its administration to the NLSY sample in 1980,
See: (i) Office of the Assistant Secretary of Defense, Department of Defense, *Profile of American Youth: 1980 Nationwide Administration of the Armed Services Vocational Aptitude Battery*, Washington, D.C., March 1982; (ii) Gordon Berlin and Andrew Sum, *Toward A More Perfect Union: Basic Skills, Poor Families, and Our Economic Future*, Ford Foundation Project on Social Welfare and the American Future, New York, 1988.

[165]In the mid-1980s several subgroups from the initial sample, including an oversampling of military enlistees, were dropped. Recent survey rounds have involved interviews with a sample of approximately 10,000 youth.

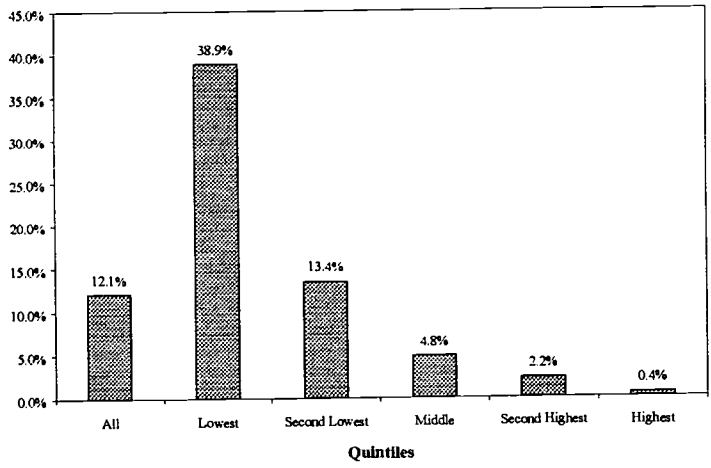
of those in the middle of the test score distribution and less than 1% of those in the upper quintile. Those adolescents with AFQT test scores in the bottom quintile were, thus, eight times more likely to leave high school without a diploma than their counterparts with middle quintile skills and nearly 100 times more likely to do so than their counterparts with basic academic skills in the top quintile.

Table 7-1
Percent of Persons 14-18 Years Old in 1979
Who Had Not Completed 12 Years of Schooling by May 1991
by Quintile of the AFQT Test Score Distribution,
Total and by Gender and Race

AFQT Quintile	(A) Total	(B) Men	(C) Women	(D) Black	(E) White
All	12.1	13.6	10.5	14.9	10.6
Lowest	38.9	41.3	35.7	25.6	47.4
Second Lowest	13.4	15.1	11.9	4.3	16.1
Middle	4.8	5.0	4.5	2.1	4.9
Second Highest	2.2	2.2	2.1	0	2.3
Highest	0.4	0.4	0.4	0	0.4

Source: NLSY public use tapes, 1979-1991 interviews, tabulations by authors.

Chart 7.1:
Percent of All Individuals 14 to 18 Years Old in 1979 Who Had Not Completed 12 Years of Schooling by May 1991 by Quintile of the AFQT Test Score Distribution



The strong associations between the basic academic skills of adolescents and the likelihood of their failing to graduate from high school prevailed among men and women and among Whites and Blacks. Those men, women, and Whites with basic academic skills in the bottom quintile were 90 to 100 times more likely to drop out of high school than their peers with top quintile skills. Among Black youth, one of four of those with bottom quintile skills left high school without a diploma while none of their counterparts in the top two quintiles of the skills distribution did so. Earlier analyses by the authors also have revealed very strong associations between the basic academic skills of poor adolescents and their school dropout behavior, with 43% of poor youth with bottom quintile skills failing to graduate from high school versus only 9% of those with middle quintile skills and 4% of those with top quintile skills.[166] Unfortunately, a majority of poor youth had basic academic skills in the bottom quintile. We would wholeheartedly concur with the recent opinions of Chester Finn and Nina Shokraii Rees that: "The great national challenge in K-12 schooling is to boost the academic achievement of poor children."[167]

The decision to drop out of high school is also influenced by an array of factors in addition to AFQT test scores, including family income and parent's education; however, findings of a recent multivariate statistical analysis of the dropout behavior of these adolescents revealed that AFQT tests scores were the dominant factor.[168] Parents of most in-school youth also recognize the critical importance of their sons and daughters developing a solid set of basic academic skills. As Caroline Hoxby, a Harvard University professor, has noted in a recent article on the findings of parental surveys: "When surveyed, parents overwhelmingly say that their first priority is learning, especially in core areas: reading, writing, mathematics, science and history."[169]

[166]See: Andrew Sum, Neeta Fogg, and Neal Fogg, *Out-of-School, Out of Luck?...*, pp. 112-113.

[167]See: Chester E. Finn, Jr. and Nina Shokraii Rees, "Ending Ed Policy As We Know It," *The Weekly Standard*, March 13, 2000, p. 22.

[168]See: Andrew Sum and Neal Fogg, *Identifying Youth Who Were at Risk of Dropping Out of School: Findings from the National Longitudinal Survey of Youth*, Center for Labor Market Studies, Northeastern University, Boston, September, 1996.

[169]Caroline Hoxby, "What Parents Choose When Given Choices," The Hoover Institution, Stanford University, March 2000.

The basic skills proficiencies of these adolescents in the NLSY survey also were strongly positively associated with the likelihood of their obtaining a bachelor's degree. By the time of the May 1991 survey, 22% of the original cohort of 14-18 year olds had obtained a bachelor's or more advanced academic degree (Table 7.2).[170] Only 1% of those in the bottom quintile of the AFQT test score distribution had obtained a bachelor's degree versus 14% of those in the middle quintile and 60% of those in the upper quintile. Over half of all bachelor degree recipients had AFQT test scores in the top quintile of the test score distribution. Again, the simple statistical relationships between the basic academic skills of adolescents and their bachelor degree attainment rates were quite strong for men, women, Whites, and Blacks. In each of these four gender and race-ethnic groups, youth in the top quintile of the basic skills distribution were 40 to 150 times more likely to graduate from college than each of their respective peers in the bottom quintile of the skills distribution. In each basic academic skills quintile, Black youth were more likely than White youth to obtain a bachelor's degree; however, Black youth were substantially over-represented in the bottom quintile of the AFQT test score distribution. Future efforts to reduce Black-White inequality in schooling, wages, and earnings will have to address the continuing basic skills deficits between these two groups of youth.[171]

The likelihood of these adolescents obtaining a Bachelor's degree by 1991 was strongly influenced by their basic academic skills position regardless of their family's relative income position. For youth in the bottom, middle, and top quintiles of the family income distribution, the probability of successfully completing 16 years of schooling tended to rise uniformly with their basic academic skills position.[172] (Table 7.3).

[170]These young adults were 26 to 30 years old at the time of the May 1991 survey.

[171]A number of recent research studies on male Black-white earnings differences find that basic skills gaps are an important source of the overall racial wage gap.

See: (i) Derek Neal and William Johnson, The Role of Pre Market Factors in Black-White Wage Differences, NBER Working Paper, No. 5124, Cambridge, Massachusetts, 1995; (ii) William R. Johnson and Derek Neal, "Basic Skills and the Black-White Earnings Gap," in *The Black-White Test Score Gap*, Brookings Institution Press, Washington, D.C., 1998; (iii) Neal W. Fogg, "An Economic Analysis of Labor Market Outcomes Among Young Adult Men in the United States: 1967-1992," Unpublished Ph.D. dissertation, Department of Economics, Northeastern University, Boston, 1996; (iii) Andrew Sum, *Literacy in the Labor Force*, National Center for Education Statistics, Washington, D.C., 1999.

[172]The family income position of these adolescents was based on their pre-tax money incomes in the calendar year prior to the initial 1979 NLS interview.

For adolescents in each of these three family income groups, the fraction of youth obtaining a Bachelor's degree by 1991 was 30 to 50 times higher for youth in the top quintile than for youth in the bottom quintile of the basic skills distribution. The family income of these youth does, however, have a positive impact on the likelihood of their graduating from college. This is particularly true for youth with middle to top quintile basic academic skills where the family income of these youth during their teenage years appears to have a more powerful independent impact on the likelihood of four-year college completion.[173] High family incomes, however, are clearly no substitute for weak basic academic skills as measured by these AFQT test scores. Only 2% to 8% of adolescents from families in the upper quintile of the income distribution were able to obtain a four-year degree if they had basic academic skills in the bottom two quintiles of the AFQT test score distribution. These results were only marginally higher than those for adolescents in lower family income groups.

Table 7.2:
Per Cent of Persons 14 to 18 Years Old in 1979 Who Had Completed 16 or More Years Of Schooling by May 1991 by Quintile of the AFQT Test Score Distribution, Total and by Gender and Race

AFQT Quintile	(A) Total	(B) Men	(C) Women	(D) Black	(E) White
All	21.8	21.6	21.9	11.1	24.8
Lowest	1.2	1.3	1.2	2.2	.4
Second Lowest	6.6	5.9	7.3	13.4	4.4
Middle	13.7	11.4	15.7	22.4	12.9
Second Highest	28.5	28.8	28.3	35.7	28.3
Highest	60.2	59.2	61.5	81.2	60.1

Source: NLSY public use tapes, 1979-1991 interviews, tabulations by authors.

[173]For a recent review of the relationships between the college graduation rates and the basic academic skills and family incomes of adolescents based on the NLSY survey data,
See: Paul E. Harrington and Andrew M. Sum, "Access is About More than Money," *Connection: New England's Journal of Higher Education and Economic Development*, Fall/Winter, 1999, pp. 15-18.
For other research findings on the relationship between family incomes of adolescents and their post-secondary educational attainment,
See: (i) Jeanne Brooks-Gunn and Greg Duncan, *Consequences of Growing Up Poor*, Russell Sage Foundation, New York, 1998; (ii) James J. Heckman, "Doing it Right: Job Training and Education," *The Public Interest*, Spring 1999, Number 135, pp. 86-107.

Table 7.3:
Per Cent of 14-18 Year Olds in 1979 Who Completed 16 or More Years of Schooling by May 1991, by Selected Quintiles of the 1978 Family Income Distribution and the AFQT Test Score Distribution

	Family Income Quintile		
AFQT Quintile	(A) Bottom	(B) Middle	(C) Top
Bottom	1.2	1.1	2.6
Second Lowest	5.2	6.5	8.3
Middle	4.3	9.8	19.7
Second Highest	9.1	22.6	48.7
Top	35.6	52.8	76.2

Findings of the 1992 National Adult Literacy Survey (NALS), the nation's largest, statistically representative testing of the literacy and numeracy proficiencies of the entire adult population, also provide strong evidence of the close links between the literacy/numeracy proficiencies of adults and their educational attainment. During the first eight months of 1992, nearly 25,000 adults (16 and older) living in households across the country participated in the National Adult Literacy Survey.[174] The national literacy assessment tested the proficiencies of respondents in three literacy/numeracy areas: prose, document, and quantitative skills. We have combined the scores of each respondent on these three literacy skills to form a composite proficiency score that could range from 0 to 1,500. The entire distribution of these composite proficiency scores was analyzed to identify the boundaries for each quintile of the test score distribution. Non-elderly adults (22-65) were then assigned to their appropriate test score quintile. The per cent of the nation's 22-65 year old civilian population (excluding federal and state prison inmates) in each quintile of the composite test score distribution that had obtained a bachelor's degree by the time of the NALS survey is displayed in Table 7.4.

[174]For a review of the purposes and key design features of the 1992 NALS survey, including the construction of the prose, document, and quantitative scales, See: Irwin S. Kirsch, Ann Jungeblut, Lynn Jenkins and Andrew Kolstad, *Adult Literacy in America: A First Look at the Results of the National Adult Literacy Survey*, National Center for Education Statistics, U. S. Department of Education, Washington, D.C., 1993.

Table 7.4:
Per Cent of 22-65 Year Old Civilian Adults Who Completed 16 or More Years of Schooling, by Quintile of the Composite Proficiency Distribution, U.S Total and by Selected Race Groups, 1992

	(A) Bottom Quintile	(B) Second Lowest Quintile	(C) Middle Quintile	(D) Second Highest Quintile	(E) Top Quintile	(F) All
All	2.5	6.1	12.7	26.8	58.9	22.0
Black	2.2	7.9	22.1	39.4	56.5	11.1
Hispanic	1.7	8.2	16.6	20.9	54.6	9.2
White	2.0	4.5	10.5	25.8	58.8	25.0

Note: (1) Estimates exclude inmates of federal and state prisons.
Source: 1992 National Adult Literacy Survey, tabulations by authors.

Overall, 22% of the members of the nation's 22-65 year old civilian population had completed 16 or more years of schooling in 1992. The per cent of these adults with a Bachelor's degree ranged from a low of 2.5% for those with composite proficiencies in the bottom quintile to 13% for those with middle quintile skills to a high of 59% for those adults with top quintile skills. Thus, those adults with top quintile skills were nearly 24 times more likely than their peers with bottom quintile skills to have obtained a Bachelor's degree. The pattern of the relationships between composite proficiency scores and Bachelor's degree attainment rates are quite similar for Blacks, Hispanics, and Whites. For each of these three race-ethnic groups, two per cent or less of those with bottom quintile skills had obtained a Bachelor's degree versus 55% to 60% of those with top quintile skills.[175] Within every test score quintile, Bachelor's degree attainment rates of Black and Hispanic adults either exceeded those of White adults or were quite close to those of Whites. Narrowing the future gaps between the proficiency scores of White adults and those of Blacks and Hispanics will clearly play a key role in equalizing Bachelor's degree attainment rates among the members of these three race-ethnic groups over the next decade.[176]

[175]Very similar patterns prevailed for men and women and for those adults 22-44 and those 45-65 years of age.

[176]Improving the future proficiency scores of high school graduates is also critical to increasing the supply of future college graduates, a strategy that also is needed to reduce the large disparities between the earnings of high school and college graduates.
See: James J. Heckman, *op.cit.*

Findings of other national longitudinal surveys conducted over the past two decades also can be used to examine the relationship between the high school academic proficiencies of students and their later educational attainment. Among those other surveys are the National Longitudinal Survey of the Class of 1972, the High School and Beyond Survey of the nation's 1980 senior cohort, and the High School and Beyond Survey of 1980 high school sophomores. Key findings of these three national longitudinal surveys with respect to the relationships between the academic achievement test scores of high school students and their bachelor degree attainment experiences through their young adult years are displayed in Table 7.5. Comparable findings are presented for two age cohorts from the NLSY surveys from 1979-1991.

Seniors from the Class of 1972 were administered a battery of cognitive tests that were used to create a composite ability variable.[177] Based on their test scores, students were then assigned to the appropriate quartile of the test score distribution for this composite ability variable. At the time of the fifth followup survey in 1986, approximately 31% of the members of the Class of 1972 had obtained a Bachelor's or higher academic degree. The proportion doing so, however, varied quite widely by their position in the ability test score distribution, ranging from a low of 8% for those in the bottom quartile to nearly 60% for those in the top quartile (Table 7.5).

The High School and Beyond Longitudinal Surveys were designed to track two separate groups of the nation's 1980 high school students: sophomores and seniors. During 1980, these two groups were administered a battery of cognitive tests (reading, math, writing) which were used to measure their academic ability. Their composite test scores were used to assign them into quartiles of the ability distribution for each of their respective classes. At the time of the 1986 followup survey, 19% of the 1980 seniors had obtained a Bachelor's degree. The proportion doing so again varied markedly by quartile of the test score distribution, ranging from a low of 3% for those in the bottom quartile to a high of 43% for those in the top quartile. (Table 7.5).

[177]Findings on bachelor degree attainment rates as of 1986 for this group of seniors are reported in the following publication:
Carl Schmitt, *Changes in Educational Attainment: A Comparison Among 1972, 1980 and 1982 High School Seniors*, National Center for Education Statistics, April 1989.

Table 7.5:
Per Cent of Young Adults Obtaining a Bachelor's or More Advanced Academic Degree by Their Initial Positions in the Academic Achievement or Basic Academic Skills Test Score Distribution, Selected National Longitudinal Surveys

(A) NLS Survey (As of 1986)		(B) National Longitudinal Survey of Youth (as of May 1991)			(C) High School Class of 1972 and Beyond			
			(1) 14-17 Year-Old Cohort	(2) 18-21 Year Old Cohort	(1) 1980 Seniors (as of 1986)		(2) 1980 Sophomores (as of 1992)	
Bottom Quartile	8.1	Bottom Quintile	1.6	1.5	Bottom Quartile	3.0	Bottom Quartile	3.3
Middle Two Quartiles	27.7	Middle Quintile	15.8	18.5	Second Quartile	11.5	Middle Two Quartiles	17.9
Top Quartile	59.5	Top Quintile	61.4	61.3	Third Quartile	20.5		
					Top Quartile	43.1	Top Quartile	61.5

Sources: (i) Carl Schmitt, National Center for Education Statistics, 1989;
(ii) Center for Labor Market Studies, Northeastern University, tabulations of NLSY public use data, 1979-91; AFQT test score distribution includes all persons in age cohort regardless of their years of school completed.
(iii) John Tuma and Sonya Geis, National Center for Education Statistics, 1995.
Notes: (1) Ages refer to the age of respondents at the time of the initial 1979 NLSY interview.

Of the national sample of 1980 sophomores, 24% had obtained a Bachelor's degree by the time of the 1992 followup survey. Among those in the top quartile of the skills distribution, nearly 62% had

obtained a Bachelor's degree while only 3% of those in the bottom quartile had done so. Findings of the NLSY surveys for our two age cohorts reveal quite similar findings. Less than 2% of those youth in the bottom quintile of the AFQT test score distribution had earned a bachelor's degree by 1991 versus 61% of those in the top quintile, a relative difference of 40 to 1 in bachelor degree attainment rates between the top and bottom quintiles.[178]

The acquisition of a strong base of reading and math skills in high school also has a substantial influence on the types of college programs in which high school graduates will enroll. A four year national followup study of high school graduates from the Class of 1980 found that high school graduates with strong academic skills were overwhelmingly more likely to be enrolled in an engineering or other physical science degree program three years after graduation.[179] Our analysis of published data from the 1980 High School and Beyond Longitudinal Survey revealed that 15% of those high school seniors in the top quartile of the academic achievement distribution were enrolled in an engineering or physical science degree program in college three years after graduation versus only 5% of those in the second highest quartile, and only 0.1% of those in the bottom quartile of the test score distribution. This represents a difference of 150 times in such program enrollment rates between the top and bottom quartiles of the academic skills distribution. College graduates from such engineering and science programs tend to fare the best in the labor market in their adult years and will be in strong demand in the nation's labor markets in the future; thus, a strong base of reading/math skills clearly underlies the earnings advantages of the best-educated workers in U.S. labor markets at the end of the twentieth century.[180]

[178]The NLSY cohorts include youth who never made it to the 10th or 12th grades of high school; thus, bachelor degree attainment rates for those in the bottom quintile are lower than those from the NLS or HSB surveys.

[179]See: Calvin C. Jones, Susan Campbell, and Penny A. Sebring, *Four Years After High School: A Capsule Description of 1980 Seniors*, U. S. Government Printing Office, Washington, D.C., 1986.

[180]See: (i) Paul E. Harrington and Andrew Sum, *The Post College Earnings Experiences of Bachelor Degree Holders in the U. S.: Estimated Economic Returns to Major Fields of Study*, 1998 Conference on Higher Education and Workforce Development, March 1-3, 1998, Portland State University; (ii) John Tuma and Sonya Gies, *High School and Beyond: 1992 Descriptive Summary of 1980 High School Sophomores 12 Years Later*, National Center for Education Statistics, U. S. Department of Education, Washington, D.C., January 1995.

The literacy and numeracy skills of the employed also are key factors influencing their access to more highly skilled and higher wage occupations in the New American Economy.[181] The proportion of the employed in 1992 holding professional, managerial, and technical positions (the three highest paid occupational groups in the U.S. in recent years) was strongly associated with their educational attainment and their prose proficiency scores. While 27% of all the employed held a job in a professional, managerial, or technical occupation, the proportion doing so ranged from only 5% for those in the lowest proficiency level to 26% in the middle proficiency level to a high of 72% for those in the highest proficiency level (Table 7.6).

Table 7.6:
Per Cent of Employed Adults in Selected Occupational Groups, By Prose Proficiency and Highest Level of Education Attained: 1992

	Percent in level .					
	1	2	3	4	5	All
Professional, managerial, or technical occupations						
0 to 8 years	2	6	6	39	—	3
9 to 12 years	2	7	6	11	—	4
High-school diploma or GED	6	9	10	12	15	9
Some post-secondary	9	17	21	29	44	22
Two-year degree	28	29	37	43	40	38
Four-year degree or higher	46	56	64	75	83	71
All workers	5	14	26	50	72	27

Within each educational attainment group, the fraction of the employed holding professional, managerial, and technical occupations rose steadily with their prose proficiency scores.[182] Among those employed adults with a Bachelor's or higher degree, the proportion holding a professional, managerial, or technical occupation ranged from a low of 46% for those with very limited proficiency skills to 64% for those with mid-level proficiencies, to a high of 83% for those with level five prose proficiencies. The ability of four-year college graduates to gain access to such "college labor market" occupations has a major bearing on their annual earnings and the private economic returns to

[181]See: Andrew Sum, *Literacy in the Labor Force . . .*

[182]The least proficient are far more likely to work in service, laborer, helper, and cleaner occupations.

their investment in college.[183] Mal-employment problems of college graduates are strongly linked to their basic academic proficiencies. Those graduates leaving college with weak literacy and numeracy proficiencies have a much more difficult time gaining access to jobs in the traditional college labor market.

The annual earnings of the employed in the U.S. in the early 1990s also were strongly associated with their years of formal schooling and their composite literacy, numeracy, and document proficiencies as measured by the National Adult Literacy Survey (NALS).[184] The annual earnings of employed adults rose uniformly and strongly across the five composite proficiency levels, ranging from a low of $12,310 for those in level one to $20,982 for those with mid-level skills to a high of $44,920 for those with the highest level proficiencies. In each educational attainment category, annual earnings rose with the level of composite proficiency. (Table 7.7). Among those workers holding a high school diploma or GED certificate, mean annual earnings ranged from $13,911 for those with very limited proficiencies to nearly $19,000 for those with moderate proficiencies (level three) to a high of $37,634 for those with very adept skills (level five). Only 1% of the employed high school graduates with no college acquired a level five proficiency, but those that did were able to match the average annual earnings of employed bachelor degree recipients. Given the above findings on the critical role of strong basic academic proficiencies in determining labor market prospects for adults in today's labor markets, all future youth workforce development programs and school-to-work transition programs should place a high priority on improving the literacy, numeracy, writing, and critical thinking skills of program participants, especially those youth from economically disadvantaged backgrounds.

[183]See: (i) Richard Verdugo and Naomi Verdugo, "The Impact of Surplus Schooling on Earnings," *The Journal of Human Resources*, Vol. 24, No. 4, pp. 631-643; (ii) Russell Rumberger, "The Impact of Surplus Schooling on Productivity and Earnings, *The Journal of Human Resources*, Vol. 22, No. 1, pp. 24-50; (iii) Paul E. Harrington and Andrew Sum, *The Post-College Earnings Experiences of Bachelor Degree Holders in the United States: Estimated Economic Returns to Major Fields of Study*, Conference on Higher Education and Work Force Development, March 1-3, 1998, Portland State University, Portland, Oregon.

[184]Earnings data are for all persons employed for one or more weeks during the 12 month period immediately prior to the survey. A much more detailed analysis of these findings can be obtained from the following publication: Andrew Sum, *Literacy in the Labor Force*, especially Chapters Four and Seven.

Table 7.7 :
Annual Earnings of Persons (16+) Employed One or More Weeks by Level of the Composite Proficiency Distribution and Educational Attainment: U.S. 1992

	Total	Level I	Level II	Level III	Level IV	Level V
Total	$21,032	$12,310	$15,684	$20,482	$30,000	$44,920
Lacks High School Diploma or GED(1)	$13,725	$11,603	$13,921	$19,595	$13,384	—
GED, High School Graduate	$17,717	$13,911	$15,896	$18,978	$22,136	$37,634
Some College, No Degree	$22,287	$14,684	$18,352	$22,101	$25,904	$33,739
Associate's Degree	$25,774	$17,738	$25,188	$25,335	$26,419	$42,035
Bachelor's Degree & Above	$38,270	$18,109	$31,408	$32,295	$41,282	$50,121

Source: 1992 National Adult Literacy Survey, tabulations by authors.
Note:(1) The group lacking a high school diploma or GED includes employed young adults still attending high school. Many of those in Level IV in this educational category were still enrolled in high school at the time of the NALS survey.

The educational attainment and basic academic skills of young adults together exert a substantial effect on the likelihood of their being poor in their later adult years. To illustrate these relationships, the NLSY survey data for 1991 were used to estimate the 1990 poverty status of 26 to 29 year old young adults. All respondents were classified on the basis of their family's poverty status in 1978, their own educational attainment in May 1991, and their score on the AFQT test in 1980 (Table 7.8). Findings of our analysis clearly reveal that, for both poor and non-poor adolescents, the probability of their being poor in their later adult years was strongly associated with both their educational attainment and their basic academic skills as measured by AFQT test scores. Among those young adults who were poor as adolescents, nearly one-third also were poor in their middle to late 20s. (Table 7.8). The likelihood of their being poor, however, varied quite considerably by their formal schooling and basic academic skills. The incidence of adult poverty problems among this group ranged from 56% for those who lacked a diploma and had basic academic skills in the bottom quintile to only 12% for high school graduates with mid-level basic skills to a low of 8% for four- year college graduates.

Only 10% of the non-poor adolescents were poor as young adults in 1990; however, the likelihood of their being poor also was strongly associated with their formal schooling and basic academic skills. Among those who lacked a high school diploma and had weak basic academic skills (bottom quintile), slightly over 40% were poor in 1990. In contrast, only 9% of high school graduates with middle level basic academic skills, and only 0.3% of four-year college graduates with top quintile basic skills were poor. The most educationally disadvantaged young adults were, thus, 135 times more likely to be poor than their counterparts who acquired solid basic academic skills as adolescents and went on to obtain a bachelor's degree.

The findings on strong associations between the basic academic skills/educational attainment of adults and their poverty status are not confined to the NLSY survey data. An analysis of the 1992 National Adult Literacy Survey data for all persons (16+) revealed quite similar findings. The poverty/near poverty status of respondents in 25%

Table 7.8:
Poverty Rates(1) in 1990 of Persons Aged 26 to 29, by Their Position in the Initial AFQT Test Score Distribution and Their Educational Attainment in May 1991 and by Family Poverty Status in 1978

Family Poverty Status in 1978	Total	AFQT Test Score Quintile(2)				
		Lowest Quintile	2nd Lowest Quintile	Middle Quintile	2nd Highest Quintile	Highest Quintile
Poor in 1978						
Total	32.5%	48.5%	22.3%	13.0%	15.0%	14.4%
Less than 12 Years	50.3%	56.1%	—	—	—	—
12 Years	30.5%	45.2%	28.9%	12.5%	—	—
13-15 Years	14.4%	23.4%	11.2%	—	—	—
16 or More Years	8.0%	—	22.1%	—	—	—
Not Poor in 1978						
Total	9.9%	28.4%	15.5%	6.5%	3.8%	2.8%
Less than 12 Years	28.0%	40.5%	21.0%	—	—	—
12 Years	12.3%	23.3%	17.6%	9.1%	3.5%	—
13-15 Years	5.9%	8.0%	8.0%	4.8%	5.8%	3.3%
16 or More Years	0.7%	—	3.3%	0.5%	1.0%	0.3%

Notes: (1) Poverty rates are not reported for cells with fewer than 20 unweighted observations. College students are included in the totals, but are not reported separately.

(2) The cut scores for the boundaries of each quintile are based on the 1980 distribution of AFQT test scores for those youth who were 14-17 years old at the time of the initial NLSY interview in 1979.

Source: 1979-1991 National Longitudinal Survey of Youth, tabulations by authors.

educational attainment/composite proficiency categories were identified.[185] The likelihood of an individual being a member of a family with an income below 125% of the poverty line was strongly associated with their educational attainment and literacy/ numeracy proficiencies. For example, 52 of every 100 adult high school dropouts with composite proficiencies in the bottom quintile of the distribution were poor or near poor versus only 17 of every 100 high school graduates with mid-level skills and fewer than 3% of four-year college graduates with top quintile proficiencies. (Table 7.9).

The most educationally disadvantaged group of adults (high school dropouts with bottom quintile skills) were, thus, 20 times more likely than the most educationally advantaged group to be poor or near poor in the early 1990s. Among the poor and near poor, the employed had considerably higher average proficiencies than those who were not working at time of the NALS survey. The median composite score of employed members of poor/non-poor families was equal to the 41st percentile while the median composite score of the jobless was only at the 21st percentile. Most poor/near poor adults with bottom quintile proficiencies were not attached to the labor market at all; i.e., they were neither employed nor actively looking for work, and most of the jobless poor were dependent on some form of cash public assistance income to support themselves.[186] Limited academic proficiencies, thus, reduce the pool of labor force participants and the potential output of the nation, increase joblessness, poverty, and economic dependency, and raise the tax burden on the more literate members of society.

[185]The scores of a respondent on the prose, document and quantitative proficiency scales were combined to form a composite score. The distribution of these composite scores was used to categorize respondents into each of the five quintiles of the distribution. The median composite score was 837. The bottom quintile had scores of 673 or below while the top quintile had scores of 975 or higher.

[186]For a more detailed overview of the literacy and numeracy proficiencies of the poor and cash public assistance recipients in the U.S. and the direct and indirect impacts of these proficiencies on the liklihood of an adult being poor or near poor,
See: Andrew M. Sum, *Literacy in the Labor Force*, Chapter 7, pp. 227-229.

Table 7.9:
Per Cent of the Civilian Population (16+) Who Were Poor or Near-Poor
By Quintile of the Composite Proficiency Distribution and by Educational Attainment

Educational Attainment	Total	Lowest Quintile	2nd Lowest Quintile	Middle Quintile	2nd Highest Quintile	Highest Quintile
Total	18.8%	46.0%	23.3%	16.5%	9.7%	6.7%
High School or Primary School Dropout	40.5%	51.9%	30.0%	25.4%	25.2%	6.1%
GED, High School Graduate Voc/Trade Certificate	17.4%	33.2%	20.7%	16.7%	11.2%	7.3%
Some College, No Degree	11.2%	31.1%	17.6%	11.4%	8.5%	7.3%
Associate's Degree	5.8%	44.4%	6.2%	5.3%	3.4%	5.0%
Bachelor's Degree or Higher	4.2%	31.2%	8.0%	9.9%	2.9%	2.7%

Source: 1992 NALS survey, tabulations by authors.

Chapter 8

Expanding the Number and Quality of the In-School Work Experiences of High School Youth

A third strategy for improving the early post-high school labor market experiences of out-of-school young adults involves an increase in the number, intensity, industrial and occupational diversity, and quality of job opportunities for all high school students, but especially those from low income families, poor neighborhoods, and selected race-ethnic minority groups. An expansion of in-school employment opportunities for high school students, particularly those not likely to attend four-year colleges and universities immediately upon graduation from high school, should be viewed as an important investment in their human capital skills, not simply as a job-creation measure or income supplementation strategy for low-income youth. An increase in the number of in-school jobs for low-income youth could yield favorable reductions in family poverty; however, we view these outcomes as secondary in importance to improving the work experience of such youth.[187] A substantial and growing body of literature on the early labor market experiences of young adults over the past thirty years indicates quite consistently that employment during the high school years generates a diverse number of favorable short-term and long-run positive impacts on their employability, wages, and earnings, especially among those who do not go on to complete any substantive amount of post-secondary education. Unfortunately, many high school graduates and

[187]During 1998, there were approximately 1 million poor families with a child 16 or older in high school. Fewer than one-fourth of these poor students worked any time during the year. If all poor high school students worked year-round for 15 hours per week at the average wage of $6.67 earned by employed high school students, the number of poor families would fall by nearly one-half million.

dropouts from low-income families and high poverty neighborhoods enter the labor market as young adults with little human capital in the form of general and specific work experience. Despite the growing strengths of U.S. labor markets in recent years, employment rates for high school students from low-income families have not shown any sustained improvement and remain well below those of their counterparts from middle and upper middle-income families.

Available national and local research findings on the labor market behavior of non-college bound youth indicate quite consistently that youth who participated more frequently and intensively in the labor market during their high school years tended to experience a smoother transition into the labor force in the first few years following their graduation from high school.[188] Those students who were attached to the labor market more frequently and intensively during the junior and senior years of high school tended to participate more actively in the labor force and encounter fewer bouts and shorter durations of unemployment in the first year following their departure from high school.

More frequent and intensive employment during the high school years also generates favorable impacts on the amount of employment obtained by high school graduates and dropouts in the early school leaving years. Evidence from national longitudinal research on the labor market experiences of high school graduates in the 1970s revealed that

[188]See: (i) Ronald D'Amico and Paula Baker. "The Nature and Consequences of High School Employment," in *Hearings on Youth Incentive Employment Act*, Subcommittee on Employment Opportunities Committee on Education and Labor, U.S. House of Representatives, Washington, D.C., 1984; (ii) Irwin Herrnstadt; Morris A. Horowitz; and Andrew Sum, *The Transition from School to Work, the Contribution of Cooperative Education Programs at the Secondary Level*, Report Prepared for the Office of Research and Development, Employment and Training Administration, U.S.Department of Labor, Washington, D.C., 1979; (iii) Robert H. Meyer and David A. Wise, "High School Preparation and Early Labor Force Experience," in *The Youth Labor Market Problem: Its Nature, Causes, and Consequences*, pp. 277-347; (iv) Robert H. Meyer and David A. Wise, "The Transition from School to Work: The Experiences of Black and Whites," National Bureau of Economic Research, Working Paper No. 1007, Cambridge, Massachusetts, October 1982; (v) Wayne Stevenson, "The Relationships Between Early Work Experiences and Future Employability," in *The Lingering Crisis of Youth Unemployment*, W.E. Upjohn Institute for Employmenht Research, Kalamazoo, 1978.

the impacts of these in-school employment experiences actually persisted for fairly long periods of time, raising the employment prospects of these young adults for the first four to seven years following graduation from high school.[189] The estimated size of these employment impacts tended to vary somewhat by the intensity of employment during high school, being somewhat larger for those youth working more than 10 hours per week. More recent research by Christopher Ruhm suggests that 20 hours per week often yields more sizable impacts. These positive employment effects often have been found for men and women and for Whites as well as Blacks, The in-school employment experiences of non-college bound high school students also frequently yield favorable effects on their hourly and weekly wages in the first few years following graduation from high school. Those youth who were employed more frequently and intensively during their high school years were found to earn higher hourly and weekly wages in their early adult years. In-school work experience, thus, has both positive employment and wage effects in the early school leaving years.

D'Amico and Baker utilized findings of the National Longitudinal Survey of Youth (NLSY) for the survey years 1979 to 1982 to identify the effects of the amount and intensity of in-school work experience on the early labor market and wage experiences of non-college youth. A variety of labor market outcomes, including unemployment status, hourly wages, and socioeconomic status of jobs, were examined by the authors. These outcomes were examined over a time period one to three years after leaving high school.

The amount and intensity of in-school work experience was found to significantly and substantially reduce the length of time spent unemployed before finding one's first post-high school job and the per cent of time spent unemployed in the entire first year after leaving high school. These effects were quite strong for men and for women and for Whites as well as minorities (Black and Hispanic youth combined). The amount and intensity of work experience during high school also had positive impacts on the hourly wages of the jobs held by employed women in the first and third years following school leaving and on the

[189]See: Robert H. Meyer, "Job Training in the Schools," in *Job Training for Youth*, National Center for Research on Vocational Education, Columbus, 1982; and (ii) Robert H. Meyer and David A. Wise, "The Transition from School to Work: The Experiences of Black and Whites."

wages of the jobs held by White and minority males in the third year following their departure from high school. In all cases, however, these hourly wage effects were significant only for those weeks of employment in which work hours exceeded 20. The intensity of in-school employment was, thus, a key factor determining wage gains. Finally, the wages and socioeconomic status of the jobs obtained by employed youth in the first year following school leaving were significantly affected by the wages and characteristics of the last jobs that they had held in high school. As the authors noted, "This finding suggests that at least in the short-run the quality of high school jobs, rather than work intensity per se, matters most for immediate post-school labor market success."[190]

Burbridge, Pleck, and Somenstein have analyzed the findings of the National Survey of Adolescent Males for the survey years 1988 and 1991 to examine the effects of in-school work experience on the early post-school wage experiences of those young men who were not enrolled in school in 1991.[191] Their findings revealed that the 1991 hourly wages of those young men who were employed at some time during 1988 were 25% higher than those of young men with no paid work experience in that same year.[192] The effects of early work experience on wages three years later were quite favorable for both Black and White males. The wages of employed young men in 1991 also were quite strongly affected by the months of work experience that they had obtained since the first interview in 1988. Each additional twelve months of paid work experience would raise expected hourly wages by approximately 14%. The wage effects of cumulative work experience were quite strong for both White and Black males.

Recent analyses of the NELS:88 longitudinal survey of a nationally representative sample of eighth graders who were tracked through 1994

[190]*Ibid.* p. 155.

[191]The initial round of the survey was focused on a national sample of approximately 2,000 15-19 year olds, with an over-sampling of Blacks and Hispanics. See: Lynn C. Burbridge, Joseph H. Pleck, and Freyer Somenstein, "Early Employment and Its Effect on Education and Wages," Paper Presented to the Annual Conference of the American Association of Public Policy and Management, Pittsburgh, November 1996.

[192]*Ibid.*

also reveal favorable employment and earnings effects from having work experience in high school. Two years after high school graduation, those youth who were not enrolled in college were significantly more likely to be employed and obtained higher monthly earnings if they had worked in high school.[193] Young men with in-school work experience were earning 39% more and young women with in-school work experience 38% more than those without.

Evidence from local high school graduate follow-up surveys on the effects of students' in-school work experiences on their early post-high school labor market outcomes is also favorable. Since the early 1980s, the Jobs for America's Graduates national network (JAG) has administered a school-to-work transition program targeted upon seniors who were identified by school counselors, other school staff, and JAG job specialists to be at risk of joblessness upon graduation from high school.[194] The programs provide an array of employability skills training, job development and placement services, and follow-up support for program participants during the senior year and the first ten months following graduation from high school. Participant followup contacts are conducted monthly after graduation to identify the school enrollment status, employment status, hourly wages, and hours of work of each participant.

Previous analyses of data from JAG follow-up surveys have repeatedly found that junior year and senior year work experiences significantly improved the early post-high school employment and earnings outcomes of JAG program participants. For example, a fall 1984 followup survey of nearly 2,100 JAG participants and comparison group members from the Class of 1984 revealed that those graduates who worked during the senior year were 15 percentage points, or 23%, more

[193]The employment rate advantages were particularly large for women with some in-school work experience (88% vs. 67%).
See: Paul E. Barton, "Learn More, Earn More," *ETS Policy Notes*, Vol. 9, Number 2, Summer 1999, Educational Testing Service, Princeton, New Jersey.

[194]For a review of the major design features of JAG school-to-work transition programs and their rationale.
See: Andrew Sum, *The JAG School-to-Work Transition Model: The Rationale for Its Design Features and Performance Standards*, Jobs for America's Graduates, Washington, D.C., 1989.

likely to be employed at the time of the fall 1984 follow-up survey and were 30% more likely to be holding a full-time job.[195]

Follow-up surveys of JAG graduates from the Class of 1986 revealed that employed graduates who worked more steadily during high school earned significantly higher hourly and weekly wages in the winter of the year following graduation. Findings of a multivariate statistical analysis of the determinants of the hourly wages of employed graduates revealed that each 10 additional weeks of employment during the junior year of high school raised the expected hourly wage by $0.15 or 4%.[196] Hourly wages also were favorably affected by the grade point averages of students during the junior and senior year. Similarly, an additional 10 weeks of employment during the junior year was found to raise expected weekly earnings by just under $7.00 or 5%. The in-high school work experiences of these "at risk" young men and women clearly had favorable impacts on their early post-high school hourly and weekly earnings.

Few public high school systems in the nation conduct systematic followup surveys of all of their graduates. Many school systems simply rely upon exit surveys of the education and job plans of graduates conducted in the spring before graduation. The City of Boston is an exception, with the Private Industry Council playing a lead role in conducting annual followup surveys of each year's graduating class from the Boston public schools. Findings of the Boston Private Industry Council's followup survey of public high school graduates from the Class of 1993 and more recently from the Class of 1998 also reveal the importance of in-school work experience for graduates' ability to secure higher wage employment in the winter or spring following the year of graduation.

[195]See: Andrew Sum, Joseph Franz, Shi-Feng Chuang, and Neeta Fogg. *The Early Post-High School Employment and Earnings Impacts of Jobs for America's Graduates School-to-Work Transition Programs: Findings of the Fall 1984 Followup Survey,* Center for Labor Market Studies, Northeastern University, Boston, 1987.

[196]See: Shi-Feng Chuang and Andrew Sum, *Predicted Job Placements, Positive Outcomes, Hours of Work, Hourly Wages, and Weekly Wages of JAG Participants, by Program Site: Implications for Future JAG Performance Standards*, Report Prepared for Jobs for America's Graduates, Washington, D.C., 1985.

Both the senior year and summer employment experiences of Class of 1993 Boston high school graduates significantly influenced the hourly wages that they were earning on the jobs that they held at the time of the Winter 1994 followup survey. A multivariate statistical analysis of the hourly earnings of employed high school graduates revealed that the expected hourly wage would rise by approximately $0.17 or 3% for very 10 weeks of senior year employment and by another $0.16 from previous PIC-generated summer employment.[197] Similar wage impacts of senior year employment were found for those employed graduates who were not enrolled in college at the time of the winter followup survey.[198] The findings of the wage analysis also revealed that graduates holding full-time jobs (providing 35 or more hours of work per week) earned $0.40 to $0.55 more per hour than their counterparts working on a part-time basis. Employed graduates from the Class of 1993 who worked for a high number of weeks (30) during the senior year, who held a PIC-funded summer job in the private sector, and who held a full-time job at the time of the followup survey obtained a substantial 22% initial wage advantage over their less experienced counterparts who were working part-time.

Findings of the Winter 1999 PIC-sponsored followup survey of Boston public school graduates from the Class of 1998 also found that the weekly earnings of employed non-enrolled graduates were strongly influenced by the amount of their in-school work experience, their participation in selected school-to-career programs during high school, and the type of training being received on their current jobs. Employed graduates who worked each week during the senior year and who held

[197]See: (i) Andrew M. Sum, "The Influence of In-School Work Experience on the Early Post-High Employment and Wage Experiences of Boston High School Graduates, Class of 1993," Center for Labor Market Studies, Northeastern University, Boston, 1994; (ii) Lynn C. Burbidge, Joseph Pleck, Freya Somenstein and Leighton Yu, "Early Employment and Its Effect on Education and Wages," Paper Presented to The Eighteenth Annual Research Conference, Association for Public Policy Analysis and Management, Pittsburgh, November 1, 1996.

[198]Nearly 65% of the combined sample of respondents were attending a post-secondary education or training program at the time of the followup survey. Work in high school also significantly raised the probability that a college student would be working at the time of the winter followup survey.

summer jobs while in high school had expected weekly earnings nearly $57.00 higher than their peers with no in-school work experience.[199] If they participated in a Pro-Tech or National Academy program in high school, ceteris paribus, they would be expected to earn $30 to $40 more per week than their counterparts without such program participation[200]. Finally, those graduates employed in jobs providing formal training or apprenticeship training were receiving weekly earnings $24 and $68, respectively, higher than their employed counterparts without such training.

Longer-Term Effects of In-School Work Experience

Most of the available empirical studies of the impacts of in-school employment on the post-high school labor market experiences of high school graduates focus on outcomes in the first year or two following graduation. Less evidence has been available on the longer-term economic effects of in-school work experience. In the past few years, however, Christopher Ruhm of the University of North Carolina at Greensboro has published several research articles and reports that attempt to estimate the employment and earnings effects of high school employment for a period of time lasting up to seven to ten years following the expected date of high school graduation.[201] Data from the National Longitudinal Survey of Youth (NLSY) were used to track the

[199]These findings are based upon a multiple regression analysis of the weekly wages of those employed graduates who were not enrolled in a post-secondary education or training institution at the time of the followup interview.

[200]Findings for the Classes of 1997 and 1998 revealed that participants in Pro-Tech programs also were significantly more likely than their non-participating peers in non-exam schools to be attending a post-secondary education or training program at the time of the Winter 1999 followup survey. National Academy participants from the Class of 1998 also enjoyed substantially higher (14 percentage points) college enrollment rates than their counterparts from the same high schools who did not enroll in such programs. It should be noted, however, that students were not randomly assigned to such programs.

[201]See: (i) Christopher J. Ruhm, *The Effects of High School Work Experience on Future Economic Attainment*, Employment Policies Institute, Washington, D.C., May 1994; (ii) Christopher J. Ruhm, *Is High School Employment Consumption or Investment?*, Research Paper, University of North Carolina, Greensboro, December 1994; (iii) Christopher J. Ruhm, "The Extent and Consequences of High School Employment," *Journal of Labor Research*, Summer 1995, pp. 293-303.

long-term earnings and employment experiences of a sample of approximately 1,150 men and women who were enrolled as freshmen or sophomores in high school at the time of the initial 1979 NLS interview and who remained in high school through their expected date of graduation[202]. Their average annual earnings, weeks of employment, and hours of employment over the 1988-90 period were used to represent their labor market experiences up to ten years after their original expected date of graduation from high school.

Findings of Ruhm's multivariate statistical analysis of the average annual earnings of sample members over the 1988-90 period revealed that students who worked during the senior year of high school obtained significantly higher annual earnings than their non-enrolled counterparts seven to ten years after high school. The influence of senior year employment on the longer-term earnings of these young adults tended to vary in a non-linear fashion with their average weekly hours of work during high school, with the estimated impact being highest for those youth who worked about 25 hours per week.[203] A disaggregation of the earnings of young adults by their sources (more hours of work versus higher hourly wages) revealed that these favorable earnings impacts of senior year work experience occurred as a result of both an increased average number of weeks and hours of work as well as higher hourly

[202]The NLSY is a large scale national longitudinal survey focused on a nationally representative sample of young adults who were 14-21 years of age on January 1, 1979. The original sample of youth contained 12,686 men and women, including a sample of armed forces members and an over-sampling of Blacks, Hispanics, and poor Whites. Ruhm's analysis is focused on the cross-sectional sample of 14-21 year olds which consisted of approximately 6,100 individuals, many of whom had either completed their freshman or sophomore year by the time of the first NLS interview in the Spring of 1979 or had dropped out of high school. For further details on the design of the NLSY survey.
See: Michael E. Borus (Editor), *Pathways to the Future: A Report on the National Longitudinal Survey of Youth Labor Market Experience*, Youth Knowledge Development Report, 2.7, U.S. Government Printing Office, Washington, D.C. 1980.

[203]Ruhm enters senior year weekly work hours into the earnings model in both its actual value and its value squared. The coefficients on the above two hours of work variables are positive and negative, respectively, indicating that hours of work increase expected annual earnings at a diminishing rate. The maximum earnings impact occurs at a value of 22 hours for the entire sample of young men and women.
See: Christopher J. Ruhm, "The Extent and Consequences of High School Employment," p. 300.

wages on jobs held during their later adult years. These findings suggest that in-school work experience adds to later year earnings via both an employability effect as well as a productivity effect.

There were other important economic advantages from working during the senior year of high school for 20 or more hours per week. Those young adults with 20 or more hours of work per week during the senior year obtained access to jobs in higher status occupations and were more likely to receive health insurance coverage and pension coverage from their employers than their peers who did not work during the senior year of high school. A disaggregated analysis of the earnings impacts of high school work experience for selected demographic subgroups of young adults revealed that both men and women appeared to benefit from early work experience; however, the findings are consistently more significant for men than women.

Ruhm also provided separate analyses of the impacts of in-school work experience for those young adults who terminated their formal schooling after leaving high school and those who went on to complete at least one year of post-secondary schooling in a college or university. The findings revealed that those young adults who did not complete any college were consistent beneficiaries of their in-school work experience, obtaining expected annual earnings up to 20% higher then their non-college bound counterparts if they worked 20 hours per week during their senior year.[204] While the estimated effects of senior year work experience on the future earnings of those youth who completed some college were positive, they were frequently not large enough to be classified as statistically significant effects. These findings suggest that future school-to-career programs for high school students should be targeted more intensively upon those students who are less likely to attend four-year colleges and universities immediately upon graduation from high school. Unfortunately, most states implementing school-to-work transition programs under the School to Work Opportunities Act of 1994 failed to develop MIS and followup tracking systems capable of identifying the services received by participants and the impacts of such services on their early post-high school employment and educational outcomes.

[204]These impacts were estimated by the authors of this report from the regression findings presented in Table 8 of the December 1994 paper of Chris Ruhm. The earnings impact of senior year work experience for the non-college bound was non-linear, but it did not reach its maximum until weekly hours of work during the reference week reached nearly 29 hours.

The Quality Aspects of In-School Work Experiences

The above research findings on the post-high school employment and earnings effects of the in-school work experiences of high school students were based primarily on the incidence and intensity of their employment activities during high school rather than on any quality characteristics (skill levels, occupations, training activities) of those jobs. A substantial majority of the jobs held by high school students involve relatively unskilled jobs in the retail trade (fast food restaurants, other eating and drinking establishments, grocery stores, small retail shops, department stores) and selected private service industries (business, personal and entertainment services). Few teenagers in high school work in goods-producing industries (manufacturing, mining, construction), the finance and insurance industries, professional services, or government. Similar criticisms have been made of the limited array of jobs held by employed high school graduates in their late teens and early 20s.[205] Concerns about the quality of the jobs held by teens and their potentially adverse psychological effects have been expressed in the past by some adolescent development analysts, such as Lawrence Steinberg and Ellen Greenberger.[206] These critics have argued that teen jobs often fail to build maturity, do not often enable youth to interact in

[205]For a recent review of this diversity using both survey data and case studies. See: Charles Bidwell, Barbara Schneider, and Kathryn Bowman, "Working: Perceptions and Experiences of American Teenagers," in *The Adolescent Years: Social Influences and Educational Challenges*, University of Chicago Press, Chicago, 1998.

[206]For examples of this research by Steinberg and his colleagues,
See: (i) Ellen Greenberger and Lawrence D. Steinberg, *When Teenagers Work: The Psychological and Social Costs of Adolescents Employment,* Basic Books, New York, 1986; (ii) Lawrence D. Steinberg, Suzanne Fegley, and Sanford M. Dornbusch, "Negative Impact of Part-Time Work on Adolescent Adjustment: Evidence from a Longitudinal Survey," *Development Psychologogy*, Vol. 29, No. 2, pp. 171-180.
The above authors' research on Orange County youth does, however, suffer from a number of serious methodological shortcomings. Among these limitations were the selection of an initial non-random sample of youth in Orange County, California and an extremely high rate of attrition from the initial sample of non-workers during the course of the study. For a critique of this methodology,
See: Christopher J. Ruhm, *The Effects of High School Work Experience*, pp. 4-5.

any substantive way with adults on the job, provide few opportunities to learn new skills, and may in fact increase cynical attitudes toward work. While it is true that many jobs in the teen labor market are entry-level positions requiring few skills and offering little systematic training, the opportunities to experience and sample the job duties, requirements, and working conditions of entry-level jobs at an early age can be a valuable type of employment experience, allowing youth to sort through the labor market at earlier ages. Participants in a three year longitudinal study of high school work and vocational training programs in the Boston metropolitan area frequently cited as among the most valuable aspects of their high school employment experiences the "opportunity to learn what I don't want to do the rest of my life."[207]

Other empirical studies of the nature and characteristics of the jobs obtained by high school students have revealed that the perceived quality of their jobs often varies quite considerably even among jobs in similar industries and occupational settings.[208] Stern and Nakata analyzed the findings of the NLSY surveys of employed high school students in the U.S. to assess the quality of those jobs on a number of different dimensions, including pay and benefits, motivation potential, opportunities to apply and develop new skills, working conditions, and supervision.[209] On nearly all of these quality dimensions, students' ratings of their jobs varied quite widely. For example, 34% of employed seniors indicated that their jobs provided "a lot" of opportunity to do different tasks while another 41% reported that their jobs provided little or no opportunity to perform different tasks. Two-thirds of the employed stated that their jobs gave them a lot of opportunity to complete assignments from beginning to end while only 13% reported that they were given few opportunities to complete a whole job. Approximately two-thirds felt that their jobs were equipping them with skills that would

[207]See: Irwin Herrnstadt, Morris A. Horowitz, and Andrew Sum, *The Transition from School-to-Work . . .*

[208]See: (i) Paul E. Barton, *op.cit.;* (ii) Andrew M. Sum and W. Neal Fogg, "The Adolescent Poor and The Transition to Early Adulthood,"*op.cit.*

[209]See: David Stern and Yoshi-fumi Nakata, "Characteristics of High School Students' Paid Jobs and Employment Experience After Graduation," in *Adolescence and Work: Influences of Social Structure, Labor Markets, and Culture*, (Edited by David A. Stern and Dorothy Eichorn), pp. 189-233, Lawrence Erlbaum Associates, Hillsdale, New Jersey, 1989.

enable them to obtain a better job in the future while the other 35% indicated that few to no valuable skills were being acquired.

In addition to examining the range and average quality characteristics of the jobs held by subgroups of employed high school seniors, Stern and Nakata also assessed the independent influence of job quality upon the post-high school hourly wages and unemployment experiences of these graduates for three years following graduation.[210] Of the five job quality measures used by the authors, only the measure reflecting the opportunity to use and develop valuable skills had a statistically significant impact on average hourly wages in the first three years following graduation from high school. Those students with high school jobs providing opportunities to apply a wider array of skills (reading, computation, mechanical) and learn new skills also experienced a significantly lower amount of unemployment in the first three years following high school.

Passage of the School to Work Opportunities Act of 1994 was viewed by some youth labor market analysts as providing states and local school districts with a unique opportunity to expand work-based learning and earning positions for students. The vision of workplace learning as a critical component of in-school employment for high school students was well expressed by Sam Halperin in an article on the future of school-to-work transition policy. Halperin noted that "School to work views the employers' workplace as a learning laboratory where young people can experience the relevance of knowledge in the real world."[211] Previous research on students' perceptions of the links between the skills needed to perform a job and school-based learning has indicated that working students are more likely to be committed to both school and work and view school activities more favorably when

[210]The sample of respondents for the analysis of job quality traits on post-high school wages and unemployment experiences was fairly small. Only 154 usable cases were available to the authors. This is a very small fraction of the entire NLSY sample.

See: David Stern and Yoshi-fumi Nakata, *Characteristics of High School Students' Paid Jobs*, "Table8-28," p. 202.

[211]See: Samuel Halperin, *School-to-Work: A Larger Vision*, American Youth Policy Forum, Washington, D.C., 1994.

they discern close relationships between these two sets of skills.[212] Students whose jobs require more consistent application of reading and writing skills are more likely to rate school-based learning as valuable for job performance.

Participants in high quality school-to-work transition programs often comment quite favorably on the learning experiences provided by their work sites. In a review of the work experiences of participants in work-based learning programs at Cambridge Rindge and Latin, Adria Steinberg noted that:

> "..what is striking is the frequency with which students report that at work they have better learning experiences and feel better about their relationships with adults than they do at school."[213]

As noted earlier, the research work of Stern and Nakata has revealed that in-school jobs which utilized existing skills of students and developed new skills were significantly more likely to raise their average wages in the three year period following graduation from high school. The quality of the students' jobs as measured by these opportunities to apply and learn new skills does significantly affect their early post-graduate labor market experiences. A key challenge for future youth workforce development systems is to develop an internal management information system and a follow-up tracking system that will identify not only the number of students holding jobs, but also the types of jobs acquired by students and the opportunities that they had to acquire new skills in these work place settings. Unfortunately, the management information systems of most states' school-to-work transition programs and JTPA workforce development programs fall considerably short of these desired features, although some local sites have done interesting work in this area.

[212]For examples of research findings on the relationships between students' perceptions of the links between job skills and school learning activities and their attitudes toward school.

See: (i) David Stern,"School-Based Work Experience," *Youth Apprenticeship in America*, Youth and America's Future, The William T. Grant Commission on Work, Family, and Citizenship, Washington, D.C., 1992; (ii) Thomas Bailey and Donna Merrit, *The School-to-Work Transition and Youth Apprenticeship: Lessons from the U.S. Experience*, Manpower Demonstration Research Corporation, New York, 1994.

[213]See: Adria Steinberg, "Making Schoolwork More Like Real Work," the Harvard Education Letter, Vol. 13, No. 2, March/April 1997, p. 1.

The Effects of In-School Employment Upon Students' Schooling Performance, Retention, and Post-Secondary Educational Experiences

While employment during the high school years has consistently been found over the past three decades to have a number of positive effects on the early post-high school labor market experiences of graduates, especially among the non-college bound, a number of educators, sociologists, and other adolescent development analysts have raised concerns about potential adverse educational consequences of in-school employment. Since all students face constraints on the use of their time, hours devoted to paid employment may come at the expense of formal school course-work, outside reading, and other school-related activities, such as club and student leadership activities. Students working too many hours may find it difficult to complete homework assignments and attend school on a timely and regular basis. They may fall behind academically, increasing the risk of course failures and school dropout behavior and lowering educational aspirations, thereby adversely affecting their ultimate educational attainment.

Over the past fifteen years, a growing body of national and local studies on the educational consequences and effects of in-school work experience has been developed.[214] Unfortunately, we have little sys-

[214]For a review of prior research findings on the effects of in-school work experience on academic performance, schooling behavior, and educational aspirations, See: (i) Ivan Charner and Bryna Shore Fraser, *Youth and Work: What We Know, What We Don't Know, What We Need to Know*, The William T. Grant Foundation Commission on Work, Family, and Citizenship, Washington, D.C. 1984; (ii) Ronald D'Amico, "Informal Peer Networks as an Integrative and Social Control Mechanism," *Pathways to the Future*, Volume III, The Ohio State University, Center for Human Resource Research, Columbus, 1982, pp. 60-85; (iii) Paul E. Barton, *Earning and Learning*, Educational Testing Service, Princeton, 1989; (iv) Christopher J.Ruhm, *Is High School Employment Consumption or Investment*, op.cit.; (v) Ivan Charner and Bryna Shore, "Publisher's Note," in *Youth Apprenticeship in America: Guidelines for Building an Effective System*, The William T. Grant Foundation Commission on Work, Family, and Citizenship, Washington, D.C., 1992, pp. 14-15; (vi) Jeylan T. Mortimer and Monica Kirkpatrick Johnson, "Adolescents' Part-Time Work and Educational Achievement," *The Adolescent Years: Social Influences and Educational Challenges*, University of Chicago Press, Chicago, 1998.

tematic experimental evidence on the independent effects of in-school work experience on the schooling behavior, performance, or educational aspirations of high school students. Most of the available empirical evidence is based on comparing the school retention, academic performance, and educational aspirations of students who work for variable numbers of hours per week with those of students who do not work during high school. Much of the available evidence is based on point-in-time relationships, but some longitudinal studies also have been undertaken. While findings of these empirical studies are somewhat mixed, there appears to be a growing general consensus that moderate in-school work activities (under 20 hours of work per week) tend to have no substantive adverse effects on the academic performance, school attendance, or educational aspirations of high school students.[215] In fact, employed students working a moderate number of hours per week (under 20) often seem to fare better academically than their non-employed peers on a variety of school performance measures, including school dropout rates.

Several recent studies on relationships between the in-school work experience of different subgroups of youth and their schooling persistence and educational outcomes provide further evidence on the above set of issues. Using data from the National Longitudinal Survey for Youth (NLSY), Tienda and Ahituv have analyzed the in-school work behavior of males at ages 16 to 19 and their school persistence rates.[216] Those young men with no paid work experience during the year were identified as a separate group for the multivariate statistical analysis. At age 16, the authors find no significant relationships between work experience and school persistence. For ages 17 through 19, however, those males with no paid work experience were significantly more likely to

[215]Media coverage of these issues has frequently been lopsided and distorted. Paul E. Barton has recently noted that the media has often cited findings that show adverse effects of work on grade performance. "but actually, studies from this time frame show that working a moderate number of hours (20 or less) does not depress grades."
See: Paul E. Barton, *op.cit.*, p.9.

[216]See: Marta Tienda and Avner Ahituv, "Ethnic Differences in School Departure: Does Youth Employment Promote or Undermine Educational Attainment?", in *Of Heart and Mind*, (Editors: Garth Mangum and Stephen Mangum), W.E. Upjohn Institute for Employment Research, Kalamazoo, 1996, pp. 93-110.

withdraw from school. An adverse impact of work hours on the likelihood of withdrawing from high school prior to graduation does, however, rise moderately with hours worked. Typically, however, those male youth working on average for less than 20 hours per week were found to be more likely to remain in school than their counterparts with no paid work experience.

A separate analysis by the same authors of the findings for male respondents classified by the educational attainment of their mothers and their race-ethnic status revealed that the school persistence behavior of young men whose mothers had not graduated from high school was more sensitive to increases in hours worked than that of their peers whose mothers had completed more years of schooling. The school persistence behavior of Hispanic youth from educationally disadvantaged families was found to be most sensitive to changes in hours worked. The work behavior of certain groups of at-risk youth may, thus, need to be more carefully monitored by school staff to prevent their in-school work activities from adversely affecting their ability to graduate from high school and obtain some post-secondary schooling.

The previously-cited Burbridge, Pleck, and Somenstein study using a different longitudinal data base (the National Survey of Adolescent Males) also tracked the high school graduation rates of a subset of adolescent males between 1988 and 1991.[217] For the total sample of males, they found no adverse effect of average weekly hours of work on the probability of high school graduation until weekly work hours exceeded 40. Among Black males, those working 21-30 hours per week actually were significantly more likely to graduate from high school. For the entire sample of men, there was no significant effect of hours worked on the probability of attending college. Again for Black men, those working 21-30 hours per week were significantly more likely to attend college by the time of the 1991 survey round.

Intensive paid work during the school year can conflict with study time and other academic pursuits, thereby affecting academic performance in high school. Evidence from previous studies indicates that

[217]Their subset consists of those young men who were enrolled in high school at the time of the initial 1988 interview and were at least 19 years old by 1991. See: Lynn Burbridge, Joseph Pleck, Freya Somenstein, *op.cit.*

students working more than 20 hours per week do spend somewhat less time on homework and outside reading and are characterized by somewhat lower commitments to future schooling. The magnitudes of these adverse effects, when they do occur, do not seem to be particularly large, especially when the demographic, socioeconomic, and schooling backgrounds of students are rigorously controlled in the statistical model.[218] Most students who do not work in high school typically spend little additional time on homework, reading, or other school-related activities. Thus, the bulk of the time devoted to paid work activities by employed students does not appear to come at the expense of formal academic course work and other educational development activities.

Besides the research findings based on national data sets, there are some state and local data bases that can be used to obtain valuable insights on the relationships between in-school work and academic behavior. Data on the in-school activities and work activities of high school seniors in the state of Massachusetts can be used to provide further evidence on the relationships between these two sets of variables. The 1992 Massachusetts Educational Assessment Program (MEAP) included a comprehensive survey of the state's public high school seniors. The background questionnaire was designed to ask students questions about the usual daily amount of homework they completed and their weekly number of hours of work.[219] An analysis of the findings of the MEAP survey on daily hours of homework revealed that the typical high school senior in Massachusetts completed only one or fewer hours of homework per day and that only 17% of Massachusetts public high school seniors reported that they completed two or more hours of homework per day.

[218]For example, See: Paul E. Barton, *Earning and Learning*, Educational Testing Service, Princeton, March 1989.

[219]The hours of work question in the MEAP senior year survey unfortunately was not tied specifically to the same calendar week in which homework activities were identified. The pattern of findings does, however, seem to be in close accord with those of earlier national surveys.

See: Neal Fogg, Neeta Fogg, Paul E. Harrington, and Andrew M. Sum, *Employment Experiences of Massachusetts Public High School Seniors: Findings of the 1993 Massachusetts Educational Assessment Program (MEAP)*, Reported Prepared for the Mass Jobs Council, School-to-Work Task Force, Boston, 1994.

These findings are quite consistent with those from the 1986 national survey of high school juniors conducted as part of the National Assessment of Educational Progress. Two-thirds of the nation's high school juniors reported spending 1 hour or less on daily homework.[220] Estimates of the mean usual daily hours of homework by employed and non-employed Massachusetts seniors revealed a difference of only .1 hours per day (1.28 hours for the non-employed versus 1.18 hours for employed seniors), or less than one hour per week. Among the employed, those high school seniors working more than 20 hours per week were significantly more likely than their employed counterparts working fewer than 20 hours to report one or less hours of homework per day (72% versus 57%). Employed students working more than 20 hours per week also reported somewhat less daily reading than their employed classmates working fewer than 20 hours.

Findings of a multivariate statistical analysis of the MEAP data on homework and employment activities of high school seniors revealed that for the entire group of seniors those working 1-10 hours per week were estimated have to completed approximately 0.4 more hours of homework per week than their non-employed counterparts.[221] Those employed seniors working 11-20 hours per week completed slightly fewer hours of homework (0.25 to 0.40 hours) than their non-employed peers. Finally, those seniors who worked more than 20 hours per week completed approximately 1.25 fewer hours of homework per week than their non-employed peers, ceteris paribus. The findings were quite similar for men and women. Among men, however, work did not appear to have any significantly adverse effect on hours of homework until paid hours exceeded 20 per week.

While paid work in excess of 20 hours per week does lead to a significantly lower daily amount of homework, the magnitudes of the estimated effects are quite small. Very little of the time spent at paid work seemed to come at the expense of homework or reading activities among Massachusetts public high school seniors during 1992. Instead, more paid employment typically came at the expense of less television

[220]Among high school juniors with no paid hours of work, nearly 63% reported that they usually did only one hour or less of homework.
See: Paul Barton, *op.cit.*

[221]The number of sample cases for this analysis was quite large (32,414).

watching and socializing with friends.

Future efforts to expand in-school employment opportunities for the nation's high school students should not ignore potential adverse effects on time spent doing homework, reading, or engaging in other desirable school-related activities; however, past fears of these adverse effects seem to have been clearly exaggerated. The vision for some states' past school-to-work transition programs often included a goal of more closely integrating school-based and work-based learning. By increasing the access of high school students to jobs offering such learning opportunities, future school-to-career systems may actually be able to increase the incentives of students to learn in school, boost their overall learning on and off the job, and strengthen their commitment to completing school and training beyond the secondary level.

Research findings for exemplary school-to-work transition programs have found that they can increase the career aspirations of participants and encourage them to enroll in post-secondary educational programs at high rates.[222] Past evaluations of the Pro-Tech program in Boston have found positive college attendance impacts using a comparison group methodology. Future innovative work-based learning programs, however, should be more carefully monitored and evaluated to determine their impacts on students' school attendance, academic performance, homework behavior, and educational aspirations. Opportunities for conducting such state and local research were provided by the School to Work Opportunities Act of 1994. Unfortunately, despite the opportunities provided by this legislation, very little experimental evidence exists on the effects of enriched school-to-work programs on the schooling behavior and academic performance of high school students. Anecdotes, conjectures, case studies, and impressionistic observations are no substitutes for careful evaluations of the impacts of alternative work programs for high school students, especially members of the educationally and economically disadvantaged population.

[222]See: (i) H. Kopp and R. Kazis, *Promising Practices: A Study of Ten School-to-Career Programs,* Jobs for the Future, Somerville, Massachusetts, (ii) Adria Steinberg, "Making Schoolwork More Like Real Work."

Employment Rates Among the Nation's High School Youth

Given the frequent favorable economic impacts of in-school work experience for the early post-high school labor market experiences of out-of-school young adults, it would be desirable to know who works during high school. Data on the labor force behavior and employment status of in-school youth are available on a monthly basis from the Current Population Survey (CPS), which is used to estimate the total number of employed and unemployed persons in the nation.[223]

Since the CPS survey involves regular monthly interviews with a representative sample of the nation's working-age population (16+), it

[223]The choice of a data set to estimate the number of high school youth who work at a given point in time is an important one since different data sets yield somewhat different answers to this question. Previous national research has shown that employment estimates based on the CPS survey which allows for proxy respondents (i.e., the mother often answers for the son and daughter) often are lower than those from national longitudinal surveys which collect the employment data directly from the youths themselves. Richard Santos has shown, however, that the differences between the employment estimates of the two types of surveys narrow as the youth get older and as they enter the full-time labor market. In responding to the CPS survey, mothers often do not report as employed their sons and daughters who hold marginal, part-time jobs that provide five or fewer hours of work per week. More substantive, steady work experiences are reported more accurately by the proxy respondents to the CPS survey.

For a review of evidence on the size and patterns of the employment rate estimates for teens from the CPS household survey and selected national longitudinal surveys.

See: (i) Richard B. Freeman and James L. Medoff, "Why Does the Rate of Youth Labor Force Activity Differ Across Surveys?," in *The Youth Labor Market Problem: Its Nature, Causes, and Consequences*, University of Chicago Press, Chicago, 1981; (ii) Richard Santos, "Measuring the Employment Status of Youth--A Comparison of the Current Population Survey and the National Longitudinal Survey," *Proceedings of the Thirty-Third Annual Meetings*, Industrial Relations Research Association, Madison, 1982, pp. 62-68.

For a review of the age patterns of these employment rate differences and the types of jobs held by very young (14-15-year-old) students.

See: Richard Santos," The Employment Status of Youth," *Pathways to the Future, Volume I*, The Ohio State University, Center for Human Resource Research, Columbus, 1991.

can be used to provide valuable evidence on time trends in the employment rates of high school students. Since the mid-1980s, the monthly CPS survey also has been used to collect information on the current school enrollment status of all persons ages 16-24, thereby allowing us to identify those youth currently enrolled in high school. The published annual average data from the CPS survey for the years 1986, 1989, 1991, 1995, 1996, and 1999 were used to estimate the annual average employment rates of all 16-24-year-old high school students and for gender and selected race-ethnic subgroups (Table and Chart 8.1). Since many youth move in and out of the labor market during the year, these monthly point-in-time employment rates will understate the fraction of high school students who will work at some time during the year, including the summer months.[224]

Table 8.1:
Employment to Population Ratios Among 16-24 Year-Old High School Students, by Gender and Race-Ethnic Origin, U.S., Selected Years: 1986 to 1999
(Annual Averages in Per Cent)

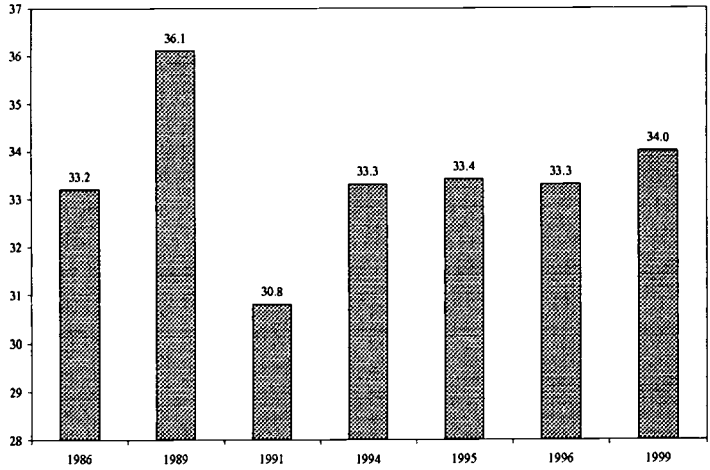
Characteristics	1986	1989	1991	1995	1996	1999
All 16-24-Year-Old High School Students	33.2	36.1	30.8	33.4	33.3	34.0
Gender						
Male	33.0	35.5	30.5	33.2	32.1	32.7
Female	33.4	36.8	31.2	33.5	34.6	34.3
Race/Ethnic Origin						
White	37.6	40.1	35.4	37.6	37.5	37.9
Black	15.6	19.8	13.5	18.3	18.5	18.9
Hispanic[1]	20.2	22.9	19.6	20.9	19.9	20.0

Notes: Hispanic students may be of any race. They also are included in the totals for White and Black students

Sources: (i) U.S. Bureau of Labor Statistics, *Employment and Earnings*, January 1987, January 1990, January 1992, January 1996 and January 1997; (ii) U.S. Bureau of Labor Statistics, unpublished data from the 1999 monthly CPS surveys, tabulations by authors.

[224]During the summer months, those youth not enrolled in high school are classified as out-of-school in the CPS survey; thus, their summer employment experiences will not affect the annual average.

Chart 8.1:
Employment to Population Ratios for 16-24-Year-Old High School Students, U.S.: Selected Years, 1986 to 1999
(Annual Averages, in Per Cent)



The aggregate employment rates of high school students are quite sensitive to overall labor market conditions, rising during periods of strong job growth and falling unemployment and declining sharply during recessionary periods. During the job boom years of the mid to late 1980s, the employment rate of the nation's high school students improved markedly, rising to 36% in 1989. However, job opportunities for high school students declined sharply in the recessionary environment of 1990-91, with the overall employment rate for these students falling to slightly below 31%.[225] Their overall employment rates improved as the national economy gained strength from 1991 through 1995. Stronger labor market conditions attracted more students into the labor force and reduced the incidence of unemployment problems among those actively looking for work. The employment rate for high

[225]A part of the steep decline in the employment rate of high school students over this time period is also attributable to the rise in the federal minimum wage over this same time period.
See: Donald Deer, Kevin M. Murphy, and Finis Welch, "Employment and the 1990-1991 Minimum Wage Hike," *American Economic Review: Papers and Proceedings*, Vol. 85, No. 2, 1995, pp. 232-237.

schools students rose to slightly above 33% in 1994 and 1995, but has only modestly improved over the last four years despite continued strong growth in jobs, a sharp decline in unemployment and the implementation of school-to-work transition programs in most states funded under the School to Work Opportunities Act of 1994.[226]

The employment rates of male and female high school students in the U.S. have been essentially statistically identical over the past thirteen years. For example, on average during 1999, approximately 34% of both groups were employed in a typical month. While gender differences in high school students' employment rates have been eliminated, substantial gaps remain between the employment rates of Whites and those of Black and Hispanic high school students. Over the entire 1986-99 period, the employment rates of Black high school student have been only one-half as high as those of White high school students, with the relative size of these White-Black employment gaps widening during recessionary periods and narrowing during periods of strong job growth. For example, during the recessionary environment of the early 1990s, the White/Black employment gap rose from 20 to 22 percentage points. Between 1991 and 1995, the employment rate among Black high school students increased by nearly five percentage points to 18.3% and rose further to 21% in 1996, narrowing the Black-White gap from 22 to 19 percentage points; however, no further reduction in this gap has taken place since then. Clearly, stronger labor market conditions help narrow the employment gap between White and Black high school students, but they clearly are not sufficiently strong by themselves to eliminate those gaps.

[226]Another likely explanation of the weak gain in the employment/population ratio of high school students from 1995 to 1999 is that of the sharp rise in the federal minimum wage during 1996 and 1997. From October 1996 to September 1997, the federal minimum wage was raised in two steps from $4.25 to $5.15 per hour. National research on the employment impacts of a rise in the minimum wage rather consistently shows that teens (16-19) are the most adversely affected by the employment displacement from a higher minimum. See: (i) Charles Brown, Curtis Gilroy, and Andrew Kohen, "The Effect of the Minimum Wage on Employment and Unemployment," *Journal of Economic Literature*, Vol. 20, 1982, pp. 487-528; (ii) David Neumark and William Wascher, "Minimum Wage Effects on Employment and School Enrollment," *Journal of Business and Economic Statistics*, April 1995, Vol. 13, No. 2, pp. 199-206; (iii) Donald Deere, Kevin Murphy, and Finis Welch, "Employment and the 1990-91 Minimum Wage Hike," *American Economic Review*, Volume 85, No. 2, 1995, pp. 232-237.

The need to strengthen in-school employment opportunities for Black and other minority high school students is quite evident and the numbers of new jobs that will be needed to improve the Black student employment rate will rise over the next decade as the Black teenage population continues to grow. According to the most recent population projections of the U.S. Census Bureau, the number of 16-19-year-old Black youth will rise by 364,000 or nearly 15% between the year 2000 and the year 2010. The U.S. Bureau of Labor Statistics projects only a modest increase in the civilian labor force participation rate of all Black 16-19-year-olds over the current decade. The civilian labor force participation rate of Black teens in the year 2008 is projected to be only two percentage points above its 1998 level.

Hispanic high school students have been employed at rates slightly above those of Black students but well below those of Whites over the past decade. The annual average employment rate of Hispanic high school students was equal to only 55% of that of White students from 1986 through 1995. When Hispanic students do work, however, they are employed for a greater number of hours per week than White students. For example, during 1995 and 1996, employed Hispanic students worked on average for nearly 25 hours per week versus only 22 hours for Black students and 20 hours for White, non-Hispanic students.

The number of Hispanic teens is projected to increase at an above average pace over the next decade. Between the years 2000 and 2010, the number of Hispanic teenagers is projected by the U.S. Census Bureau to rise from 2,300,000 to 3,230,000, a rise of 930,000 or 46%. Many states in the Southwest and West will experience a substantial rise in the number of Hispanic high school students over the next decade. Expanding in-school employment opportunities for these Hispanic students likely will prove to be a formidable challenge to the school-to-work transition systems in these states. The U.S. Bureau of Labor Statistics does not project any rise in the civilian labor force participation rate of Hispanic teens over the current decade, expecting it to remain constant at 45.6%.[227]

The success of future efforts to close the sizable gap between the employment rates of White and Hispanic students over the next decade will require both an increase in the labor force attachment of Hispanic

[227]See: U.S. Bureau of Labor Statistics, Web Site, "Projected Civilian Labor Force Participation Rates for Demographic Subgroups: 1999-2008".

high school students and a reduction in their high rates of unemployment. During 1999, the annual average rate of unemployment among Hispanic high school students was 22% versus an unemployment rate of only 13% for White high school students.[228]

Employment Rates of High School Students by Family Income Background and Poverty Neighborhoods

The employment experiences of the nation's high school students also tend to vary quite considerably by their family income backgrounds and the poverty conditions of their neighborhoods. Previous research on youth labor markets over the past three decades consistently has found that high school students from more affluent families tend to be employed more often than their less affluent counterparts, though they tend to work somewhat fewer hours per week when they do work. These differences in labor market participation patterns by family income tend to hold true for men and women and for Whites, Blacks, and Hispanics. Many parents in middle and upper middle income families see work during high school as a desirable activity for building responsibility and maturity skills among their teenage children as long as it does not conflict to any considerable degree with school learning activities and attendance.

Our analysis of CPS data on the employment experiences of high school students in the U.S. in 1992, 1995-96, and 1998-99 reveals that the likelihood of working during March of the school year tends to rise consistently as family income increases until the upper-end of the family income distribution is reached; i.e., those youth living in families with incomes four or more times the poverty line. Only one of every five high school students living in poor families were employed on average during March 1995 and March 1996, and only one of every six such youth were employed in March 1998 and 1999. (Table 8.2). The employment rates of these high school students rose steadily in each of these time periods as their family incomes increased until the upper-end of the income distribution was reached at which point the employment rate tapered off moderately. High school students living in families with incomes two or more times the official poverty line for families of their given size and age composition were twice as likely to be working

[228]Source: Unpublished CPS survey data for 1999 provided to the authors by the U. S. Bureau of Labor Statistics.

as students from poor families. Forty per cent or more of the students in families with incomes three or more times the poverty line were working in March 1995-1996 and in March 1998-1999.[229]

Table 8.2:
Trends in the Employment/Population Ratios of 16-20 Year Old High School Students in the U.S., March 1992 to March 1998-99, Total and by Race/Ethnic Group and Family Poverty Status (Numbers in Per Cent)

Group	(A) March 1992	(B) March 1995-96	(C) March 1998-1999
All	29.1	34.1	34.3
White, not Hispanic	34.9	41.2	41.5
Black, not Hispanic	13.6	18.4	17.7
Hispanic	20.6	20.5	21.7
Poor	12.4	19.5	17.6
1.00-1.99 times poverty line	22.2	28.2	26.4
2.00-2.99 times poverty line	31.7	37.4	36.8
3.00-3.99 times poverty line	37.4	43.0	43.3
4.00 or more times poverty line	37.2	40.0	40.8

Source: March CPS public use tapes, 1992, 1995, 1996, 1998, and 1999, tabulations by authors.

These strong positive associations between the employment rates of high school students and the income status of their families hold true for Black, White, and Hispanic students. In each family income category, however, White high school students were considerably more likely than their Black or Hispanic counterparts to be working during the March 1998-1999 period (Table 8.3). Black and Hispanic students living in poor families were characterized by extraordinarily low employment rates. Over the past two years, only 1 of very 12 poor Black students and 1 of every 6 poor Hispanic students held a job. The employment rates for these two groups were only one-fourth to 40% as high as those for all high school students in the nation (34%) during March 1998 and March 1999. Similar findings held true for the mid-1990s and the early 1990s. In fact, the employment rate of poor Black students in

[229]The date for March of each year are used since the March CPS survey collects data on the income and poverty status of the families of these high school students.

1998-99 was nearly four percentage points below that of the mid 1990s. Clearly, future youth employment and training initiatives for high school students, including those programs funded under the Workforce Investment Act of 1998, should aim to expand employment opportunities for low income students of all races, and particularly for poor Blacks and Hispanics. Students in both of these latter two race-ethnic groups have been heavily dependent on subsidized jobs programs to gain exposure to employment, especially during the summer months. Unfortunately, these subsidized summer jobs programs often lack close ties to private sector firms who can provide more year-round employment opportunities for high school students. These latter positions hold considerably greater promise for improving their future employability and earnings.

Table 8.3:
The Employment-to-Population Ratios of 16-20 Year Old High School Students in the U.S., by Family Income and Selected Race-Ethnic Group, U.S.: March 1998 and March 1999 Averages
(Numbers in Per Cent)

Family Income Relative to the Poverty Line	All	White, non-Hispanic	Black, non-Hispanic	Hispanic
All	34.3	41.5	17.7	21.7
Less than the poverty line	17.6	25.3	8.1	15.6
1.00-1.99 times the poverty line	26.4	35.2	16.6	20.1
2.00-2.99 times the poverty line	36.8	42.6	23.4	27.4
3.00-3.99 times the poverty line	43.3	48.9	23.2	28.7
4.00+ times the poverty line	40.8	43.1	27.3	30.1

Sources: March 1998 and March 1999 CPS public use tapes, tabulations by authors.

The employment rates of the nation's high school students also tend to vary considerably by the intensity of the poverty problems in the neighborhoods in which they reside. Most low income neighborhoods cannot support a diversified array of retail trade and service producing firms which provide teenagers with the bulk of their employment opportunities. The sharply lower employment rates among adults in poverty neighborhoods provide less information to teens about sources of jobs, and fewer adults are in a position to be an effective broker for them in the labor market. Also, as William Julius Wilson has noted in his recently published volume *When Work Disappears*, these high

poverty neighborhoods also provide fewer adult working role models for teens to emulate.[230] Some teens in these neighborhoods may thus develop a set of social behaviors and norms that are antagonistic to effective work place performance.

As noted earlier, to assist the U.S. Department of Labor's Employment and Training Administration in its efforts to plan a new set of demonstration programs for out-of-school youth in high poverty neighborhoods under the YOA initiative, the U.S. Census Bureau generated a detailed set of computer tabulations on the 1990 labor force status of a diverse array of demographic youth subgroups in neighborhoods with quite variable poverty conditions. This set of tabulations can be used to identify the employment rates of 16-17 year old high school students in gender and selected race/ethnic subgroups in neighborhoods categorized by the poverty rate of all residents in the census tracts in which they were living at the time of the 1990 Census (Table 8.4).

Table 8.4:
Employment Rates Among 16-17 Year Old High School Students by Gender, Race-Ethnic Group, and Poverty Rate in Census Tract of Residence: U.S., 1990
(Numbers in Per Cent)

	Poverty Rate					
	(A)	(B)	(C)	(D)	(E)	(F)
Gender/Race Group	All	0-10	10-19	20-29	30-39	40+
Men						
White, non-Hispanic	34.6	37.8	32.3	26.1	22.5	19.3
Black, non-Hispanic	16.1	21.9	18.0	15.5	13.2	9.8
Hispanic	21.1	27.7	23.4	18.7	16.1	11.7
Other, non-Hispanic	19.9	23.1	20.4	15.0	11.4	8.7
Women						
White, non-Hispanic	35.7	39.7	32.3	23.5	21.6	20.2
Black, non-Hispanic	17.2	24.3	19.8	15.4	13.2	11.7
Hispanic	20.8	29.0	22.6	17.8	15.0	10.7
Other, non-Hispanic	20.3	23.6	20.7	16.6	12.2	7.9

Source: 1990 Census of Population and Housing, Special tabulations by the U.S. Census Bureau, for the U.S. Department of Labor.

[230]See: (i) William Julius Wilson, *When Work Disappears*, Alfred Knopf, New York, 1997; (ii) William Julius Wilson, *The Bridge Over the Racial Divide*, University of California Press, Berkeley, 1999.

The above findings consistently reveal that the employment rates of high school students in each gender and race/ethnic group at the time of the 1990 Census declined sharply and continuously as the poverty rate of their neighborhood rose. For example, among all 16-17 year old White, non-Hispanic males, the employment rate was approximately 35%; however, the employment rates for this group ranged from a high of 38% for those male high school students living in census tracts with a poverty rate under 10% to a low of 19% for White male high school students living in neighborhoods with a poverty rate over 40%. The relative difference in employment rates between the lowest and highest poverty tracts was nearly two to one. Similar patterns prevailed for Black, Hispanic, and other non-White male high school students. Those young men living in neighborhoods with the lowest poverty rates (under 10%) were two to three times more likely to be employed than their counterparts living in Census tracts with poverty rates over 40%. However, regardless of the intensity of poverty problems in their neighborhoods, White male high school students were more likely than Blacks, Hispanics, or other nonwhites to be employed at the time of the 1990 Census. These findings closely mirror those from the monthly Current Population Surveys reported earlier.

The patterns of the employment rates for 16-17 year old female high school students were nearly identical to those among men in each race-ethnic group. Those female high school students living in neighborhoods with poverty rates under 10% were two to three times more likely to be employed in early 1990 than their counterparts who lived in the highest poverty tracts. Very similar findings prevailed for 18-19 year old high school students.

Employment conditions among in-school youth in high poverty neighborhoods of selected large central cities in the U.S. in the late fall of 1996 and the winter of 1997 can be identified with the findings of the baseline household surveys for the Youth Opportunity Area demonstration programs. The initial three demonstration sites were located in high poverty neighborhoods (30% or higher poverty rates) in the cities of Chicago, Houston, and Los Angeles. At the time of the baseline household surveys, only 17% of the sample of 16-24 year old in-school youth residing in the demonstration sites in these three cities were employed, with employment rates of in-school youth ranging from a low of slightly under 12% in the city of Chicago to a high of nearly 24% in Houston. (Table 8.5). In comparison to these very low employment

rates, 43% of all 16-24 year old students in the U.S. were employed over the same time period.

Table 8.5:
Employment/Population Ratios and Unemployment Rates of 16-24 Year Old Enrolled Youth in High Poverty Neighborhoods of Chicago, Houston, and Los Angeles, Late Fall 1996 and Winter 1997
(Numbers in Per Cent)

Geographic Area	(A) Employment/ Population Ratio	(C) Unemployment Rate
All Three Sites Combined	17.0	66.0
• Chicago	11.5	76.6
• Houston	23.7	54.9
• Los Angeles	15.7	67.1

Sources: Winter 1997 Baseline Household Survey by Westat Inc., tabulations by authors.

Note: Findings are based on the experiences of both high school and college students although the sample was dominated by junior high and high school students (72%).

The depressed employment rates of enrolled youth in these three demonstration sites at the time of the baseline survey were substantially influenced by the existence of very high rates of unemployment among these youth. For the three sites combined, the estimated unemployment rate was equal to 66%, implying that two of every three enrolled youth actively participating in the labor force at the time of the baseline household survey could not find employment. The unemployment rates of these students ranged from 55% in Houston to 77% in Chicago. Clearly, the available pool of labor among 16-24 year old students in these high poverty neighborhoods was substantially unutilized in the late fall of 1996 and the early winter of 1997.

A more recent look at employment conditions among high school students in higher poverty neighborhoods can be obtained from an analysis of three monthly CPS households surveys in high poverty areas of the U.S. in the late fall of 1998 and the early winter of 1999.[231] Over

[231]The BLS definition of high poverty neighborhoods is a 20 per cent or higher poverty rate. This definition is considerably broader than the standard 30 per cent or higher poverty rate used to classify neighborhoods as "high poverty". See: Paul A. Jargowsky, *Poverty and Place: Ghettos, Barrios, and the American City*, Russell Sage Foundation, New York, 1996.

this three month period, only 19% of high school students (16 and older) living in these high poverty neighborhoods were employed (Table 8.6). The employment rates of high school students in these higher poverty neighborhoods ranged from a low of 16% for Black students to a high of nearly 30 % for White high school students. During the same time period, the employment rate for the nation's high school students (16-24) was equal to 34.2%, nearly twice as high as that for high school students residing in these high poverty neighborhoods. For high school students in each of our three race-ethnic groups, employment rates of youth in high poverty neighborhoods were below those of their national counterparts.[232]

Table 8.6:
Employment/Population Ratios of 16-24 Year Old High School Students in the U.S. and in High Poverty Neighborhoods,(1) Winter 1999, Total and by Race-Ethnic Group

Student Group	(A) U.S.	(B) High Poverty Neighborhoods	(C) U.S. - High Poverty Areas
High School, All	34.2	19.4	+14.8
• White	37.5	29.9	+7.6
• Black	22.5	16.0	+6.5
• Hispanic	20.6	18.4	+2.2

Sources: (i) U.S. Bureau of Labor Statistics, *Employment and Earnings*, December 1998, January-February 1999;
(ii) U.S. Bureau of Labor Statistics, unpublished data from the CPS household surveys, November-December 1998, January 1999, tabulations by authors.

Note: High poverty neighborhoods in this survey are those with an estimated poverty rate of 20 per cent or higher.

Clearly, high school students residing in neighborhoods characterized by more intense poverty problems are considerably less likely to obtain any paid work experience during the school year. This limited degree of attachment to the labor market by most poor youth during the

[232]The size of the employment gap for all high school students is considerably greater than that for youth in each of the three race-ethnic groups since Black and Hispanic youth make up a higher share of the resident population of high poverty neighborhoods.

high school years complicates the task of moving smoothly from high school to the world of work upon graduation, especially for those graduates not going on to enroll full-time in college. This lower amount of cumulative work experience during high school also will reduce their ability to gain immediate access to jobs upon graduation, the likelihood of their obtaining a full time job, and the hourly and weekly wages that they can command from their employers. Future youth employment programs aimed at high school students should assign a priority to improving immediate employment prospects for students in high poverty neighborhoods throughout the country, both urban and rural. Increased access to jobs during the high school years should improve the early post-high school labor market experiences of youth from high poverty neighborhoods and, when combined with high quality work-based learning and employer-based training, should increase high school graduation rates and college enrollment rates.

Employment Rates of High School Youth Across the States in the 1990s

The employment rates of high school students also vary considerably by geographic area of the nation. For example, at the time of the 1990 Census, the employment rates of 16-21 year old high school students ranged across the 50 states from a low of 16% in West Virginia to highs of 49% in Nebraska, New Hampshire, Iowa, and Rhode Island.[233] To identify the range of the employment rates of high school students across the states in more recent years, we used the findings of the monthly CPS surveys for the years 1996 to 1998 to estimate employment rates for high school students in each of the fifty states and the District of Columbia. We then ranked each of the states from highest to lowest on the size of their employment rates and identified the ten states with the highest employment/population ratios (E/P ratios) for high school students and those with the 10 lowest employment rates (Table 8.7). The 10 states with the highest E/P ratios for high school students were primarily located in the Midwest region while half of the bottom 10 states were located in the South as that region is defined by

[233]For more details on the findings of the 1990 Census with respect to the employment rates of high school students,
See: Andrew Sum, Neeta Fogg, and Neal Fogg, *Out-of-School, Out of Luck*, "Table 35," p. 143.

the U.S. Census Bureau. The mean (unweighted) employment rate for the top ten states was 52.5% versus a mean employment rate of only 21.8% for the bottom ten states, a relative difference of more than two and a half to one.

The ten states with the highest employment/population ratios for high school students do differ demographically and economically in a number of key respects from the bottom ten states. They tend, on average, to have somewhat more rural and non-metropolitan populations, have lower overall unemployment rates, and contain fewer poor persons and race-ethnic minorities than the bottom ten states. Most of these factors by themselves would be expected to improve employment prospects for high school students, given the tendency for higher unemployment rates to depress the employment rates of teens and the lower employment rates that prevail nationally for poor and minority students. However, the 1990 Census evidence suggested that states with high employment rates for all high school students also were characterized by substantially higher job prospects for minority and economically disadvantaged students.[234] In 1990, both White and Black students in the top seven states were twice as likely to be employed as their counterparts in the bottom seven states, students from poor and near poor families in the top seven states were two and one-half times more likely to be employed than their counterparts in the bottom seven states, and Hispanic students were 40% more likely to be working in these top seven states. Clearly, there is something about the operation of youth labor markets in those states with the highest youth employment rates that provides greater opportunities for high school students to be employed. Some valuable lessons for future youth workforce development programs might be learned from a more detailed institutional analysis of youth labor market operations in these top ten youth employment states, including the nature of the linkages between local schools and employers, both private and public, and the intensity of school-to-work activities for high school students.

[234]See: Andrew M. Sum, Neeta Fogg, and Neal Fogg, *Out-of-School, Out of Luck*, pp. 143-144.

Table 8.7:
Employment/Population Ratios of High School Students in the Top Ten and Bottom Ten States, 1996 to 1998, Monthly Averages
(Numbers in Per Cent)

Top Ten States	E/P Ratio
Iowa	59.6
South Dakota	57.9
Wisconsin	56.8
Nebraska	55.8
Minnesota	54.9
North Dakota	51.0
Utah	49.0
Vermont	46.7
Kansas	46.5
Indiana	46.3
Unweighted Average, Top Ten States	52.5
Bottom Ten States	
Alabama	28.2
Alaska	26.8
New Mexico	24.5
New York	22.4
Louisiana	22.1
West Virginia	21.4
California	21.3
Mississippi	20.5
Hawaii	19.9
D.C.	10.8
Unweighted Average, Bottom Ten States	21.8

Source: CPS monthly household surveys, January-May and September-December 1996 to 1998, tabulations by authors.

Estimating the Additional Jobs Needed to Achieve Employment Goals for High School Students in 1999

Given the generally favorable past effects of in-school work experience on the early labor market outcomes for young adults and the potential contributions of in-school employment for improving the future

work-based knowledge, skills, employability and work behaviors of high school students, it clearly would be desirable for future youth workforce development programs to increase the number of job opportunities for students. School-to-work transition programs at the state and local level also should aim to reduce the substantial disparities in employment rates that currently exist among high school students in different family income and race/ethnic groups. Youth from low income families and both Black and Hispanic youth tend to be employed at rates well below those of White, non-Hispanic students from middle and upper income families. Given the forthcoming growth in the high school student population over the next decade and its changing race-ethnic diversity, achievement of key employment goals for the nation's high school students will clearly require a substantial increase in the number of job opportunities for them.[235] A set of estimates of the number of additional jobs for high school students that would have been needed in the past year (1999) to achieve key school-to-work transition goals is presented below. These national job requirements are estimated for all 16 and older high school students and for selected race/ethnic subgroups.

The first step in estimating the additional number of jobs for high school students that would have been needed in 1999 involves establishing a target goal for the desired number of employed high school students of working-age (16 and older). As revealed above, employment rates for high school students in the nation continue to vary considerably by family income background and race/ethnic group. During 1999, 34% of all high school students (16+) were employed. (Table 8.8). Among White, non-Hispanics, nearly 42% were employed during the March 1998 and March 1999 period. Of White, non-Hispanic youth living in families with incomes two or more times the poverty line, 45% were employed. We believe that the nation should set a goal for its future youth workforce development systems to achieve an employment rate of 45% for high school students in each income and race-ethnic group by the year 2005. All high school students should have the same opportunity to obtain work as White students from middle and upper middle income families have had in recent years.

[235]According to U.S. Census Bureau population projections, the number of 16-19 year olds in the national population will rise from 15.9 million in the Year 2000 to 17.6 million in the Year 2010 with Black and Hispanics accounting for nearly 1.3 million of the net gain.

Table 8.8:
Actual Number of Employed High School Students[1] (16+) and Number of Employed High School Students that Would Have Been Employed in 1999 to Achieve the Target Employment Rate of 45%

Group	(A) Number of High School Students	(B) Target Number of Employed High School Students	(C) Actual Number Employed	(D) Required Increase in Jobs
All	8,383	3,772	2,850	+922
• White	6,513	2,930	2,470	+460
• Black	1,395	628	264	+364
• Hispanic[2]	1,172	527	259	+268
• Other Races	475	214	116	+98

Notes: (1) Those youth not attending high school during the summer months are classified as out-of-school youth lacking a high school diploma.

(2) Hispanics can be members of any race; thus, they are also included in the White, Black, and other totals. The "all" group is a non-duplicative count.

Source: 1999 monthly CPS household surveys, unpublished data provided to the authors by the U.S. Bureau of Labor Statistics, tabulations by authors.

Some might argue that the establishment of such a high employment rate target for high school students is unrealistic since it assumes that youth from low income families and from race-ethnic minority groups desire to work at rates well above those prevailing in the mid-to-late 1990s. However, our analysis of CPS survey data on the desire for employment among jobless low income high school students and among Black and Hispanic teens reveals that their job desires appeared to be quite high in the late 1990s. Approximately one of every seven high school youth were either unemployed or a member of the labor force overhang; i.e., they wanted a job but were not actively looking for work. (Table 8.9). Nearly 17% of all poor White students were unemployed or a member of the labor force reserve as were 19 of every 100 Black high school students and 15 of every 100 Hispanic students. If each of those Black students were provided an employment opportunity, the aggregate employment rate of Black high school students in 1999

would have risen from 19% to 40%, quite close to our target employment rate. Evidence from previous national demonstration programs aimed at providing guaranteed jobs to low income students, especially the Youth Incentive Entitlement Pilot Program (YIEPP), revealed that such job guarantees were capable of attracting a substantial number of such youth into the labor market.[236] We, thus, believe that the 45% employment rate target for the Year 2005 is quite feasible if sufficient jobs in the private and public sectors can be organized for high school students. Ideally, these jobs would also provide work-based learning opportunities that were complementary to some of the skills being taught in the classroom.

Table 8.9;
Number and Per Cent of 16-24 Year Old U.S. High School Students Who Were Either Unemployed or A Member of the Labor Force Reserve(1), Total and by Poverty and Race-Ethnic Group, March 1997, 1998, and 1999
(Numbers in 1000s)

Group	(A) Total Number of Students	(B) Number of Students Unemployed or Part of Labor Force Reserve	(C) Unemployed and Labor Force Reserve as Per Cent of Total
All	9,920	1,380	13.9
White, not Hispanic	6,527	842	12.9
• Poor	577	98	17.1
• 1.00-1.99 Poverty	837	124	12.1
Black, not Hispanic	1,551	290	18.7
Hispanic	1,338	202	15.1

Source: March 1997, 1998, and 1999 CPS surveys, tabulations by Center for Labor Market Studies.

Note: (1) The labor force reserve consists of those persons outside of the labor force who reported an immediate interest in employment.

[236]For a review of the impact of the Entitlement program on the employment rates of eligible youth in the demonstration sites.

See: George Farkas, et.al., *Early Impacts from the Youth Entitlement Demonstration: Participation, Work, and Schooling*, Manpower Demonstration Research Corporation, New York, 1980.

To have achieved our 45% target rate of employment for high school students in the past school year, slightly more than 3.8 million students would have had to be employed on an average month (Table 8.8, Column B).[237] This would have represented an increase of 922,000 employed students, or 33% more than were actually working during 1999. The required increase in jobs for high school students by 2005 will be more substantial since both the number of high school students will be rising and their overall employment rates will have to increase to achieve the target rate of employment. The required rates of job growth for high school students over the next five years will be very high for Black (150%) and Hispanic students (118%). Their enrollment levels will be rising more rapidly than those of Whites, and their employment rates will have to increase substantially to close the existing job gaps between them and White, non-Hispanic students from middle and upper income families. Achievement of this critical employment goal will clearly pose a major challenge to the nation's high schools, their students, youth employment and training systems, and the nation's employers, both public and private, over the forthcoming decade.

The Distribution of Employed High School Students by Industry and Occupation

In addition to generating a considerably greater number of job opportunities for high school students in the years ahead, the nation's youth work force development system also should seek to assist students in gaining access to jobs in a greater array of occupations and industries. From an industry perspective, employed teens are substantially over-represented in most retail trade and lower paying service industries. To illustrate the degree to which employed high school students are concentrated in a few major industries and substantially under-represented in other key industries, we estimated the distribution of employed 16-19 year old high school students by major industry in March 1999 and compared their employment distribution to that of employed adults ages 20-64. Findings reveal that employed high school students are sub-

[237]The required number of employed students during the school year would have been even higher than that since the annual averages exclude most high school students during the summer months. Required average monthly school year employment would likely have been 4,460,000 per month.

stantially under-represented in most goods producing industries, including manufacturing, as well as in the finance/insurance, professional service, and public administration sectors. (Table 8.10).[238] In these industries, employed students are represented at a rate only 4% (public administration) to 40% (professional services) as high as that of older employed adults. High school students are very heavily dependent on eating and drinking establishments, grocery stores and supermarkets, department stores, and personal entertainment and recreation industries for their jobs. Slightly over 70% of all employed high school students worked in either the retail trade sector or the entertainment and recreation service industries in March of 1998 and 1999, a concentration ratio more than four times higher than that for older employed adults (20-64).

Nearly identical findings prevailed in the mid-1990s. Despite a job boom in the nation's labor markets and expanded school-to-work transition initiatives, employed high school students remain poorly represented in many key industries. The retail trade and service industries are dominant employers of high school students since they offer many part-time job opportunities in entry level positions with flexible hours in the afternoons, early evenings, or weekends that are compatible with students' school schedules. In-school work experience in these industries, even in fast food industries, does appear to improve the early post-high school employment and earnings experiences of those high school graduates who do not enroll in college, but future high school students would clearly benefit from exposure to jobs in a wider array of industries.[239] Experimentation with efforts to restructure jobs in retail trade

[238]The public administration sector includes only a portion of all government employment. Those government employees working in agencies that produce construction or manufactured goods or provide transportation, retail trade, or education and health services are classified in those industries. Less than one-third of all government workers are classified as employees in the public administration sector. Teens are, however, also substantially under-represented in government as a whole.

[239]In a study of the early labor market experiences of non-college bound, male high school graduates from the Class of 1982, Jeff Grogger found that nearly one-fourth had held at least one job in the restaurant industry since leaving high school. While average starting wages for workers in restaurant jobs were about 11% less than those of non-restaurant workers, both groups experienced high rates of occupational and industrial mobility over the first four years and experienced comparable growth rates in their real wages over this time period. See: Jeff Grogger, *The Early Careers of Non-College Bound Men*, Employment Policies Institute, Washington, D.C., May 1995.

Table 8.10:
Distribution of Employed 16-19 Year Old High School Students and All Employed 20-64 Year Old Civilians, by Major Industry Group, U.S. March 1998 and 1999
(Two Month Averages)

	High School Students (16-19)		Adults (20-64)		
Industry Group	Number (1000s)	Percent Of Total	Number (1000s)	Percent Of Total	Ratio of High School Share to Adult Share
Total	3,374.7	100.0%	120,442.0	100.0%	1.00
Farming, Forestry Fishing	99.7	3.0%	2,671.4	2.2%	1.33
Mining	0.0	0.0%	555.1	0.5%	0.00
Construction	39.0	1.2%	7,929.7	6.6%	0.18
Manufacturing	94.1	2.8%	19,641.9	16.3%	0.17
Transportation, Communication, Utilities	22.6	0.7%	8,912.2	7.4%	0.09
Wholesale Trade	40.6	1.2%	4,735.1	3.9%	0.31
Department Stores	152.6	4.5%	1,795.5	1.5%	3.03
Grocery Stores	427.7	12.7%	2,379.0	2.0	6.42
Eating and Drinking Places	1,083.4	32.1%	5,041.3	4.2%	7.67
Other Retail Trade	517.2	15.3%	8,719.0	7.2%	2.21
Finance, Insurance and Real Estate	63.6	1.9%	8,221.1	6.8%	0.28
Business Services	72.1	2.1%	6,027.1	5.0%	0.43
Repair Services	53.8	1.6%	2,077.0	1.7%	0.93
Personal Services	157.7	4.7%	3,922.6	3.3%	1.43
Entertainment, Recreation Services	198.0	5.9%	2,039.1	1.7%	3.47
Professional Services	345.8	10.2%	30,152.1	25.0%	0.41
Public Administration	6.9	0.2%	5,612.6	4.7%	0.04

Source: March 1998 and March 1999 CPS public use tapes, tabulations by authors.

industries and to open up new career paths for youth employees in other industries also should be encouraged by future workforce development programs. Government itself also needs to expand its role as an employer of high school students during the school year. In the mid-1990s, only 3% of employed high school students worked for the gov-

ernment at all levels (federal, state, and local) versus 15% of employed adults 20-64. Federal and state government agencies were particularly under-represented in the ranks of the employers of the nation's high school students. While many of these government agencies play more active roles as employers of teens in summer jobs programs, including those funded under the Job Training Partnership Act (JTPA), they can clearly expand their role as an employer of high school youth on a more year-round basis.[240]

It should come as no surprise to discover that employed high school students are substantially concentrated in a relatively small number of occupational groups. Given their limited formal schooling and prior work experience, only a small fraction of employed high school students report holding jobs in professional, management-related, technical or high level sales positions. In the past few years, only 4% of employed high school students (16-19 years old) held jobs in one of these occupational groups versus nearly 42% of the nation's adults (Table 8.11). Employed teenage high school students were, thus, under-represented in these high skill, higher wage occupational groups by a factor of ten to one. Greater exposure to these jobs during the high school years even as interns, assistants, and job shadowers would provide students with greater insight into the nature of the job duties and responsibilities of workers in a broader array of occupations. Barbara Schneider and David Stevenson have recently argued that many of America's teens have high career ambitions but often lack direction as to how to best pursue these ambitions.[241] They make the case that youth with "informed" or "aligned" ambitions are more likely to successfully navigate their way from high school to college to the adult work world.

[240]Given impending changes in youth workforce development programs under the 1998 Workforce Investment Act, year-round jobs programs for youth will become more important in the services mix.

[241]See: Barbara Schneider and David Stevenson, *The Amtitious Generation: America's Teenagers Motivated but Directionless*, Yale University Press, New Haven, 1999. One of the school-based strategies recommended by the authors to improve the ability of teens to develop "coherent ambitions" is that of work programs capable of improving knowledge of the careers in which they are interested.

Table 8.11:
Distribution of Employed 16-19 Year Old High School Students and All Employed 20-64 Year Old Civilians, by Major Occupation, U.S. March 1998 and March 1999
(Two Month Averages)[1]

	High School Students (16-19)		Adults (20-64)		
Major Occupation	Number (1000s)	Percent Of Total	Number (1000s)	Percent Of Total	Ratio of High School Share to Adult Share
Total	3,374.7	100.0%	120,442.0	100.0%	1.00
Executive, Administrative, & Managerial	23.6	0.7%	18,138.0	15.1%	0.05
Professional	57.1	1.7%	19,518.2	16.2%	0.10
Technical	26.2	0.8%	4,040.4	3.4%	0.23
High level sales	33.4	1.0%	8,445.7	7.0%	0.14
Low level sales	940.1	27.9%	5,184.9	4.3%	6.47
Administrative support	289.6	8.6%	17,297.2	14.4%	0.60
Services	1,284.2	38.1%	15,187.2	12.6%	3.02
Farming, fishing & forestry	109.5	3.2%	2,561.1	2.1%	1.53
Skilled blue-collar	68.1	2.0%	13,784.7	11.4%	0.18
Semi-skilled blue-collar	123.4	3.7%	12,136.5	10.1%	0.36
Unskilled blue-collar	419.5	12.4%	4,148.1	3.4%	3.61

Source: March 1998 and March 1999 CPS public use tapes, tabulations by authors.

Employed high school students in the U.S. tend to be highly concentrated in lower level sales (cashier, sales clerks), service, and unskilled blue collar occupations (cleaners, laborers, helpers). (Table 8.11). During March 1998 and 1999, nearly 8 of every 10 employed high school students under the age of 20 worked in one of these largely unskilled or low skilled occupational groups. Again, we find no discernible trend in these occupational employment patterns over the past five years despite a considerably stronger job market. Improving the access of high school students to more highly skilled positions will require greater investments in time and money by both youth workforce development programs and private companies. Recent research by Laurie Bassi and Jens Ludwig on

the range of companies' experiences with school-to-work programs illustrate that these participating firms often make considerable investments in the training of youth, but do not always reap economic benefits commensurate with their private investment outlays.[242] Increased public subsidies for such more intensive and skill-based training investments by firms may be called for to expand the future range of occupational employment opportunities for the nation's high school students, particularly those not planning to enroll in four-year colleges and universities immediately after high school graduation.

In addition to improving the access of high school students and young high school graduates to a wider array of jobs by occupation, industry, and firm type, there is a need to strengthen the early links between the academic achievements and occupational skills that students acquired in high school and the wages that they can earn in the early school leaving years. While in-school work experience does generally improve immediate post-high school labor market outcomes, including wages, the same is not often true for academic performance. National research over the past two decades consistently has revealed that the economic payoffs to higher course grades and stronger academic achievement are often quite weak and in some cases completely non-existent in the early school leaving years although stronger basic skill proficiencies have much higher payoffs as youths reach their mid 20s and gain more experience in the labor market.[243]

Paul Barton recently has summarized key research findings on these tenuous relationships between high school academic performance and early earnings and wage outcomes in the following manner:

[242]All firms involved in these programs made substantive investments in the youth participating in these training activities. The authors estimate the benefits and costs to individual firms of their involvement in these alternative school-to-work programs. The benefit-cost ratios vary from over one to less than one. See: Laurie J. Bassi and Jens Ludwig, "School-to-Work Programs in the United States: A Multi-Firm Case Study of Training Benefits and Costs," *Industrial and Labor Relations Review*, January 2000, Volume 53, Number 2, pp. 219-239.

[243]See: (i) Paul E. Barton, "Learn More, Earn More?," *ETA Policy Notes*, Volume 9, Number 2, Summer 1999, Educational Testing Service, Princeton, New Jersey; (ii) John Bishop, "Achievement Test Scores and Relative Wages," in *Workers and Their Wages: Changing Patterns in the United States*, (Editor: Marvin Kosters, American Enterprise Institute Press, Washington, D.C., 1993, pp. 146-186; (iii) Ronald F. Ferguson, *Racial Patterns in How School and Teacher Quality Affect Achievement and Earnings*, John F. Kennedy School of Government, Harvard University, Cambridge, November, 1990; (iv) Andrew Sum, *Literacy in the Labor Force*, "Chapter Four: Literacy Proficiencies and Earnings," pp. 111-142.

> "Students heading into the work force right after high school do not receive market signals telling them that learning more in this school will result in their earning more upon leaving high school up to, say, age 20 or 21."[244]

It would be highly desirable for employers to more strongly reward academic and occupational achievement in the early school leaving years, but such recognition will require actions on several different fronts. First, young high school graduates, especially those not enrolling full-time in post-secondary educational programs, will have to be placed more frequently in jobs that more effectively utilize their literacy, numeracy, and occupational skills.[245] The returns to such skills vary directly with the degree to which they are applied on the job. Second, schools will need to do a better job in providing employers with information on the course grades, academic skills, communication skills, and occupational competencies of their graduates.[246] Further applied work on the development of employment-oriented school transcripts, occupational certification, and career passports needs to be supported, and both schools and youth work force development agencies need to be more actively involved in the implementation of such systems in the future.[247] Closer and more immediate ties between school and training program performance and labor market rewards would be helpful in providing stronger incentives for non-college bound youth to learn during both high school and the course of their participation in workforce development programs.

[244]See: Paul E. Barton, *op.cit*, p. 1.

[245]Findings from the NALS survey reveal that the rate of return to higher prose and quantitative skills is closely linked to the degree to which they are applied in the actual job setting.
See: Andrew Sum, *Literacy in the Labor Force.*

[246]For obstacles to the use of school transcripts in hiring decisions.
See: (i) John Bishop, "Basic Skills and Worker Productivity," Paper Prepared for An NIE Symposium on Research Findings on Education and Employment and Their Implications for Policymakers and Practitioners," November 1985, (ii) John Bishop, "Achievement Test Scores and Relative Wages..."

[247]Some support for this effort has been forthcoming from the Business Coalition for Education Reform. According to Paul Barton, nearly 5,000 employers have signed up to participate in this effort to request transcripts from high schools.
See: Paul Barton, "Learn More, Earn More," p. 9.

Chapter 9

Training Experiences of Young Adults

A fourth strategy for improving the future labor market prospects of the nation's out-of-school young adults involves the acquisition of greater amounts of job training, especially apprenticeship training and formal employer training, which have been found in many past studies in the United States and other nations to generate consistently favorable effects on the wages and earnings of young adults.[248] The past track record of vocational and technical training programs outside of the work place, including government funded training programs for the disadvantaged and the unemployed, is considerably more mixed. Secondary and post-secondary classroom occupational training activities have been more likely to succeed in raising the wages and earnings

[248]For a comprehensive review of the existing economics literature on the effects of alternative types of training on the hourly wages of workers and their productivity,

See: Lynch, Lisa M., "Payoffs to Alternative Training Strategies at Work," in *Working Under Different Rules*, (Editor: Richard B. Freeman), Russell Sage Foundation, New York, 1994. Most though not all other analyses of the economic effects of alternative types of training on the employment, wages, and incomes of young adult males in both the U.S. and Great Britain also revealed high wage impacts for employer-provided training and for apprenticeship training although the effects of apprenticeship training appear to be higher and more significant for men than for women

See: (i) David G. Blanchflower and Lisa M. Lynch, "Training at Work: A Comparison of U.S. and British Youths," in *Training and the Private Sector: International Comparisons*, University of Chicago Press, Chicago, 1994, pp. 233-260; (ii) Stephen L. Mangum and Arvil V. Adams, "The Labor Market Impacts of Post-School Occupational Training for Young Men," *Growth and Change*, Fall 1987, pp. 58-78; (iii) Patrice Flynn, "Training Workers for Evolving Jobs," *Workforce*, Summer 1993, pp. 33-37; (iv) Jonathan R. Veum, "Sources of Training and Their Impact on Wages," *Industrial and Labor Relations Review*, Vol. 48, No. 4, 1995, pp. 812-825.

of young adults when they are taken as part of a structured course of training, when they are combined with a solid core of academic training, and when they lead to employment in jobs in which the occupational skills acquired during the training program are effectively applied on the job. The economic returns to occupational training not used on the job to the workers, private firms, and society at large are typically equal to zero.[249] These findings illustrate the critical importance of tying occupational training in the classroom closely to demand conditions in local labor markets.

One important issue in assessing the role of training in improving the labor market prospects of young adults involves identifying who receives training and how much training they receive, particularly various forms of employer-provided formal training and apprenticeship. In particular, how does the receipt and intensity of such training vary by the educational characteristics and literacy proficiencies of young adults? There are a number of different national data bases that have been available to answer this important public policy question. The National Longitudinal Survey of Youth (NLSY) captured information on the type, incidence, and intensity of the training experiences of the nation's young adults ages 21-28 over a six year period, 1986-91.[250] Thirty-eight per cent of these young adults reported that they obtained some type of training over this six year period, including informal and formal training from the employer and outside training from schools, training programs, and correspondence courses. (Table 9.1). The likelihood of young adults receiving any type of training varied considerably by their educational attainment backgrounds, ranging from a low of 19% for high school dropouts to 34% for high school graduates and to a high of 50% for four year college graduates.

[249]For empirical evidence on these issues,
See: (i) John H. Bishop, *The Social Payoff from Occupationally Specific Training: The Employer's Point of View*, National Center for Research on Vocational Education, Columbus, Ohio, 1983; (ii) Robert E. Taylor and Howard Rosen (Editors), *Job Training for Youth*, The National Center for Research in Vocational Education, Columbus, 1982; (iii) Andrew M. Sum, "The Labor Market Impacts of Vocational Education in the United States," in *Brazil: Vocational Education Planning and Policy*, Center for International Higher Education Documentation, Northeastern University, Boston, 1985.

[250]Jonathan R. Veum, "Training Among Young Adults: Who, What Kind, and for How Long?", *Monthly Labor Review*, August 1993, pp. 27-32.

Table 9.1:
Training Experiences of Young Adults in the U.S., by Educational Attainment, 1986-1991
(Numbers in Percent)

Educational Attainment	(A) Any Training Between 1986-91	(B) Employer-Provided Training, 1986-91	(C) Work for Firm Where Training Was Provided, 1991
All	38.0	23.7	—
0-11 Years	18.9	8.7	28.0
12 Years	33.5	19.4	45.0
13-15 Years	44.5	28.0	58.0
16 or More Years	50.1	35.3	68.0

Sources: (i) Jonathan R. Veum, "Training Among Young Adults..", *Monthly Labor Review*, August 1993;
(ii) U.S. Bureau of Labor Statistics, Report 489, July 1993.

Some employer-provided training was obtained by nearly 24% of the young adults.[251] Again, there were very substantial differences in the likelihood of receiving such training across the above four educational subgroups and across AFQT test score groups. Only 9% of school dropouts reported receiving some type of employer training over this six year period. High school graduates were more than twice as likely as dropouts to receive such training, and four-year college graduates were nearly twice as likely as high school graduates to obtain employer-provided training. The best educated and most literate young adults were, thus, considerably more likely to obtain training from their employers and, when they did receive such training, they acquired more

[251]This estimate is well below that generated by the 1995 BLS Survey of employer-provided training, which surveyed a sample of non-farm employers with 50 or more workers. The results of the BLS Survey indicated that 78% of those 25-34 received some formal training in the past year; however, mean hours of such training over a 6 month period were only 14 and included many non-occupational activities.
See: U.S. Bureau of Labor Statistics, "BLS Reports on the Amount of Formal and Informal Training Received by Employees," Washington, D.C., December 1996.

hours of training, with college graduates on average receiving twice as many hours of training as school dropouts. Overall, however, young adults, on average, appear to have received relatively modest amounts of formal training from their employers. Over the entire six year period, the mean expected hours of employer training for these young adults was only 43 hours, with four-year college graduates having an expected mean hours of training nearly eight times as high as that of school dropouts (70 hours versus 9).

The lower incidence of employer training among less educated young adults is partly attributable to their being employed more often in firms in which no training is offered to workers. At the time of the 1991 NLS survey, employed respondents were asked if their firm offered any training to its workers. Only 28% of school dropouts answered in the affirmative versus 45% of high school graduates and 68% of four year college graduates. Future efforts to raise the amount of employer training provided to young adults must simultaneously aim to expand the number of firms providing training to incumbent workers as well as increase the share of young workers receiving employer training within a given company, especially among young adults lacking any post-secondary schooling. The "*Forgotten Half*" are frequently forgotten by firms in making their formal training decisions.

Findings from the January 1991 CPS survey's supplement on job training activities also can be used to estimate the incidence of training among employed young adults in various educational subgroups. Our primary focus is on those 18-29 year old employed persons who reported that they had received various types of training from their employer since being hired.[252] Fifteen percent of employed young adults reported the receipt of informal on-the-job training from their current employers. (Table 9.2). Better educated young adults were more likely to report receiving on-the-job training; however, the gaps in many cases are not substantial. Only 12% of employed school dropouts

[252]The survey captured information on the training experiences of all employed persons (16+), including training obtained by workers outside of the job. For an earlier review of the findings of the January 1991 CPS survey on training activities for young workers.
See: Andrew M. Sum, Clifford Johnson, and Neal Fogg. "Young Workers, Young Families, and Child Poverty"... in *Of Heart and Mind.*

received on-the-job training versus 14% of high school graduates and 18% of those completing one to three years of post-secondary schooling. Formal employer-provided training was reported by only one of every eight employed young adults; however, variations in the receipt of formal training across young workers in our four educational subgroups were very substantial. High school graduates (9%) were more than twice as likely as school dropouts to receive formal training from their employers, and four year college graduates were six times as likely as school dropouts to obtain formal training (24% versus 4%).

Table 9.2:
Percent of 18-29 Year Old Employed Persons Receiving Various Types of Training from Their Current Employers, by Educational Attainment, January 1991

Years of Schooling Completed	(A) Informal OJT	(B) Formal Training	(C) Technical Training	(D) Reading, Writing, Math
All	15.1	12.4	4.8	1.9
Less than 12 Years	11.6	4.0	3.0	.3
12 Years	14.4	8.7	5.5	1.0
13-15 Years	17.5	13.7	9.1	2.5
16 or More Years	15.5	24.0	15.9	3.9

Source: January 1991 Current Population Survey, Job Training Supplement, tabulations by authors.

Formal training from employers can be categorized into technical or occupationally specific training, computer training, management training, and literacy improvement (reading, writing, communication skills, math). As expected, the overwhelming share of management training was received by those young workers possessing a Bachelor's or advanced degree. Technical training also was provided at substantially higher rates to those young adults with post-secondary schooling. Only 3% of those employed young adults lacking a high school diploma received formal technical training versus six percent of high school graduates and sixteen percent of four-year college graduates. Since formal employer training is consistently found to yield larger and more

long lasting impacts on the wages of workers than informal on-the-job training, existing training practices of the nation's employers exacerbate the increasing degree of wage inequality found in U.S. labor markets. The best educated and more literate workers are considerably more likely to receive formal training from their employers and will, thus, experience steeper age-earnings profiles over their entire working lives, increasing the size of the gaps in earnings between the best educated and less well educated workers.

Apprenticeship Training for Young Adults

Despite long standing support for an expanded apprenticeship training system from labor market economists and youth workforce development analysts and the strong commitment of the Clinton-Gore team for such an expanded training system for youth in their 1992 presidential campaign, few new traditional or youth apprenticeship systems were implemented in the U.S. in the 1990s.[253] In their 1992 campaign policy tract, *Putting People First*, then Governor Clinton and Senator Gore included in their recommendations for the attainment of lifetime learning goals the following:

> "A National Apprenticeship Program. We will bring business, labor, and education leaders together to develop a national apprenticeship style system that offers non-college bound students training in valuable skills, with the promise of good jobs when they graduate".[254]

[253]Previous studies supporting an expansion of this apprenticeship system included the following: (i) Gordon Berlin and Andrew M. Sum, *Toward a More Perfect Union...*; (ii) Stephen F. Hamilton, *Apprenticeship for Adulthood: Preparing Youth for the Future*, The Free Press, New York, 1993; (iii) Robert Lerman and Hilliary Pouncy, "The Case for Youth Apprenticeship," in *The Public Interest*, Fall 1991, pp. 62-77; (iv) Beatrice G. Reubens, *Apprenticeship in Foreign Countries*, R&D Monograph 77, U.S.Government Printing Office, Washington, D.C., 1980; (v) William J. Spring, "Youth Unemployment and the Transition from School to Work," *New England Economic Review*, March/April 1987, pp. 3-10.

[254]See: Governor Bill Clinton and Senator Al Gore, *Putting People First: How We Can All Change America*, Times Books, New York, 1992, pp. 18-19.

Despite the economic benefits of apprenticeship programs to workers, to the productivity of their firms, and the economy at large, there have been few gains in the proportion of recent high school graduates, especially the non-college bound, participating in apprenticeship training programs over the past few decades, despite the passage of the School-to-Work Opportunities Act of 1994 which initially promised a new commitment to the implementation of such programs. Findings of a longitudinal survey of a nationally representative sample of high school graduates from the Class of 1980 revealed that only 1% of the graduates were enrolled in an apprenticeship training program four years after high school.[255] Graduates from low socioeconomic status backgrounds also had substantial difficulties obtaining access to a job providing apprenticeship training. Despite the fast that they were more likely to be working than their higher SES counterparts four years after graduation, only 1% of high school graduates from lower SES family backgrounds were participating in an apprenticeship training program. An analysis by Lisa Lynch of findings from the National Longitudinal Survey of Youth (NLSY) for the mid to late 1980s found that slightly under 2% of employed young adults (20 to 27 years old in 1985) had received any apprenticeship training lasting beyond four weeks.[256] Jonathan Veum's analysis of the training experiences of all employed

[255]Findings for the first year following graduation from high school revealed less than 5% of the graduates from the Class of 1980 engaged in either a government training program or an apprenticeship program, with no separate breakouts for those only receiving apprenticeship. Given the estimated one per cent apprenticeship program enrollment rates at the three year follow-up, it is likely that only one percent or so were enrolled in such a program at the time of the first follow-up survey.

See: Calvin Jones, et.al., *Four Years After High School: A Capsule Description of 1980 Seniors*, U.S. Department of Education, National Center for Statistics, Washington, D.C., 1986.

[256]See: (i) Lisa M. Lynch, "Private-Sector Training and the Earnings of Young Workers," in *American Economic Review*, Vol. 82, No. 1, March 1992, pp. 299-312; (ii) Jonathan R. Veum, "Sources of Training and Their Impact on Wages..." Veum's study is one of the few that does not yield significant positive wage impacts for apprenticeship training. This result may be attributable to the fact that he simultaneously controls for both industry and occupation in his wage model, thereby alloiwing the coefficient on apprenticeship training to only reflect its direct effect on wages, ignoring its indirect effects on access to jobs in specific occupations and industries.

young adults regardless of their educational attainment over a similar time period revealed that only 1.3% reported receiving any apprenticeship training over the 1986-90 period. More recent findings from the 1994 National Education Longitudinal Survey (NELS) tracking a sample of high school graduates and dropouts approximately two years after their initial expected date of graduation have revealed that only 2% of all non-college enrolled high school graduates were participating in an apprenticeship or government training program.[257] The training enrollment rates were statistically identical for young high school dropouts and high school graduates.

The low apprenticeship training rates for recent high school graduates are reflective of many factors in U.S. labor markets, including the absence of job growth in key goods producing sectors (manufacturing, mining) that were more intensive users of apprenticeship training, the expansion of the non-union sector in the construction industries, and the limited presence of apprenticeship training in many service, finance/insurance, and retail firms, particularly in smaller establishments. The 1993 national BLS survey of the training practices of firms in the non-agricultural sector revealed that only 19% of all employers offered any apprenticeship training to their workers and that smaller employers (those with fewer than 50 employees) were only one-half as likely to offer such training as firms with 50 or more employees.[258] High costs of managing youth apprenticeship programs for high schools also have discouraged their expansion, and recent case studies of private

[257]The NELS survey has tracked a nationally representative sample of eighth graders in 1988.
See: Jennifer Berktold, Sonya Geis, and Philip Kaufman, *Subsequent Educational Attainment of High School Dropouts*, U.S. Department of Education, National Center for Education Statistics, Washington, D.C., June 1998.

[258]For a more detailed review of national evidence on the share of U.S. employers providing apprenticeship training.
See: (i) John D. Donahue, Lisa M. Lynch, and Ralph Whitehead, Jr., *Opportunity Knocks: Training the Commonwealth's Workers for the New Economy*, The Massachusetts Institute for a New Commonwealth, Boston, March 2000; (ii) Harley Frazis, Diane Herz and Michael Horrigan, "Employer-Provided Training: Results from A New Survey," *Monthly Labor Review*, May 1995, pp. 3-17.

employer costs for operating intensive school to work programs, including youth apprenticeship, reveal that private costs often exceed the benefits.[259] Full fledged social benefit-cost studies are needed to determine whether an expansion of these programs can be justified on economic efficiency grounds, but little systematic information on the outcomes and costs of such programs were undertaken by states or local school districts funded under the School-to-Work Opportunities Act of 1994.

Literacy Training for Young Adults

Many employers have voiced dissatisfaction with the basic literacy and numeracy proficiencies of their work force, especially their front line workers. Yet, most surveys of workers and employers find little literacy and numeracy training being provided by employers. For example, in a January 1991 CPS survey that tracked the training experiences of workers, only 2 of every 100 employed young adults reported receiving any training from their employers to improve their reading, writing, or math skills. Despite the considerably greater literacy and numeracy deficits of school dropouts, they were the least likely to report receiving such training from their employers. Only 3 of every 1,000 employed school dropouts obtained literacy training from their employers versus 1 of every 100 high school graduates and 4 of every 100 four year college graduates.

The 1992 National Adult Literacy Survey (NALS) funded by the U.S. Department of Education also included a series of questions on the participation of respondents in literacy training activities.[260] Our analysis of the data on employed 18-34 year olds revealed that 9% reported that they had participated in some type of basic skills training program

[259]See: (i) Jay Paredes Scribner and David Wakelyn, "Youth Apprenticeship Experiences in Wisconsin: A Stakeholder Based Evaluation," *High School Journal*, October 1998, Volume 82, Issue 1, pp. 24-35; (ii) Lauri J. Bassis and Jens Ludwig, "School to Work Programs in the United States..."; (iii) Kevin Hollenbeck, "School-to-Work Programs to Facilitate Youth Employment and Learning." *Employment Research*, Spring 1996, W.E. Upjohn Institute for Employment Research, Kalamazoo.

[260]See: Irwin Kirsch, Ann Jungeblut, Andrew Kolstad, and Lynn Jenkins, *Adult Literacy in America: A First Look at the Results of the National Adult Literacy Survey*, National Center for Education Statistics, Washington, D.C., 1993.

since leaving school (Table 9.3). The receipt of basic skills training was fairly uniform across each of the four educational subgroups, with those young adults lacking a high school diploma (9.8%) being somewhat more likely to have received such training. However, only 30% of those trainees reported that an employer or labor union was the source of such literacy training. Interestingly, the more years of schooling they had already received, the more likely they were to have obtained basic skills training from their employers or labor unions. Fewer than 2 of every 100 employed dropouts obtained literacy training from an employer versus 3 of every 100 high school graduates and 4 to 5 of every 100 employed four-year college graduates.

Table 9.3:
Percent of 18-34 Year Old Employed Persons Who Received Any Basic Skills Training and Basic Skills Training from Employers or Labor Unions, by Years of Schooling, 1992

Educational Attainment	(A) Any Basic Skills Training	(B) Employer/Union Provided Training
All	9.1	2.8
Less than 12 Years	9.8	1.8
12 Years	8.2	2.7
13-15 Years	8.4	2.9
16 or More Years	8.7	4.4

Source: National Adult Literacy Survey, tabulations by authors.

Past research on the findings from the 1993 BLS national survey of employers' training practices revealed that only 2% of the nation's employers offered such training to some of their workers, with larger employers nearly five times more likely to do so than small employers.[261] Past studies of the economic payoffs to literacy training indicate that such returns are higher when the training is received from one's

[261] See: John D. Donahue, Lisa M. Lynch, Ralph Whitehead, Jr., *Opportunity Knocks: Training the Commonwealth's Workers for the New Economy*, pp. 24-25. For other survey findings revealing a very limited provision of basic skills training by employers.
See: (i) Kevin Hollenbeck, *Classrooms in the Workplace*, W.E. Upjohn Institute for Employment Research, Kalamazoo, 1993; (ii) U.S. Bureau of Labor Statistics, "BLS Reports on the Amount of Employer-Provided Formal Training," Washington, D.C., July 1996.

current employer than from an outside institution.[262] Since the better educated are more likely to receive such training from their employers, the literacy training investments of employers likely further exacerbate wage inequality among young workers in the United States. National, state, and local initiatives should repeatedly be made to bolster the ability of the nation's employers, especially small employers, to provide literacy and numeracy training to more of their front line workers.[263] Given the highly general nature of such skills training, the public sector will have to provide some type of subsidies to employers to guarantee a wider provision of such training, including closer ties between adult literacy and basic education programs and the specific educational needs of front line workers.

Recent evidence from the operations of JTPA Title II-C employment and training programs for primarily economically disadvantaged out-of-school youth reveals that nearly one-half of the out-of-school terminees from such programs had less than 9th grade reading scores and over 60 per cent had less than ninth grade math proficiencies at the time of enrollment (Table 9 .4). However, despite their quite anemic reading and math proficiencies, less than one-half of the terminees from PY 98 JTPA Title II-C programs with entry reading or math proficiencies below the ninth grade received any basic skills instruction while enrolled in the program, and more than one-third of those who did received less than 100 hours of such instruction, too little time to make any substantive impact on their long-term literacy or math proficiencies.[264]

[262]See: (i) Kevin Hollenbeck, *The Economic Payoffs to Workplace Literacy*, The W.E. Upjohn Institute for Employment Research, Kalamazoo, October 1993; (ii) Andrew M. Sum and W. Neal Fogg, "Literacy Program Participation and Its Effects on the Wages and Earnings of Workers," CLMS Working Papers, Center for Labor Market Studies, Northeastern University, Boston, 1997.

[263]While larger employers (those with 50 or more employers) are more likely to provide some basic skills training to their employers, findings of the 1993 BLS Survey of Employer Provided Training revealed that fewer than 10 per cent of such firms provided any basic skills instruction to their workers at any level. See: John D. Donahue, Lisa M. Lynch, and Ralph Whitehead, *Opportunity Knocks: Training the Commonwealth's Workers for the New Economy*, pp. 24-25.

[264]These estimates include those terminees who only received objective assessment services from a local JTPA Title II C program. During PY 98, our estimates indicate that approximately one-fifth of the terminees from Title II C programs with reading proficiencies below the ninth grade level only received basic assessment services.

Table 9.4:
Distribution of Out-of-School Terminees from JTPA Title II C Programs by Reading and Math Proficiencies at Time of Entry, U.S.: PY 1998, Numbers in Per Cent
(N = 65,611)

Grade Level Equivalent	(A) Reading Scores	(B) Math Scores
6.9 or Less	20.1	28.8
7.0 - 9.0	27.8	32.6
9.1 - 10.9	15.5	11.4
11.0+	36.7	27.2

Source: PY 98 SPIR Public Use data base, tabulations based on all five quarters of terminees by Center for Labor Market Studies.

Unfortunately, the JTPA Standardized Program Information Reporting System (SPIR) did not require states to report information on the size of the learning gains achieved by participants who were enrolled in basic skills programs. Workforce Investment Act reporting requirements for education programs operated under Title Two of the national legislation do require the reporting of learning gains, the attainment of educational credentials by participants, and their placement and retention in post-secondary education and training programs. Such outcome and follow-up information is essential to appraise the effectiveness of future basic education activities in bolstering the literacy and numeracy proficiencies of enrollees, their employability, and their annual earnings in at least the first year following program termination.[265]

The absence of reading and math proficiencies at the ninth grade or higher at the time of entry into the local JTPA Title II-C system in recent years has substantially reduced the ability of enrollees to obtain access to occupational training programs. During PY 98, only 20% of program participants with entry reading scores below the 7th grade obtained any

[265]The case for closer integration between education and training programs under WIA and more systematic information on the outcomes of educational activities was argued more fully in the following publication: Garth Mangum, Stephen Mangum, Andrew Sum, et.al., *A Second Chance for the Fourth Chance: A Critique of the Workforce Investment Act of 1998*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1999.

occupational training, and only 30% of those with entry reading scores between the 7.0 and 8.9 grade levels did so. In contrast, over 40% of those with reading proficiencies above the ninth grade level and 43% of those with eleventh grade or higher math proficiencies gained access to occupational training. Terminees receiving some occupational training fared the best in terms of their employment rates and weekly earnings upon termination from the local JTPA system. Among both high school dropouts and graduates, mean weekly wages were highest among those terminees who received occupational training from JTPA Title II-C (Table 9.5). For example, among dropouts, mean weekly wages of terminees from occupational training programs were $269 versus only $202 to $207 dollars for those receiving only basic skills training or work experience and only $219 for those obtaining only employability skills instruction. Similar earnings patterns prevailed among employed high school graduates.[266]

Table 9.5:
Mean Weekly Wages of Employed JTPA Title II C Terminees by Educational Attainment at Time of Entry and Programs in Which Participated, U.S.: PY 98

Program of Participation	(A) High School Dropout	(B) High School Graduate
Basic Skills Only	$207	$244
Work Experience Only	$202	$212
Other Employability Skills Training Only	$219	$235
Multiple Activities	$221	$253
On-the-Job Training Only	$241	$261
Occupational Training Only	$269	$285

Source: PY 98 SPIR public use data base, all five quarters of terminees, tabulations by authors.

The likelihood of U.S. workers receiving formal or informal training from their employers has been found repeatedly in past studies to depend not only on their own human capital traits, but also on the characteristics of the establishments and industries in which they work and

[266]Unfortunately, the national JTPA reporting system for Title II C programs did not collect any follow-up employment or earnings data for terminees from such programs, and few states or local SDA's undertook such follow-up activities on their own.

the occupational characteristics of their jobs.[267] Larger economic establishments, those that are units of a multiple establishment corporation, those that use more capital intensive production techniques, those using various types of high performance work systems, such as TQM, and those operating in a more complex production environment are significantly more likely to provide formal training to their workers.[268] Young workers who are members of labor unions are more likely to receive apprenticeship training or on-the-job training, and those who hold full-time jobs and occupations with a higher socioeconomic status are significantly more likely to receive training from their employers. Recent findings from the Boston PIC follow-up surveys of recent high school graduates from the Boston public schools also provide local evidence of such relationships between firm characteristics and incidence of training among recent high school graduates.

Industrial Characteristics of Training Firms

The industrial characteristics of the firms employing young workers also have been found to critically influence the likelihood of their providing training. To estimate the degree to which the incidence of formal training among young workers varied across major industrial sectors, the findings of the January 1991 CPS supplement on job training activities were analyzed. The industries of the employers of these

[267]For examples of such studies,
See: (i) Lisa M. Lynch, "Race and Gender Differences in Private Sector Training for Young Workers," *Industrial and Labor Relations Research Association*, 41st Annual Proceedings, Madison, pp. 557-566; (ii) Joseph G. Altonji and James R. Spletzer, "Worker Characteristics, Job Characteristics, and the Receipt of On-the-Job Training," *Industrial and Labor Relations Review*, Vol. 45, No. 1, 1991, pp. 58-79; (iii) Jerry A. Jacobs, Marie Lukens, and Michael Useem," Organizational, Job, and Individual Determinants of Workplace Training: Evidence from the National Organizations Survey," *Social Science Quarterly*, Vol. 77, Number 1, March 1996, pp. 159-176; (v) Harley Frazis, Marcy Gittleman, and Mary Joyce, "Correlates of Training: An Analysis Using Both Employer and Employee Characteristics," *Industrial and Labor Relations Review*, Vol. 53, No., April 2000, pp. 443-462.

[268]See: (i) John D. Donahue, Lisa M. Lynch, and Ralph Whitehead, op.cit., pp. 23-25; (ii) Harley Frazis, Diane Herz, and Michael Horrigan, *op.cit.*; (iii) Lisa M. Lynch and Sandra E. Black, "Beyond the Incidence of Employer-Provided Training," *Industrial and Labor Relations Review*, October 1998, Volume 52, No. 1, pp. 64-82.

young adults were combined into twelve major industry groups using the CPS industry classification system (Table 9.6). The reported incidence of formal training among young workers in these twelve industry groups varied quite widely, ranging from lows of 4% in farm/forestry/fishing industries, 6% in construction, and 8% in retail trade to highs of 25% in the finance/insurance/real estate sector and 31% in the public administration sector. The surprisingly low reported rate of formal training in the construction sector was attributable to the existence of apprenticeship training and other industry-wide training efforts in which formal training is not the responsibility of any single employer in the industry. Off-site training is frequently conducted in classrooms while employers provide informal training on the job. Less educated workers in the construction industries holding laborer or semi-skilled operative positions were far less likely to report any formal training from their employers.

Table 9.6:
Percent of 18-29 Year Old Employed Persons Who Have Received Formal Training from Their Current Employer, by Major Industry Group: U.S., 1991

Major Industry Group	Percent
All	12.4
Farm, Forestry, Fishing	4.0
Mining	14.1
Construction	5.6
Durable Manufacturing	12.8
Non-durable Manufacturing	10.9
Transportation, Communications, and Utilities	19.2
Wholesale Trade	12.5
Retail Trade	7.9
Finance, Insurance, Real Estate	25.4
Business, Repair, Personal Services	10.0
Professional Services	12.5
Public Administration	31.0

Source: January 1991 Current Population Survey, Job Training Supplement, tabulations by authors.

In an earlier section, the dominant role of firms in the retail trade and business/personal service/entertainment service industries in employing teens and high school students was noted. Many young adults in their early to mid 20's also are employed in this same set of industries. These

industries, however, are among those least likely to provide any formal training to young adult workers. Both the retail trade and many private service industries are characterized by large numbers of small establishments who are less likely to provide formal training, often claiming that they lack the necessary financial resources, time, and technical expertise to provide such training. Their frequently lower wage levels also would be expected to reduce their willingness to provide formal training to workers, especially training of a general nature. Since such training raises productivity in many other firms in the same industry and in some other industries as well, workers who receive such general training can be expected to seek employment elsewhere to obtain higher wages for their improved skills. Thus, many small firms may not be in a position to recoup the costs of their investments in the formal training of their workers.

Future efforts to increase the incidence and amount of formal training received by young adults will have to target employers in the retail trade and private service industries and increase economic incentives for many small establishments to provide such training. Recent evidence on the economic benefits and costs to larger firms of participating in intensive school-to-work transition programs has shown that at least half of such firms were incurring costs that exceeded the private benefits of such training.[269] Efforts to organize industry-wide training efforts that could overcome some of the current external benefit problems in the provision of formal training and to improve the economic capacity of smaller and medium-sized firms to finance such training for young workers should receive a higher priority from the youth workforce development system in the coming decade.

The economic impacts of required and employer-provided training on the earnings of workers appear to be quite considerable. A comprehensive analysis by Alan Eck of the U.S. Bureau of Labor Statistics of variations in the weekly earnings of full-time workers (16+) by their training activities clearly bears this out.[270] Eck used the findings of the January 1991 CPS job training survey to categorize workers into four distinct groups based on whether they had needed training to qualify for their current job and whether they had taken any training since being hired to improve their skills, including training in outside education and training institutions as well as inside the firm.

[269]See: Lauri J. Bassi and Jens Ludwig, *op.cit.*

Among all full-time workers, in January 1991, median weekly earnings were $439; however, those workers who did not need training to qualify for their current position and who had not taken any training to improve their skills since being hired had median weekly earnings of only $314. In contrast, those full-time employees who had required training to qualify for their jobs and who had taken some training to improve their skills since being hired had median weekly earnings of $566, or 80% higher than those with no training. While a substantive part of this extraordinarily large gross earnings differential was due to factors other than training, including higher amounts of formal schooling and more work experience among those with more training, substantial differences in the median weekly earnings of workers with and without training remained even after controlling for years of schooling completed. In each educational attainment subgroup, the weekly wages of those workers with required and supplementary training were consistently 46% to 54% higher than those of their counterparts without such training.

The need for additional training for all young workers, including high school dropouts and graduates as well as four-year college graduates, to improve their real earnings has been recognized by economists and labor market analysts of varying political persuasions, both conservative and liberal.[271] There is also an immediate need to increase the access of less educated and less skilled young workers to formal and informal training activities of employers, both on and off the job, if we wish to reduce the high degree of inequality in the current U.S. wage structure.

A sustained increase in the level of economic resources devoted to employer training in young workers could also assist in improving future labor productivity and accelerating the future rate of economic growth in the United States. Past studies of the effects of formal employer training on worker productivity in the U.S. and elsewhere have indicated consistently favorable productivity payoffs in the 10% to

[270]See: Alan Eck, "Job-Related Education and Training: Their Impact on Earnings," *Monthly Labor Review*, October 1991, pp. 21-38.

[271]See: (i) Gary Becker and Guity Nashat Becker, "Tuning into the Needs of High School Dropouts," in *The Economics of Life*, McGraw-Hill, New York, 1997; (ii) Alan Blinder, "Can We Grow Faster," *Challenge*, November-December 1996, pp. 18-24.

18% range.[272] More recent studies using data on the output performance of individual establishments in the U.S. have found that off-site formal training in manufacturing firms and computer training in the non-manufacturing sector also improve labor productivity independently of the educational attainment of their work force and the amount of physical capital per worker.[273] There is clearly a potential for "win-win" outcomes in the provision of formal employer training to young workers. What is needed is an immediate search for effective public policy strategies to increase the future incidence and intensity of the training of young workers, especially those with limited or no post-secondary schooling. Such training should not be viewed as a panacea for all of the labor market problems currently encountered by young workers, but rather as one of a series of cumulative and inter-related human capital strategies that will be needed to improve the long-term employability and real earnings of the nation's future young adult population. In the absence of such concerted human capital investment strategies, we do not see how it is possible to improve both the productivity and earnings potential of our future generation of young adults.

As coauthor Andrew Sum noted in an earlier review of the training experiences of adults in the U.S.:

> "Reducing the large differentials in employer-based human capital investment opportunities between the more and less educated and the more and less literate will require fundamental shifts in the training strategies of America's employers and expanded public support of training investments by many small firms employing non-college bound youth in the nation's growing trade and service sectors. Such investments will be critical to the success of future efforts to reduce the underlying earnings gaps between the nation's best educated and less well educated workers."[274]

[272]See: Lisa Lynch, "Payoffs to Alternative Training Strategies at Work."

[273]Office of the Chief Economist, U.S. Department of Labor, *Generating Productivity Growth: A Review of the Role of Workplace Practices and Computers*, Washington, D.C., September 1996.

[274]See: Andrew Sum, *Literacy in the Labor Force*, "Chapter Five: Literacy Proficiencies and Adults' Educational Attainments, School Enrollment Behavior, and Literacy Training Experiences," p. 163.

Chapter Ten:
Summary and Conclusions

"But be ye doers of the word, and not hearers only". (James, Ch. 1, V. 22).

Demographic Developments

The demographics of the nation's young adult population are undergoing a number of fundamental shifts with important implications for labor markets and educational and workforce development systems. After declining by 13% between 1980 and 1995, the number of 16 to 24 year olds is projected to increase by nearly 21% between 1995 and 2010. The future young adult population will be composed of a higher share of race-ethnic minorities and immigrants, especially Asians and Hispanics. Two-thirds of the projected net increase in the nation's 16-24 year old population through 2010 will occur among non-Whites and Hispanics. Young immigrants also may increase their share of the young adult population. They are more likely to have failed to graduate from high school or obtain a GED certificate than their native-born counterparts. Low levels of formal education and limited English language proficiency will place many of these young immigrants at a sizable disadvantage in the labor market, and they will increase labor supply pressures on native adults with limited schooling. Unfortunately, many of the nation's employment and training programs do not have any documented track record in serving immigrant youth.

Renewed growth in the size of the young adult female population will have a number of important implications for the level of births and out-of-wedlock births in the future. During the 1990s, despite the fact that the birth rate and the total number of births to all women and young women in the nation declined, out-of-wedlock births increased. In 1998, nearly 8 out of 10 births to teen mothers and 48 percent of all births to women between 20 and 24 years old took place out of wedlock. These rising numbers of out-of-wedlock births have increased the number of single mother families. Given the very high incidence of pover-

ty among these families, an increase in non-marital childbearing will have adverse consequences for the economic and social well being of the nation's children.

Another cause for concern of the changing demographics of young adults is the rising number of young men in incarceration. More young men turned to crime in the 1980s and the early 1990s as their earnings prospects declined. Between 1986 and 1995, the proportion of young men (18-24 years old) who were incarcerated more than doubled from 1.2% to 2.8%. Despite the strong economic expansion of the late-1990s, the incarceration rate among young men in the nation declined only slightly to 2.7%. A near full-employment environment has had only a very modest effect on youth incarceration rates to date. High fractions of disadvantaged and minority men remain under criminal justice system control. This calls for a more intensive, targeted approach to address the issues of youth crime and incarceration in the years ahead. A comprehensive approach to youth development involving the resources of the criminal justice, health, and social service systems as well as the workforce development system will be needed to address the diverse needs of youth.

Employment Developments for Young Adults

Since the end of the 1990-1991 recession, national labor market conditions have improved steadily and strongly. The national unemployment rate dipped to 4% in early 2000, and real output has been growing for over nine consecutive years since the end of the previous recession in March 1991. Out-of-school youth employment rates are very cyclically sensitive, particularly among high school dropouts, low income youth, and Black youth. Improvements in overall labor market conditions have resulted in an expansion of job opportunities that attracted increasing numbers of youth into the labor market and increased their employment rates. However, in 1999, the employment rate for 16-24 year old out-of-school youth was only one-half a percentage point above the level attained during 1989, the peak year of the previous business cycle. We have not yet reached a new age for employment for out-of-school youth.

Full-time employment for young adults has important economic

advantages in addition to the higher weekly wages earned from additional hours of employment. These include higher hourly wages, a greater incidence of key employee benefits, including health insurance, pension coverage, increased eligibility for tuition reimbursement by employers, a greater likelihood of being trained on the job, and a more substantial payoff in terms of higher future wages from the work experience gained from current full-time employment. Although full-time employment rates of out-of-school youth have increased since the early 1990s, they had not yet reached the 1989 rate. A slightly smaller proportion of youth were employed full-time in 1999 compared to 1989.

The economic boom of the 1990s has helped to modestly ameliorate but not eliminate the sizable gaps in employment rates and full-time employment rates that prevail among different subgroups of out-of-school youth. Substantial gaps still remain in the employment rates among race-ethnic groups, educational attainment groups, and between poor and affluent youth. The size of the employment gaps between White youth and youth from race-ethnic minority groups tends to diminish as minority youth complete more years of schooling. Dropout prevention programs and efforts to boost formal educational attainment among Hispanic and Black youth, thus, have the potential to reduce gaps in employment rates among race/ethnic groups. Youth employment initiatives such as YOG (Youth Opportunity Grants) that target employment and training services upon youth residing in impoverished urban and rural areas provide unique opportunities to reduce the large employment gaps between more affluent youth and those who reside in economically disadvantaged neighborhoods.

The growing strength of U.S. labor markets in recent years has helped reduce a number of labor market problems among out-of-school young adults. Some formerly discouraged youth have entered the labor market, more of the active job-seekers have been able to find employment, a higher fraction of employed youth have gained access to full-time jobs, fewer remain employed part-time due to a lack of full-time opportunities, and more full-time employed youth have obtained weekly earnings above the poverty line for a four person family. Still, out-of-school youth under 25 years of age continue to experience each of four individual labor market problems (lack of active job search, unemployment, underemployment, and limited weekly earnings) at rates well

above those of their adult counterparts 25 and older. The incidence of each of the above four labor market problems among young adults was 2 to 4 times higher than among older adults in the late 1990s. In March 1999, 41 of every 100 young out-of-school adults experienced one of these four labor market problems. The incidence of these labor market problems among young adults does, however, vary considerably by their educational attainment. In March 1999, over one-half of all youth who failed to obtain a high school diploma encountered one of the four labor market problems compared to only 18% of four-year college graduates. The attainment of lower aggregate rates of unemployment clearly helps ameliorate, but not eliminate youth labor market problems.

Weekly and Annual Earnings Developments

Among the most important indicators of the labor market success of young employed men and women are their real (inflation-adjusted) weekly and annual earnings. Since 1996, the median real weekly earnings of full-time employed males under 25 years of age have increased by 9%, representing the strongest performance in the past 25 years; however, despite these improvements, the real median weekly earnings of these young men were still modestly below their level of 1989 and remained 26% below their post-World War Two peak in 1973.

Declining weekly wages act as a disincentive to employment among young men, including those men with no post-secondary schooling. The labor force attachment of some young men, particularly dropouts and young Black men, has declined over time. Reduced labor force attachment results in lower levels of work experience as these men enter their late 20s. The decline in weekly earnings from legal employment also makes criminal activity more attractive as an alternative source of income.

Younger men were not the only group of males to experience real weekly earnings declines over the past few decades; however, the relative size of their wage losses were considerably greater than those of older men. In 1967, young men's weekly earnings were nearly three-fourths as high as those of older men (25 and older). This relative weekly wage ratio declined to 67% by 1973, to 62% by 1979, to 54% by 1989 and to a low of 51% by 1996 before rising back up to 53% in 1999.

This same relative wage ratio prevailed in the first half of 2000.

The median real weekly earnings of full-time employed young women (under 25) followed the same trend as men over the past 26 years; however, their weekly earnings declines were not as severe as those of young men, with a decline of 11% versus 26% for men between 1973 and 1999. A consequence of these divergent wage trends for young men and women was to reduce gender differences in the weekly earnings of young full-time employed men and women. In 1973, the median weekly earnings of young women were only 76% of young men's earnings. By 1999, however, young women's earnings were 91% to 92% of men's wages.

On the fertility front, there has been a combination of good news and bad news for young adults in recent years. On the positive side, birth rates among adolescent and young adult women under 25 years of age have been declining steadily since the early 1990s. Unfortunately, declines in these birth rates were accompanied by an increase in the share of births to unmarried women, thereby increasing the number of young single mothers. Unwed young mothers are more likely to have low levels of educational attainment, below average literacy proficiencies, and more limited labor market experience than other women and are, therefore, at a high risk of poverty. These relatively poor earnings prospects of many young single mothers combined with the effect of declining real earnings of young married men with no post-secondary schooling has resulted in a substantial secular increase in poverty and other forms of income inadequacy among young families. In 1997-98, about one-half of all families headed by a person under 25 years of age had incomes below 125% percent of the poverty line, and slightly under three-quarters of all single mother families (under 25) headed by a school dropout were poor or near poor. Poverty problems were much more severe among young families with children than among families with no children present in the home. Children in these young families are the most poverty prone group in American society, and they face serious risks of being poor as young adults themselves, given the cognitive, nutrition, health, and other developmental problems that they encounter during their early childhood years in these poor families. The intense poverty problems of young families with children clearly deserve increased attention from the nation's public policymakers.

Poverty/near poverty problems of young families are cyclically sensitive, falling in times of sustained economic expansion and rising during economic downturns and the early stages of recovery from national economic recessions. The poverty rate of all young families headed by a person under 30 years of age declined modestly between 1992 and 1998. Despite this decline, 38% of young families with children and 56% of young single mother families with a head under age 30 continued to remain poor at the end of the 1990s. Beyond the vicissitudes of the business cycle, there has been a secular rise in the poverty rates of young families, particularly among young families with children whose poverty/near poverty rate increased from 26% in 1979 to 38% at the end of the 1990s.

The personal and institutional barriers to high paid employment among young mothers are quite substantial and will require more intensive and innovative efforts from the workforce development system if they are to be successfully addressed in the coming decade. There is a clear need for more experimentation with work incentive strategies, such as earnings subsidies and expanded earned income tax credits, to make work pay more substantially for young parents. Greater attention also needs to be paid to the labor market needs of young fathers, including absent fathers, to promote their employability, their prospects for providing more adequate child care support for their children, and their personal relationships with their children. States should be encouraged to use available TANF resources to promote workforce development and effective parenting programs for absent fathers.

Strategies for Boosting Labor Market Prospects for Out-of-School Youth

On every basic measure of labor force and employment activity, weekly and annual earnings, lifetime earnings, and lifetime poverty, the probability of success rises consistently with increased formal education among all young adults-both men and women and young adults in all races. Young adults who complete more years of formal education are more likely to participate in the labor market and to avoid unemployment problems when they do look for work. Thus, better-educated youth are more likely to hold jobs and, when they are employed, they are more likely to be employed in full-time jobs than high school grad-

uates or high school dropouts.

National longitudinal surveys have found that the employment advantages of young adults persist as they move into their 30s. Better access to employment and to full-time jobs results in greater amounts of cumulative work experience among better-educated workers. These higher levels of cumulative work experience are a form of human capital that raises the future expected wages and earnings of young adults, thereby increasing incentives for them to supply more hours of work.

Long-term Wage Advantage

Average weekly earnings and annual earnings of college graduates are considerably higher than those of high school graduates who in turn earn more than high school dropouts. Over the past two decades, the size of these earnings advantages for college educated workers widened for both men and women. The earnings advantages of better-educated workers are attributable to their greater annual hours and weeks of employment and higher hourly wages.

The median real annual earnings of employed 20-29 year old men were characterized by strong cyclical swings during the decade of the 1990s. Between 1989 and 1992, the median real annual earnings of employed young men declined by 17%, grew modestly between 1992 and 1995, and increased more strongly between 1995 and 1997-1998 by 12% due to a combination of more hours of work and higher hourly earnings. Still in 1998, the median annual earnings of young men (under age 30) remained 4% below the level that they had obtained in 1989. The only educational group of employed males to obtain a higher level of earnings in 1997-98 compared to 1989 was men with a Master's or higher degree. Their median real annual earnings grew by 10% over this time period.

Inequality in the distribution of annual earnings among young men also widened considerably over the past 25 years. The only group of young men (under 30) to experience an increase in real earnings over the past 25 years were men in the highest decile of the earnings distribution. The relative earnings ratio of men in the top decile of the earnings distribution to that of all young men increased from 2.38 in 1973

to 3.06 in 1998. Earnings inequality rose across all educational subgroups of young men, including college graduates. The rising degree of inequality is, thus, not due solely to the increasing earnings differentials by years of schooling completed. Other labor market forces, including growing inter-industry and inter-occupation differentials and rising premiums attached to strong literacy and numeracy proficiencies, have played a key role. A more careful analysis and understanding of these sources of earnings inequality among young men is needed by those involved in educational and workforce development policymaking and program planning if future inequality is to be reduced.

In contrast to the generally dismal earnings experiences of young men, young employed women (20-29 years old) experienced an increase in median annual earnings of 20% between 1973 and 1998. Less well-educated women experienced smaller earnings increases compared to women with higher levels of educational attainment. Consequently, the size of the earnings premiums of Bachelor's degree holders compared to high school graduates among young women increased from 57% in 1973 to 90% in 1998. The annual earnings of young women rose sharply in the 1970s, more modestly in the 1980s, declined in the early to mid 1990s, but strongly rebounded between 1995 and 1998 due to rising weekly earnings and more hours of employment

Women's annual earnings in the 1990s were characterized by weaker cyclical swings compared to those of men. Women's median annual earnings declined by less than 6% during the early 1990s, remained unchanged during 1992-1995, and rose 6% since 1995. In 1997-98, the real median annual earnings of employed young women were only 1% above the1989 level. Women in every educational group except those with a Master's degree or higher, were earning somewhat less in 1997-98 than they did in 1989. The latter group saw their real median annual earnings increase by 21%.

These employment and earnings advantages will remain with better-educated youth throughout their entire working lifetime. Among men, mean lifetime earnings between the ages of 18 and 64 were estimated to be $1.6 million among all men, but ranged from only $769,000 for those who failed to complete high school to a high of $2.5 million among four-year college graduates. The substantial earnings advantages of

college graduates are attributable to their greater hours of employment and higher hourly wages. The lifetime hours of labor supply of men varied from a low of 68,000 among high school dropouts to a high of 93,000 among all four-year college graduates. The lifetime mean hourly earnings of men with a master's degree were three times higher than those of men without a high school diploma ($32.67 versus $11.25). Given their lower levels of annual earnings, it is not surprising to find that men who failed to complete high school would spend 22% of their years between the ages of 18 and 64 in poverty compared to only a 3% poverty incidence among four-year college graduates. Similar large differentials across educational subgroups in lifetime earnings, hours of work, wages and poverty were found among women.

The Payoff to Educational Attainment

Clearly, formal educational attainment has played an increasingly important role in determining success in today's labor markets. The good news is that the overall educational attainment of the nation's youth and young adults has improved modestly over time although a number of important gaps remain. The proportion of 16-24 year old youth who had not obtained a high school diploma or GED and were not enrolled in school declined from 15% in 1972 to 11% in 1997. However, in 1996-98, one of eight 25-34 year olds still lacked a high school diploma or a GED. Men, race-ethnic minorities (particularly Hispanics) and immigrants were more likely to have failed to acquire this minimum educational credential. A rising fraction of the nation's new high school graduates has been attending college since the 1980s (increasing from 51% in 1982 to 67% in 1997). But in the past two years, the college enrollment rate among the nation's high school graduating classes has declined, falling below 63% in 1999.[275] There has been a growing gender gap in college enrollment rates in favor of women, particularly among Blacks and Hispanics in some major central cities.

While college enrollment rates have risen, attrition rates in 2-year and 4-year colleges and universities have remained quite high for high school graduates from low socioeconomic status (SES) families and

[275] See: U.S. Bureau of Labor Statistics, "College Enrollment and Work Activity of 1999 High School Graduates," Washington, D.C., May 2000.

among Black and Hispanic youth. Greater attention needs to be paid to efforts to strengthen college retention among Black and Hispanic high school graduates and graduates from lower SES backgrounds in order to guarantee higher rates of degree attainment among such groups. More longitudinal tracking also is needed especially at the local and state level.

The proportion of young adults holding a Bachelor's degree has risen modestly over the years but has not kept pace with the growing demand for college graduates in the nation's labor markets. This supply/demand imbalance has created labor shortages in high skilled occupations and increased economic pressures to boost skilled labor immigration under the H1-B visa programs to reduce shortage problems. Women, non-Hispanic Whites, and Asians (25-34 years old) are more likely to possess a Bachelor's degree compared to men, Hispanics and Blacks. Immigrant Hispanics are least likely to possess a Bachelor's degree (8%). Reducing college enrollment, retention, and Bachelor's degree attainment gaps between women and men, members of race-ethnic groups, and between foreign-born and native born persons should be a major priority of the nation's high schools and colleges in the years ahead.

And to Literacy/Numeracy Proficiencies

The basic academic skills (reading, math, writing, critical thinking) of teens and young adults powerfully affect their schooling behavior, their educational expectations and aspirations, their academic performance, and ultimate educational attainment. High school dropout rates, college enrollment rates, college degree attainment, and choice of major fields of study are significantly affected by the basic academic proficiencies of young adults. Together with their educational attainment, the literacy/numeracy proficiencies of young adults will influence their access to high skilled and high wage occupations, the opportunity to be trained by their employers, and their weekly earnings and annual earnings over their entire work lives. The economic value of higher literacy/ numeracy skills increases substantially as young adults move into their mid to late 20s, and the economic returns to these proficiencies are quite strong for adult men and women and for Whites, Blacks, and Hispanics.

The literacy/numeracy deficits of economically disadvantaged youth, high school dropouts, recent immigrant youth with no post-secondary schooling, and welfare recipients are often quite severe, adversely affecting their education and labor market outcomes. Despite these reading and math deficiencies, many past youth workforce development programs for economically disadvantaged youth, including JTPA programs and welfare-to-work programs, have failed to provide substantial academic remediation opportunities for such youth.[276] These limited basic skills proficiencies reduce their ability to acquire key educational credentials (high school diplomas and GED certificates), obtain access to occupational classroom and on-the-job skill training programs, and to gain initial employment upon termination from the local workforce development system. The Workforce Investment Act calls upon states receiving funding under Title II of the legislation to more systematically document gains in learning for individual participants during the course of their enrollment, their attainment of high school diplomas or GED certificates, and their placement in unsubsidized jobs or in post-secondary education and training programs. States are allowed to supplement these core performance measures and should actively do so, providing additional measures of the longer-term employment and earnings experiences of all basic education program terminees using UI wage records and documenting their success in completing post-secondary education and training programs.[277] There also is a clear need to more closely integrate services for young adult participants in need of basic skills remediation so that more of them can receive the opportunities to improve their proficiencies.

[276]For findings of a recent study examining the relationship between the entry reading and math proficiencies of JTPA and their early post-program labor market outcomes.

See: Andrew Sum with Sheila Palma and Mykhaylo Trubbsky, "Connecting Job Training to Adult Basic Education," in *The Future of Adult Basic Education in Massachusetts*, Massachusetts Institute for a New Commonwealth, Boston, forthcoming, 2000.

[277]For a more detailed discussion of the issues regarding the desired role of adult basic education services under the WIA legislation,

See: Garth Mangum, Stephen Mangum, Andrew Sum, James Callahan, and Neal Fogg, *A Second Chance for the Fourth Chance: A Critique of the Workforce Investment Act of 1998*, pp. 63-86, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1999.

Substantial and sustained improvements in the reading, math, writing, and critical thinking skills of youth in the bottom half of the skills distribution are essential to narrow future educational attainment gaps, labor productivity gaps, and earnings and income differentials in the U.S. Children and adults in our society tend to be characterized by a greater degree of dispersion in literacy/numeracy proficiencies than their peers in most other countries around the world, and recent international evidence indicates that the degree of income inequality within a country is associated with the degree of inequality in the distribution of literacy skills.[278] Our future national goals in the literacy field should, thus, include both improvements in average proficiencies in reading, math, and science and reductions in the degree of inequality in the overall skills distribution. Horace Mann, the renown education reformer of the 19th century, made the case for a broadly-based, literate citizenry in the following manner:

> "The scientific or literacy well-being of a community is to be estimated not so much by its possessing a few men of great knowledge as it having many of competent knowledge".[279]

As a nation, we need many more of our youth to be categorized as possessing "competent knowledge".

The Values of Work Experience

The cumulative years of work experience of adults and the nature of their work experiences are critical determinants of their weekly and annual earnings.[280] Work experience is, thus, a very valuable form of

[278]See: (i) Organization for Economic Cooperation and Development and Statistics Canada, *Literacy in the Information Age: Final Report of the International Adult Literacy Survey*, Paris, France, and Ottawa, Canada, 2000; (ii) Howard W. Stevenson and James W. Stigler, *The Learning Gap*, Summit Books, New York, 1992.

[279]See: Horace Mann, *Lectures and Annual Reports on Education*, Cambridge, Massachusetts, 1867.

[280]The impacts of work experience on the annual earnings of workers are quite strong in many countries around the world. For recent international evidence on these relationships,
See: Organization for Economic Co-operation and Development and Statistics Canada, *Literacy in the Information Age: Final Report of the International Adult Literacy Survey*, op.cit.

human capital investment. Early work experience during the high school years has frequently been found in past national and local studies to have favorable labor market consequences for youth, especially for those not enrolling in four-year colleges and universities immediately upon graduation from high school. Those youth who obtain more work experience during the high school years experience smoother transitions to the labor market upon graduation, obtain higher weekly wages when they do work, and earn more per year 10 to 15 years after leaving high school. As long as average work hours per week are held to 20 or less, in-school work experience tends to have little to no adverse effects upon high school retention, course grades, educational aspirations, or school attendance. In fact, among poor and minority youth, those who do not work at all during high school are more prone to drop out of school prior to obtaining a diploma. The quality of an employed youth's work experience also influences the size of its labor market impacts. The opportunity to acquire new skills, to obtain more work hours per week, and to integrate school and work-based learning improve hourly wages and occupational mobility in the early school-leaving years.

Unfortunately, the opportunities for working-age high school students to obtain employment during the school year have not improved much over the past five years despite a stronger labor market and the implementation of a diverse array of school-to-work transition programs in many states under the School-to-Work Opportunities Act of 1994. During 1999, only 34% of the nation's high school students (16 and older) were working during a typical month during the school year, approximately the same share that were doing so in calendar year 1995.[281] Large employment gaps persist between White, non-Hispanic students and their Black and Hispanic counterparts. In each race-ethnic group, the likelihood of high school students working rises with the level of their family's income. Poor Black and Hispanic high school stu-

[281]The rising national number of high school students since mid-decade increases the number of jobs needed by students just to hold the employment/population ratio constant. The number of high school students will be growing throughout most of the current decade as the children born from the early 1980s through the early 1990s enter their high school years.

dents are the least likely to work with only 1 of 12 poor Black students and 1 of 6 poor Hispanic students holding jobs during the months of March 1998 and 1999.[282] Youth living in high poverty neighborhoods also face bleak employment prospects during the high school years. The cities, rural counties, and Indian reservations recently receiving Youth Opportunity Grants from the U.S. Department of Labor will be challenged to substantively boost employment opportunities for youth residing in their target areas.

We have carefully documented the need for expanding the quantity and quality of in-school work opportunities for all high school youth, but especially youth from low to moderate income families, high poverty areas, and economically disadvantaged Black and Hispanic families. To achieve our national youth employment target, a 45% employment rate for high school youth in each race-ethnic/family income subgroup by the year 2005, the nation will have to create nearly one million net new jobs for students. Achieving this goal will require the maintenance of full employment conditions in the labor market, much closer links between high schools and employers, expanded economic incentives for employers to participate in enriched school-to-work transition programs, and public sector job creation programs to supplement the unsubsidized jobs provided by the private and public sector. A new national Youth Entitlement Initiative modeled on the YEDPA demonstration program of the late 1970s and early 1980s should be established as part of this effort to expand job opportunities for the nation's high school students, with strong attendance and academic performance requirements for continued participation in the program. In-school work experience should be viewed as an integral part of a more comprehensive youth development system aimed at preparing students for future careers and post-secondary education and training opportunities.

[282]Youth from more economically disadvantaged communities and families report spending larger fractions of their time in a state of "disengagement", activities reflecting neither work nor play that tend to be associated with negative personal development.
See: Mihaly Csikszentmihalyi and Barbara Schneider, *Becoming Adult: How Teenagers Prepare for the World of Work*, Basic Books, New York, 2000.

Employer-Provided Training

The skill acquisition process does not end upon entering the labor market. Many workers acquire substantial skills through informal on-the-job training, participation in formal company training programs, and apprenticeship training. Such training investments contribute to worker productivity and their real weekly earnings. The wage payoffs to formal company and apprenticeship training are frequently quite substantial. One year of company or apprenticeship training has the same earnings effect as a year of post-secondary education.[283]

The likelihood of young workers receiving such types of training, however, varies considerably by their level of formal schooling, their literacy/numeracy proficiencies, and their occupation. College-educated workers and those with stronger literacy/math proficiencies are much more likely to receive formal company training from their employers. The Biblical dictum that "unto every one that hath shall be given and he shall have abundance" applies well to the training decisions of most employers. The unequal access of young workers to training on the job, both formal and informal, tends to exacerbate the earnings inequality accompanying differences in formal schooling and literacy/numeracy proficiencies. The probability of a young worker receiving substantive training at the workplace also varies by the characteristics of their employers, with large differences by type of industry, the employee size class of the firm, unionization status of the job, and firm workplace practices.

Classroom Skill Training

A major challenge for the nation's workforce development system in the first decade of the twenty-first century is to expand the breadth and depth of company-sponsored training opportunities for young workers, especially the members of the Forgotten Half. The attainment of this goal will require increased economic incentives for employers to pro-

[283]See: (i) Lisa M. Lynch, "Private Sector Training and the Earnings of Young Workers," *American Economic Review*, March 1992; (ii) John D. Donahue, Lisa M. Lynch, and Ralph Whitehead, Jr. *Opportunity Knocks: Training the Commonwealth's Workers for the New Economy*, Mellon New England and The Massachusetts Institute for a New Commonwealth, Boston, 2000.

vide additional training to front-line workers, the development of public-private partnerships for more industry-wide training to address the external benefits problem of general skills training, and renewed efforts to expand the number of apprenticeship training slots in both the private and public sectors.

Other sources of occupational training in high schools, Job Corps training centers, and post-secondary training institutions, including community colleges, also can assist in improving future earnings prospects of young adults. Such training programs must have strong links to local labor market demands, be closely coordinated with the specific skills needs of employers, and result in job placements that effectively utilize the occupational skills acquired in the classroom setting.[284] Early post-program labor market outcomes for teens and young adults participating in JTPA Title II A and II C programs were positively influenced by the receipt of occupational skills training, the intensity of such training and the occupational nature of the training received.[285] JTPA participants receiving professional, managerial, technical, and skilled blue-collar training typically earned the highest hourly and weekly earnings in recent years. The lessons from JTPA programs need

[284]See: (i) Burt Barnow and Christopher T. King (Editors), *Increasing the Odds*, The Urban Institute Press, Washington, D.C., 2000; (ii) Bishop, John H., The Social Payoff from Occupationally Specific Training: The Employer's Point of View, National Center for Research on Vocational Education, Columbus, Ohio, 1983; (iii) Stephen L. Mangum and Arvil V. Adams, "The Labor Market Impacts of Post-School Occupational Training for Young Men," Growth and Change, Fall 1987, pp. 58-78; (iv) Robert E. Taylor and Howard Rosen (Editors), *Job Training for Youth*, The National Center for Research in Vocational Education, Columbus, Ohio, 1982.

[285]See: (i) Garth Mangum, Stephen Mangum, and Andrew Sum, *A Fourth Chance for Second Chance Programs: Lessons from the Old for the New*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, January 1998; (ii) Neal Fogg, Andrew Sum, and Garth Mangum, *Poverty Ain't What It Used To Be: The Case for and Consequences of Redefining Poverty*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, June 1999; (iii) Andrew Sum, and Yanquin Shi, *The Labor Market Outcomes of Alternative Types of JTPA Employment and Training Programs*, Paper Prepared for the New England Regional Office of the U.S. Department of Labor's Employment and Training Administration, Town Hall Meeting on the Workforce Investment Act, Boston, 1999.

to be carried over into WIA implementation if the new workforce development system is to yield improved labor market outcomes especially for economically disadvantaged young adults.

A Nation's Choice

This year marks a critical juncture in the nation's workforce development system as states and local areas move to implement the Workforce Investment Act of 1998. The mission of workforce development programs will be revealed through the actions of hundreds of state and local workforce investment boards over the next few years. That mission should include a solid commitment to addressing the employment and training needs of out-of-school youth. To paraphrase the views of the late Hubert Humphrey, "the moral test of a nation's workforce development policy is how it treats those who are in the dawn of their work lives (teens and young adults), those who are in the twilight of their work lives (the older workers); and those who are in the shadows of the labor market, the dislocated, the discouraged, the underemployed, and the working poor."[286]

By more effectively addressing the human resource development needs of today's and tomorrow's adolescents and young adults, we can help reduce the number of future adult workers who will fall in the shadows of the labor market and increase the future number of older workers who can look back at their past work lives and feel a greater sense of personal accomplishment.

The attainment of these human resource development goals for young adults will require sustained and concerted actions on many different fronts. From a macroeconomic perspective, broadening economic opportunities for young adults will require sustained high levels of new job creation and the maintenance of full employment conditions in the nation's labor markets. Young adults' employment prospects are very sensitive to the overall state of the economy. Favorable macroeconomic conditions, however, need to be supplemented by a diverse

[286]The late Hubert Humphrey's quotation on the moral test of government appears in the following book by ex-Congressperson Pat Schroeder:
Pat Schroeder, *Champion of the Great American Family*, Random House, New York, 1989, p. 120.

array of coordinated, microeconomic human resource development initiatives to bolster the educational attainment of youth, their literacy and numeracy skills, the quantity and quality of their work experience, their occupational skills, and their work habits and attitudes. The development of this network of human resource development activities will require the joint commitments and resources of a wide array of actors: high schools, post-secondary education and training institutions, local workforce development agencies, private and public sector employers, labor unions, the criminal justice system, and many social service agencies (child care, health care, legal services). No one sector can be expected to carry the burden and responsibility for developing and maintaining this system. Political support for this system also should be bi-partisan. Youth development should be at the forefront of both the Democratic and Republican agendas at the national, state, and local level. The absence of such issues in the Year 2000 campaign has been notable and disheartening.

Finally, there are the youth themselves. Youth from all walks of life, but especially those from low income families and communities, must be provided broad-based opportunities to acquire the human capital skills and personal behaviors needed to succeed in today's labor markets and be given economic incentives for participating in and successfully completing human resource development program activities. They also must be committed to assuming greater responsibility for their own lives, availing themselves of opportunities to improve their skills and gain valuable work experience and avoiding the personal behaviors (teen pregnancy, fathering children out-of-wedlock, drug and alcohol abuse, criminal activities) that will adversely affect their personal labor market and economic prospects and the quality of community and social life. The demographic, social, and economic challenges facing the current generation of young adults are in some cases quite daunting, but the opportunities to improve their lives can be enhanced through an appropriate mix of public and private policies. As President Clinton remarked at a February 2000 conference on the future of Africa:

> We (America) can no longer choose not to know. We can only choose not to act, or to act. In this world, we can be indifferent or we can make a difference.

Our nation must choose, with respect to the human resource development of our youth, to make a difference.

APPENDIX A

Methodologies Used to Estimate the Number of 18 to 24 Year Old Male Inmates in Prisons and Jails

Estimates of the incarceration rates of young adult men in the United States are dependent upon the availability of data on both the number of young adult men in the nation's resident population and the number of young men who are inmates of federal and state prisons and jails. There are two sources of data on the nation's resident male population between the ages of 18 and 24. The first source of such data is the U.S. Census Bureau's national population estimates, which include resident members of the armed forces and inmates of institutions, including long stay hospitals, jails and prisons. According to the Census Bureau's July 1997 estimates of the total population, there were 12,734,000 men between the ages of 18 and 24. The second source of population data is the Current Population Survey (CPS), which relies on the Census Bureau's population estimates. According to the March 1997 CPS, there were 12,534,000 young men in the United States. Because the CPS population data only include members of the civilian non-institutional population, we added our estimate of the incarcerated 18-24 year old male population to the CPS estimates, yielding a total of 12,833,000 18 to 24 year old men in March of 1997.

Data on the incarcerated population are available from the U.S. Bureau of Justice Statistics. The incarcerated male population consists of inmates in federal and state prisons and local jails. During 1997, the Bureau of Justice Statistics reported that 776 out of every 100,000 men between the ages of 18 and 19 were inmates in federal and state prisons. The estimated incarceration rate in federal and state prisons among 20 to 24 year old men was 1,956 per 100,000. Combining these data with population data from the U.S. Census Bureau for 1997, we estimated that a total of 203,767 young adult men 18 to 24 years of age were inmates of federal and state prisons. This incarcerated group consists of 29,793 men between the ages of 18 and 19 and 173,974 men between the ages of 20 and 24.

The U.S. Bureau of Justice Statistics does not regularly publish estimates of the incarcerated jail population by age and gender. We have used data from several sources to estimate the number of 18-24 year old men who were incarcerated in local jails in 1997. There were 567,079 inmates in local jails at mid-year 1997. According to survey data on the 1996 local jail population, 89.8% of local jail inmates were males. Thus, the total estimated number of male inmates in local jails in 1997 was 509,237. According to the Bureau of Justice Statistics, 28.5% of all jail inmates in 1996 were 18 to 24 years old. Since only 10.2% of jail inmates are women, we have assumed that the same proportion (28.5%) of all male jail inmates were between 18 and 24 years of age. Applying this proportion to the total male inmate population, we estimated a total of 348,899 incarcerated males between the ages of 18 and 24. This group consisted of 203,767 inmates in federal and state prisons and 145,132 in local jails. By dividing the estimate of the young adult, male inmate population by the resident male population in that age group, we computed that 2.7% of all males between the ages of 18 and 24 were inmates of either a federal or state prison or a local jail in 1997.

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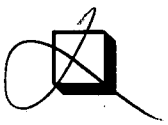

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