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ABSTRACT

Over the past 2 decades, the inflation-adjusted median weekly earnings of full-time employed males and females decreased by 31% and 13%, respectively, and the deterioration in the real weekly earnings of young adults (ages 18-24) shows no signs of abatement. Male high school dropouts and graduates with no postsecondary schooling experienced the most severe earnings losses. Earnings declines among men with no postsecondary schooling were quite substantial among White, non-Hispanics, and Blacks and Hispanics. The steep decline in young adult earnings, especially among men, appears to be related primarily to labor demand and institutional factors rather than supply-side explanations (except for the rise in the pool of unskilled, immigrant labor). Compared to high school students in the early 1970s, young adults employed in 1993 had completed more years of schooling, were at least as proficient in math and reading, and had more years of potential work experience. However, those educational gains failed to result in the predicted improvement in real earnings. Federal government efforts to address youth labor market problems through programs such as school-to-work and employment and training for disadvantaged youth have produced relatively few positive impacts on participants' postprogram employment earnings. Contains 34 tables/charts and 60 endnotes. (MN)

From Dreams to Dust: The Deteriorating Labor Market Fortunes of Young Adults

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FROM DREAMS TO DUST: THE DETERIORATING LABOR MARKET FORTUNES OF 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 focussed, 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 and 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 singlehandedly perpetuated, charging his closest friends to continue his life's crusade.

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

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

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This monograph is published and distributed under a grant from the National Council on Employment Policy pursuant to a bequest from the estate of Sar A. and Brita Levitan. The responsibility for the findings and conclusions rests with the authors.

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Introduction

The labor market problems of the nation's young adult men and women, especially those with no formal education beyond high school, received fairly considerable attention from social science researchers, the media, private foundations, and economic policymakers during the late 1980s, with the "Forgotten Half" label being assigned this group by the William T. Grant Commission.[1] Young adults, however, are far from being a monolithic population group. They tend to experience a diverse array of labor market problems, and the problems of young adult men and women are not uniform across demographic/socioeconomic groups or over the course of the business cycle. Instead, these problems tend to vary considerably by type and intensity across different socioeconomic, gender, and race-ethnic groups and to increase in intensity during periods of national economic decline.[2]

One major and persistent labor market problem, however, has been the steep declines in the real (inflation-adjusted) weekly and annual earnings of many young men and women (under 25) employed full-time.[3] The weekly earnings declines of young adults have been occurring steadily over the past two decades and have continued unabated during the 1990s. Despite renewed job growth among young adults over the past few years (1993-95), the real weekly earnings of young adult men and women have failed to improve. Weekly earnings data from the Current Population Survey and the annual earnings data from the March Work Experience Surveys allow us to examine these wage and earnings trends over the entire 1973-1994 period. The findings are extremely disheartening and call for immediate and sustained policy actions by the Clinton administration, the Congress, the states, the nation's

schools, and especially its employers, both public and private.

While the U.S. Congress enacted potentially promising school-to-work legislation in 1994 that provided a moderate level of annual funding ($200 million) for a number of states to experiment with new approaches to improve labor market prospects for high school graduates, the funding levels for existing JTPA employment and training programs for economically disadvantaged youth (under 22 years of age) are being substantially reduced in size by the current Congress. Both the U.S. House of Representatives and the U.S. Senate are supporting major reductions in funding for JTPA Title II C programs serving disadvantaged youth that will offset a major part of the additional investments in youth from the school-to-work legislation of 1994. The case for future labor market interventions to assist young school dropouts and high school graduates, thus, needs to be carefully assessed at this particular point in time.

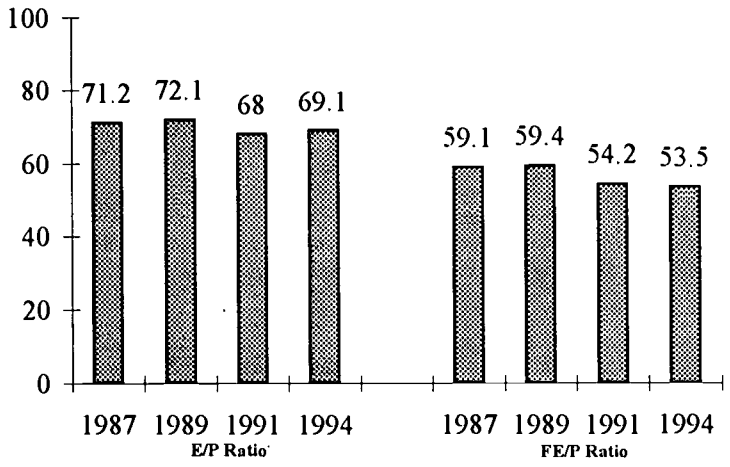
Trends in the Real Weekly Earnings of Young Adults

Out-of-school teens and young adults in their early to mid-twenties continue to face a diverse array of labor market problems, including limited labor force attachment, especially among dropouts and low income youth, relatively high rates of open unemployment, and difficulties in securing full-time jobs when they do become employed. With the exception of male high school dropouts, however, employment rates of most young adults have not declined considerably over time.[4] For example, on average during 1994, nearly 80% of all 16-24 year olds not enrolled in school were actively participating in the civilian labor force; i.e. either working or actively looking for work.[5] The rates of labor force attachment among these young non-enrolled

adults, however, varied widely by educational attainment, ranging from a low of 62% for high school dropouts to a high of 94% for four-year college graduates. Among young black high school dropouts, fewer than half were either working or looking for work during 1994. The 1994 unemployment rate for all non-enrolled young adults was 12.6%, an unemployment rate that was two and one-half times as high as that of prime-aged workers (25-54 years of age). Again, these unemployment rates of young adults varied considerably by years of formal schooling, ranging from a low of 5% for four year college graduates to a high of 23% for high school dropouts.

The overall employment rate for non-enrolled young adults during 1994 was 69%, only two percentage points below their 1987 employment rate, a year when the overall unemployment rate of the nation was basically identical to that of 1994.[6] (Chart I). The full-time employment rate of young adults during 1994, however, was only 54%, reflecting increased difficulties of young workers in securing full-time positions; i.e. jobs providing 35 or more hours of work per week. During 1994, on average, there were 1.2 million 16-24 year old part-time workers who desired full-time positions but were unable to secure them for economic-related reasons. The full-time employment/ population ratio for non-enrolled young adults in 1994 remained 5.5 percentage points below its 1989 peak of just under 60%. (Chart I). Full-time jobs are an important barometer of the labor market position of young adults. Besides providing substantially more hours of work per week (15 to 20 more), full-time jobs also provide higher hourly earnings, offer more training opportunities, and are accompanied considerably more often by key employee benefits, including health insurance.

Chart I:
Employment/Population and Full-Time Employment/Population Ratios of Non-Enrolled 16-24 Year Olds, 1987 to 1994



The most severe and persistent labor market problem facing the nation's young adults over the past two decades has been the steep and near continuous decline in their real (inflation-adjusted) weekly earnings. These weekly wage declines of full-time employed young adults (under the age of 25) have been quite substantial in both absolute and relative terms since 1973. The year 1973 represents the historical peak year for the real weekly earnings of the nation's young adults, both men and women, and the high water mark of the "golden age" of post-World War II economic performance.

Estimates of the weekly earnings of young adult men and women employed on a full-time basis are available from the Current Population Surveys (CPS) for the years 1967 to 1995.[7] Table 1 provides a historical perspective on trends in the nominal and real median weekly earnings of young men and women (under 25 years of age) employed full-time over this 28 year period. The median weekly wage is that

wage which divides the entire distribution into two equal parts and, thus, is not influenced by extreme values at either tail of the distribution. The CPI-UX1 price index of the U.S. Bureau of Labor Statistics was used to convert the nominal weekly earnings estimates into their constant 1990 dollar equivalents. Use of this price index provides a more conservative estimate of the rate of inflation between 1967 and 1982. From 1967 to 1973, the real (inflation-adjusted) weekly earnings of young men employed full-time rose by 8%, or by approximately 1.3% per year. By 1973, their median weekly earnings (in 1990 dollars) had reached $377. This earnings figure unfortunately represented the peak level of their real weekly earnings over the 28 year period covered by our analysis. Since 1973, the weekly earnings of young men have declined on a near continuous basis, falling by 7% between 1973 and 1979, dropping by another 19% between 1979 and 1989 despite the fact that the absolute number of young males (18-24) had peaked in 1981 and had been falling ever since, and declining by another 9% between 1989 and 1995. (Table 1 and Chart II). By 1995, the real value of the median weekly earnings of full-time employed young men had fallen to $260, a reduction of 31% over the past 22 years. The 1995 median weekly earnings of young men were 26% below their level in 1967, the beginning of the time series. In fact, the real weekly earnings of young men likely have fallen well below their levels in 1959.

Young adult women's median real weekly earnings also peaked in 1973 at a level of $285 and have declined nearly continuously since then. (Table 1 and Chart III). The steepness of the real wage declines of young women, however, has been less than that of young men in two of the above three time periods. By 1995, their median real weekly earnings had declined by 13% from their 1973 peak. The considerably lower rate of decline in the real weekly

Table 1:
Trends in the Median Weekly Wages of Full-Time Employed Young Men and Women (16-24 Years Old), U.S.: 1967-1995
(in Current and Constant 1990 Dollars)

	MEN		WOMEN	
	(A)	(B)	(A)	(B)
Year	Current Dollars	Constant 1990 Dollars	Current Dollars	Constant 1990 Dollars
1967	97	349	74	266
1969	108	358	82	272
1973	136	377	103	285
1979	196	346	154	272
1982	224	306	194	265
1989	271	286	246	259
1990	283	283	254	254
1991	286	274	267	256
1992	285	266	267	249
1993	288	261	274	248
1994	294	259	278	245
1995	303	260	275	236
Percent Change				
1973-95		-31.0%		-13.3%
1973-79		-8.2%		-4.6%
1979-89		-17.3%		-4.8%
1989-95		-9.1%		-8.9%

Note: The weekly earnings data for 1967 to 1973 pertain to May of each year and are based on an annual supplement to the May Current Population Survey (CPS). Beginning in 1979, the weekly earnings data have been collected monthly from one-fourth of the households interviewed as part of the CPS household survey. The findings for 1979 to 1995 represent annual averages. The CPI-UX1 index for the entire U.S. was used to convert current dollars into their constant 1990 dollar equivalents. Use of this price index rather than the CPI-U index for years prior to 1982 yields a lower rate of inflation; thus, our estimates of weekly wage declines over the 1973-1995 period are conservative.

Chart II
Trends in the Median Weekly Wages of Full-Time Employed Men, 16-24, 1967-95

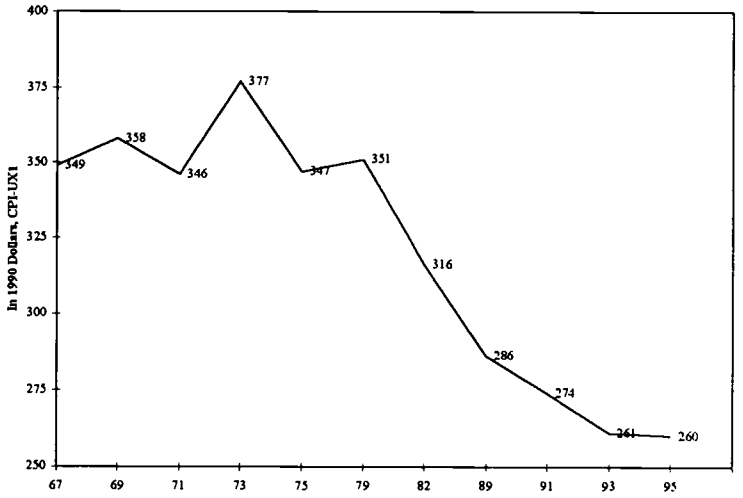
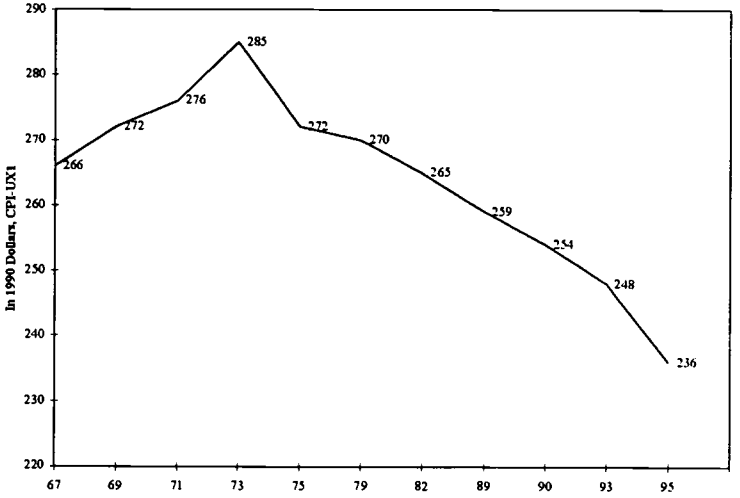


Chart III
Trends in the Median Weekly Wages of Full-Time Employed Women 16-24, 1967-1995



earnings of young women has led to substantial convergence in the median weekly wages of young men and women. By 1994, the median weekly earnings of young women employed full-time had risen close to 95% of the value of the wages of young men, up considerably from 76% in 1973 (Chart IV). The deep silent depression in young men's weekly wages has had the consequence, however unfortunate for young men, of achieving near gender equality in the average wages of young adults.

The real wage declines of young men have not been confined to members of their age group. The median weekly earnings of full-time employed adult males (25 and older) also have declined over the past 20 years; however, the relative size of their wage declines has been considerably smaller than those of young men (9% vs. 31%). As a consequence of these large differentials, the relative weekly earnings of young men have fallen precipitously since 1967 (see Chart V). During the late 1960s, the median weekly earnings of young males employed full-time were equivalent to nearly three-fourths of the median weekly wages of older adult males (25+). Young men, thus, were frequently in a financial position to assume family responsibilities and provide adequate economic sustenance for many of their children. Since 1969, the ratio of the weekly earnings of young men to older males has dropped sharply, falling to 51% by 1994.

The steep downward trend in the relative wage position of young men has lengthened the time period in which they are confined to the stage of "economic adolescence", holding jobs that are frequently on the periphery of the labor market. This critical lengthening of the stage of economic adolescence for many young males, especially those with no post-secondary schooling, has had a number of disastrous economic and social consequences for themselves and for

Chart IV:
Trends in the Ratio of Median Weekly Earnings of Young Women to Men, 1967-1995

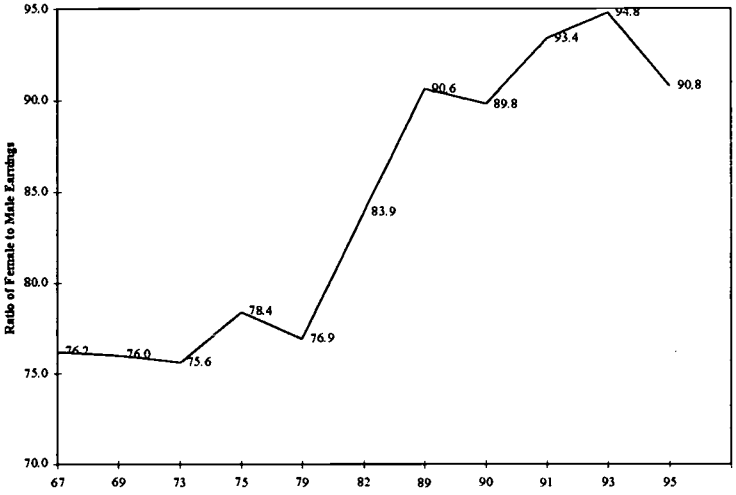
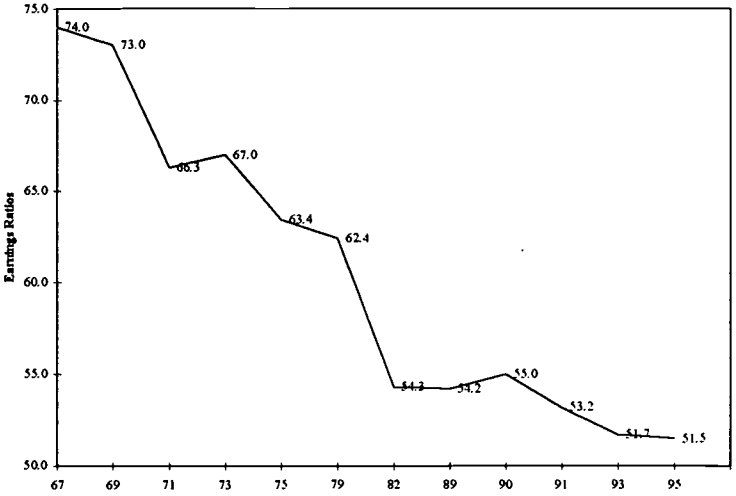


Chart V:
Trends in the Ratio of the Median Weekly Earnings of Men, 16-24, To Those 25 and Older



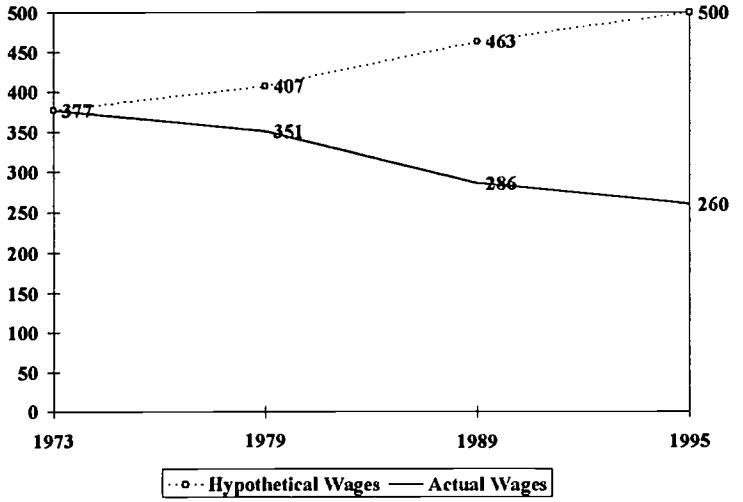
society at large. Among these have been sharp increases in the age at first marriage, lengthier stays in the homes of parents for financial support, reduced personal responsibility for the economic support of young children, the substantial rise in young single parent families, the increased economic attractiveness of drug sales and other illegal activities, and the sustained rise in the numbers of young men incarcerated in jail and prison. Many of the more dramatic changes in young adult living arrangements, their marital behavior, and the economic and social conditions of young families and their children also date back to the post-1973 era.[8]

Finally, in reviewing these findings on real earnings trends, one should keep the previous historical record in mind. During the 1950s and the 1960s, young men, both Black and White, experienced substantial persistent gains in their real annual earnings and incomes.[9] Between 1967 and 1973, the median real weekly earnings of young men increased by an average of 1.3% per year, a moderate rate of growth that fell below the wage gains of older adult men (25+) due to the absorption into the labor market of large numbers of members of the post war baby boom generation. Suppose that the American economy had succeeded in generating real weekly earnings gains for young men of 1.3% per year over the past 22 years. By 1995, the median real weekly earnings of young men (in 1990 dollars) would have been $500 rather than the $260 weekly earnings actually observed during that year, a real wage level nearly twice as high. (See Table 2 and accompanying chart).

Table 2:
Projected Real Weekly Earnings of Young Adult Men If Real Wage Growth Occurred at the Pace of the 1967-73 Period
(in Constant 1990 Dollars)

	Projected Wage	Actual Wage	Actual/ Projected
1973	$377	$377	100.0
1979	407	351	86.2
1989	463	286	62.4
1995	500	260	52.0

Chart VI
Trends in the Actual and Hypothetical Real Weekly Earnings of Young Men, 1973-1995
(in Constant 1990 Dollars)



What different type of world would we be living in today if these earlier real wage trends for young men had prevailed through the present time? It is hard to imagine the depths of poverty and dependency and the high levels of crime, drug sales activities, and prison populations that we

observe today among young adults and their families if this other labor market scenario had developed. America's labor market crisis for young adults is not simply a jobs crisis for inner city and rural youth or for high school dropouts, but a "silent depression" of deep and persistent wage and earnings declines for most young adult men with no post-secondary education that has created havoc with our families, neighborhoods, and our social fabric.[10]

The economic dimensions of this continued "wage depression" among young male adults have not been adequately publicized or analyzed by economic analysts, the employment and training community, the U.S. Congress, or the Clinton administration. Much of the recent national economic debate has focused on the economic plight of the "forgotten middle class", the re-employment problems of the nation's dislocated workers, the stagnation of real wages in a growing economy, and on welfare reform. As will be noted in following sections, there are a multiplicity of labor demand and institutional change forces underlying these steep wage and earnings declines of young adult men. Employment and training strategies to alter these trends will, in turn, have to be innovative and multiple in nature, including improvements in the basic academic and critical thinking skills of young adults, greater investments in their training both on and off the job, and increased access to a wider array of jobs in the nation's career labor markets.

A moderate case also can be made for increasing the current value of the federal minimum wage; however, once again, any realistic, proposed increase needs to be placed in proper perspective. What potential role could any politically feasible increase in the federal minimum wage play in improving the real weekly earnings of full-time young adults and restore them to their 1973 real earnings position? The Clinton Administration and members of the

U.S. Congress recently have proposed a hike in the current federal minimum wage of $4.25 to $5.15 per hour over the next two years. Even if a young male adult were able to obtain 40 hours of work per week at this new higher minimum wage, his weekly earnings in February 1997 still would be $206. (Table 3). Given projected inflation rates of 3.3 and 3.8 percent in the Consumer Price Index over the next two years, the real value (in 1990 dollars) of such a weekly wage in early 1997 would be $166.[11] Such a real weekly wage in 1997 would be equal to only 45% of the median real weekly earnings that young men obtained in 1973. Minimum wage increases may marginally reduce some of the existing inequality in the earnings distribution of full-time employed young men, but would have no impact on their real median weekly wages.[12]

Table 3:
Estimated Real Value (in Constant 1990 Dollars) of Full-Time Weekly Earnings at the Current and Proposed New Minimum Wage

Time Period	(A) Value of Federal Minimum Wage	(B) Nominal Weekly Earnings at Minimum Wage	(C) Real Weekly Earnings at Minimum Wage
February 1995	$4.25	$170	$147
February 1997	$5.15	$206	$166

Trends in the Numbers of 18-24 Year Olds in the Nation's Population

Knowledge of the steepness of the declines in the real weekly earnings of young adult men and women needs to be accompanied by an explanation of the economic,

demographic, and institutional forces underlying these deep real wage reductions. Labor market economists tend to focus on basic demand and supply factors in their explanations of real wage developments, often ignoring structural changes on the demand side of the labor market and shifts in the institutional behaviors of employers with respect to the hiring, training, and compensation of young adults. The real absolute and relative earnings position of young adults in the U.S. has been and will continue to be influenced by fundamental changes in supply and demand conditions in the labor market, but they also will be affected by the changing human capital characteristics of young adults, by the industrial and occupational transformation of jobs in the labor market, and by shifts in the hiring, training, and compensation policies of employers in the public and private sectors of the U.S. economy.

Let us begin our assessment of the potential contributions of these alternative wage determinants to the observed declines in weekly earnings with an examination of supply side developments in the young adult labor market. Above average growth in the absolute numbers of young persons in the nation's civilian population would be expected to alter the supply of young adults in the labor market and, hence, their relative wage position. From the mid 1960s onward, the members of the postwar baby boom generation (those born from 1946 to 1962) began to enter their young adult years (18-24), and the numbers of 18-24 year olds in the civilian non-institutional population grew at an extraordinarily rapid pace. (Table 4). Between 1960 and 1975, the total number of 18-24 year olds in the nation's civilian non-institutional population increased from just under 14.9 million to nearly 26.6 million, a rate of growth of 79% over this 15 year period.[13] Their rate of population growth substantially outpaced that of the nation's entire 16-64 year old population; thus, young adults' share of the non-

elderly, working age population increased from 14.6% in 1960 to 20.2% by 1975. Yet, despite the substantial influx of young men and women into the nation's labor markets during this time period, the real weekly and annual earnings of young men and women continued to improve steadily through 1973, including the earnings of young men and women with no post-secondary schooling. Demography, thus, was not economic destiny for the baby boomers at least through 1973.

The total number of young adults in the nation's civilian non-institutional population continued to rise through 1981 when the population of 18-24 year olds peaked at just under 29.0 million. Their relative share of the non-elderly population, however, actually peaked several years earlier in 1977 at 20.4%. Since 1981, the population of young adults has declined steadily, falling to 24.1 million in 1993 and accounting for only 14.9% of the nation's non-elderly adult population, their lowest share since 1960. (Table 4). Thus, while demographic developments likely played some role in explaining part of the wage declines of young adults between 1973 and the late 1970s, no portion of the continued decline in the real weekly earnings position of employed young men and women since the early 1980s can be attributed to labor supply developments. In fact, the substantially reduced supply of young men and women since 1981 should have facilitated a rise in their real weekly earnings position. Unfortunately, contrary to the earlier claims of Richard Easterlin and others that "a baby bust generation will find life relatively easy", the newer cohorts of young adults, with the exception of some young college graduates, have not yet found the transition to the labor market to be an easier or more economically rewarding path than their baby boom predecessors.[14] A combination of demand factors, including technological factors and international trade developments, and institutional forces

have worked to reduce their real weekly and annual earnings position in their young adult years, with non-college educated young adult males experiencing the most severe earnings declines since the late 1970s.

Table 4:
Trends in the Absolute and Relative Numbers of 18-24 Year Olds in the Civilian Noninstitutional Population of the U.S., Selected Years, 1960-1993
(Numbers in 1000's)

	Absolute Number			Relative Number*		
	(A)	(B)	(C)	(D)	(E)	(F)
Year	All	Men	Women	All	Men	Women
1960	14,888	6,838	8,050	14.6	14.0	15.1
1965	18,437	8,532	9,905	16.9	16.4	17.4
1970	22,199	10,160	12,040	18.8	18.1	19.5
1975	26,594	12,832	13,726	20.2	20.2	20.2
1977	27,788	13,477	14,309	20.4	20.5	20.3
1980	28,899	14,087	14,812	20.2	20.3	20.0
1981	28,965	14,121	14,845	19.9	20.1	19.8
1985	27,371	13,332	14,039	18.1	18.2	18.0
1989	25,363	12,362	13,001	16.1	16.1	16.1
1993	24,128	11,894	12,235	14.9	14.9	14.8

*The relative number of 18- to 24-year olds is defined as the ratio of the number of 18- to 24-year olds to the civilian noninstitutional population of persons 16 to 64 years old.
Sources: (i) U.S. Census Bureau, Current Population Reports; (ii) U.S. Bureau of Labor Statistics, Employment and Earnings, January 1976 to January 1992, "Annual Averages".

The absolute number of young adults (18-24) in the nation's population is projected by the U.S. Census Bureau to continue to decline moderately through 1997 (Table 5).[15] After 1997, the members of the baby boomlet generation (those born from 1980 onward) will enter their young adult years, and the number of young adults (18-24) will rise from 24.9 million to 28.0 million by the year 2004, an increase of

12% over this seven year period. The increase in their absolute and relative numbers will be accompanied by a continued shift in their race/ethnic composition, with a higher fraction of young adults composed of Asians, Blacks, Hispanics, and other, non-Whites. Higher fractions of this group will have been raised as adolescents in single parent and economically disadvantaged families. The demographic window of opportunity for resolving the labor market problems of young adults is, thus, about to close, and rising numbers of young adults will be the norm from 1997 through the first half of the following decade. A diminished role for the nation's armed forces as an employer of young adults and the likely influx of greater numbers of immigrants and young single parents into the labor force will place further strains on the ability of the nation's economy to generate real wage gains for young adults over the next decade. Changing demographic developments will have to be met by adequate responses in the areas of human capital investments, increased labor demand for young adults, and fundamental changes in the institutional practices of private and public sector employers.

Table 5:
Trends in the Projected Number of 18-24 Year Olds in the Total Population of the U.S., 1990-2005 (in Thousands)

Year	Number
1990 (actual)	27,038
1995	25,609
1997	24,950
2000	26,055
2004	28,026

Source: U.S. Department of Education, National Center for Education Statistics, Projections of Education Statistics to 2004, October 1993.
Note: Totals include members of the nation's armed forces and inmates of institutions such as jails, prisons, and residents of long stay hospitals.

The Changing Human Capital and Race-Ethnic Characteristics of Employed Young Adults

The preceding analysis of the changing size of the population of young adults was focused solely on their quantitative dimensions rather than their qualitative characteristics or their race-ethnic composition. To assess the changing human capital and demographic characteristics of full-time employed young adults in the U.S. over the past two decades, we have analyzed the March 1974 and March 1994 CPS public use tapes, including the work experience supplements that capture information on their labor force, employment, and earnings experiences in the prior calendar year. The age, formal schooling, and race-ethnic characteristics of those young adults (16-24) who were employed full-time for 27 or more weeks during calendar years 1973 and 1993 were examined. (Table 6).

The weekly and annual earnings of young adults rise very sharply from their late teens to their late 20's as many of them move from informal jobs in secondary labor markets to career jobs in the primary labor market.[16] These earnings improvements reflect movements into new occupations, industries, and types of economic establishments. Thus, changes in the age characteristics of full-time employed young adults over time would be expected to independently influence their real weekly and annual earnings. Findings in Table 6 reveal that full-time employed young adults in 1993, both men and women, were somewhat older than their employed counterparts in 1973. During 1973, nearly one-third of all full-time employed young men and women were 20 years of age or younger versus only slightly more than one-fifth of these same two groups in 1993. The mean age of full-time employed men and women under the age of 25 was approximately one half year higher in 1993 than in 1973. Holding all other wage determinants constant, the

higher mean ages of the full-time employed in 1993 would have been expected to moderately improve their real weekly and annual earnings position during that year since they had more years of potential work experience.

Table 6:
Trends in the Age, Educational Attainment, and Race/Ethnic Characteristics of 16-24 Year Olds Employed Full-Time for 27 or More Weeks During 1973 and 1993, by Gender

	Men		Women	
	(A)	(B)	(A)	(B)
Characteristic	1973	1993	1973	1993
Age Group:				
20 or Under	30.8%	21.9%	31.8%	20.7%
21-24	69.2%	78.1%	68.2%	79.3%
Mean Age	21.6	22.0	21.5	22.0
Median Age	22	22	22	22
Educational Attainment				
Less than 12 years	22.2%	17.0%	12.3%	9.4%
12 years	51.2%	44.6%	56.8%	37.4%
13-15 years	19.9%	30.2%	20.8%	38.5%
16 or more years	6.7%	8.2%	10.1%	14.8%
Race-Ethnic Group				
White, not Hispanic	81.9%	72.4%	83.3%	74.2%
Black, not Hispanic	11.3%	9.5%	9.9%	12.2%
Hispanic	6.0%	15.8%	5.4%	10.3%
Other, not Hispanic	.9%	2.3%	1.4%	3.3%

Source: March 1974 and March 1994 Current Population Surveys, public use tapes, tabulations by the Center for Labor Market Studies. Estimated numbers of 16-24 year olds are for March 1974 and March 1994.

Similar findings apply when we compare the formal schooling characteristics of both full-time employed young men and women in 1973 and 1993. During 1973, 22% of

the full-time employed males had completed fewer than 12 years of schooling.[17] By 1993, the dropout share of employed males had declined to 17%. During 1993, 38% of the full-time employed young men had completed one or more years of a college education versus only 26% of their counterparts in 1973. The rise in the share of the employed with some post-secondary educational attainment was even larger for full-time employed young women. In 1993, 53% of those young women working full-time for 27 or more weeks had completed some post-secondary schooling versus only 31% of their full-time employed counterparts in 1973. Thus, both full-time employed men and women in 1993 had completed more years of formal schooling than their counterparts two decades earlier. The superior formal schooling backgrounds of the nation's full-time employed young adults in 1993 should have generated higher weekly and annual earnings for them, given the positive effect of formal schooling on the annual earnings of the employed.

While more young adults have completed high school in recent years and higher fractions of high school graduates have gone on to enroll in post-secondary educational institutions, a number of analysts have argued that the academic achievement of young adults has deteriorated, with frequent references made to declines in average SAT test scores of high school students.[18] Use of the SAT test scores by themselves as an indicator of changes in the average educational quality of America's high school students has been criticized on several methodological grounds, including changes over time in the overall fraction of high school students taking the SAT test and shifts in the demographic/socioeconomic composition of SAT test takers. Failure to adjust test scores for the changing pool of test takers can yield misleading conclusions about the average academic quality of high school students. A recent, more comprehensive review of the average academic

achievement of U.S. high school students by the late Richard Herrnstein and Charles Murray comes to a more positive conclusion. The authors argue that:

"Conservatively, average high school students seem to be as well prepared in math and verbal skills as they were in the 1950s. They may be better prepared than they have ever been."[19]

Other national data bases on the academic achievement of U.S. high school students, including findings of the National Assessment for Educational Progress (NAEP) with respect to the reading, math, and science proficiencies of the nation's 17 year olds, can shed additional insights on trends in the average academic proficiencies of older high school students.[20] Findings on the reading proficiencies of the nation's 17 year olds over the 1971 to 1988 period reveal a moderate upward trend in their mean scores during the 1980s, rising from 285 in 1971 to 290 in 1988. (Table 7). This 5 point difference between the mean reading proficiency scores was statistically significant at the .01 level.[21] The mean math proficiencies of the nation's 17 year olds drifted downward between 1973 and 1982 and then moderately increased over the following four years. The 1986 mean math proficiency of 17 year olds was 2.4 points below their 1973 performance; however, the difference was not large enough to be classified as statistically significant at the .05 level.

Finally, the science proficiency scores of the nation's 17 year olds are displayed in the last row of Table 7. Between 1970 and 1982, the mean science proficiency score of 17 year olds plummeted sharply, falling by nearly 22 points. Between 1982 and 1986, there was a gain of 5 points in the mean science proficiency score.[22] Still, the 1986 mean science score remained 16 points below the 1970 performance, a statistically significant difference. However,

studies of the influence of students' science proficiencies on their labor market experiences in their young adult years show no substantive impact on wages or earnings.[23]

NAEP assessments of trends in 17 year olds' academic achievements over the 1970s and 1980s reveal that average reading proficiencies improved moderately, math proficiencies remained unchanged, and science proficiencies deteriorated. Taking these NAEP findings together, there is little empirical evidence to suggest that the human capital characteristics of the nation's young adults (18-24) as measured by basic academic achievements have declined in quality over the past two decades. Given the fact that school dropout rates declined between the early 1970s and the late 1980s, particularly among young African-Americans, a higher fraction of the nation's 17 year olds would have been included in the NAEP assessments of the late 1980s.

Table 7:
National Trends in the Average Proficiency of 17 Year Olds in Reading, Mathematics, and Science, Selected Years 1970s and 1980s

	(A)	(B)	(C)	(D)	(E)
Proficiency Area	1971	1980	1988	Change 1971-88	Sig. of Change
Reading	285.4	285.8	290.1	+4.7	.01

	(A)	(B)	(C)	(D)	(E)
	1973	1982	1986	Change 1973-86	Sig. of Change
Math	304.4	298.5	302.0	-2.4	Not Sig. at .05

	(A)	(B)	(C)	(D)	(E)
	1970	1982	1986	Change 1970-86	Sig. of Change
Science	304.8	283.3	288.5	-16.3	.01

Source: Ina V.S. Mullis, Eugene H. Owen, and Gary W. Phillips. Accelerating Academic Achievement, pp. 31-32. Significance tests by authors of this report.

The race-ethnic composition of young adults in the full-time employed population also changed over the past two decades. Among males, Hispanics markedly increased their share of the full-time employed from 6% in 1973 to nearly 16% in 1993, reflecting the major surge in Hispanic immigration over the past two decades. Among young adult females, both Hispanics and other non-Whites (Blacks and Asians) increased their share of the full-time employed. Their combined share rose from just under 17% in 1973 to 26% in 1993. Historically, employed young adult men and

women from Black and Hispanic backgrounds have received lower annual earnings than comparable-aged White, non-Hispanics. (Table 8). For example, during 1973, among full-time employed males, Black, non-Hispanics received mean annual earnings equal to only 80% of those of Whites and others while Hispanics obtained mean earnings equal to 84% of those of Whites and others.[24] Among women, the Black/White and Hispanic/White relative earnings ratios were equal to 88% and 84%, respectively. The remaining earnings differentials among these young adults cannot be attributed solely to racial or ethnic discrimination since they are also known to be influenced by differences in formal schooling, academic achievement, years of work experience, and geographic locations of their residences.

Table 8:
Estimates of the Mean Annual Earnings of 16-24 Year Olds Employed Full-Time for 27 or More Weeks, by Gender and Race/Ethnic Group, U.S.: 1973
(in 1993 Dollars)

	(A)	(B)
Race/Ethnic Group	Men	Women
Total	$19,714	$14,205
White and other non-Hispanic	$20,360	$14,490
Black, non-Hispanic	$16,335	$12,853
Hispanic	$17,146	$12,202
Black as % of White and Other	80.2%	88.7%
Hispanic as % of White and Other	84.2%	84.2%

Source: March 1974 CPS survey, tabulations by Center for Labor Market Studies of Northeastern University. Nominal earnings data for 1973 were converted into their 1993 dollar equivalents via use of the CPI-UX1 index.

The rise in the share of the young adult, full-time employed population accounted for by Hispanics and non-Whites would be expected to moderately reduce the mean earnings of young adults over time in the absence of any

progress in reducing race/ethnic earnings differences. The impact of these demographic shifts, however, would be expected to be quite small. Applying the 1993 race-ethnic shares of the young adult employed population to their 1973 earnings levels yields an expected mean annual earnings figure only 1% below that of the actual mean earnings of both men and women during that year. Since 1973, some progress has been achieved in closing a portion of the gaps between the formal educational attainments of young Whites and Blacks and in their reading and math scores on the NAEP assessments. As will be revealed below, the influence of region of residence and metropolitan/non-metropolitan location on the annual earnings of young adults has become considerably diminished over the past two decades. As a consequence, neither changing quantitative labor supply conditions nor shifts in the human capital or demographic characteristics of young adults can account for the deep deterioration in their real weekly earnings since the late 1970s.

The Increasing Young Adult Immigrant Population

While the total number of young adults (18-24) in the U.S. population declined sharply between the early 1980s and the mid 1990s, there was one group of young adults whose absolute numbers increased markedly over this period - young immigrants from other nations. Since young adult immigrants often differ from native born young adults in terms of their human capital characteristics (including formal educational attainment, English-speaking abilities, and literacy proficiencies), changes in the size of the immigrant population would be expected to have a compositional influence on the human capital characteristics of the young adult population as a whole. These changes in human capital characteristics might be expected, in turn, to

adversely influence the employment and earnings experiences of the young adult population.

To track changes in the numbers, arrival dates, and human capital traits of young foreign immigrants over the past 15 years, we have examined findings of the 1980 decennial Census and the March 1995 Current Population Survey. Beginning in 1994, the U.S. Census Bureau has identified the immigrant status of respondents to the monthly Current Population Survey.

Findings on population trends in the top portion of Table 9 indicate that the total size of the 18 to 24 year old population declined by approximately 3.9 million persons, or nearly 14 percent, between 1980 and 1995. In contrast to the decline in the size of the young adult population as a whole, the bottom portion of Table 9 reveals that there was a marked rise in the number of young adult immigrants between 1980 and 1995. The immigrant population increased by 1.5 million, or 96 percent, over this fifteen year period. In the absence of any growth in the immigrant population, the total number of young adults would have fallen by 5.4 million, or nearly 19 percent. Increases in the size of the immigrant population occurred in each educational attainment category. The number of immigrants with less than a high school education more than doubled between 1980 and 1995, rising from 0.6 million to more than 1.2 million, compared to an 18 percent *decline* for the young adult dropout population as a whole. There was also rapid growth in the number of immigrants with some college, a group which grew by 0.5 million or 135 percent between 1980 and 1995. Many of the members of this latter group were enrolled in U.S. colleges and universities in March 1995.

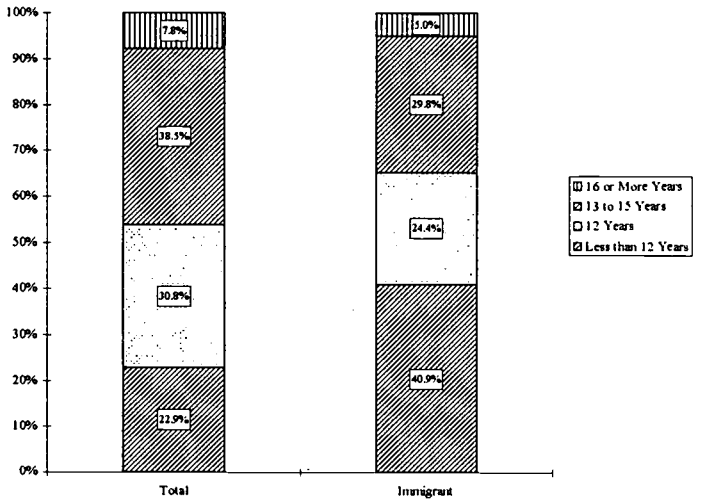
Table 9:
Trends in the Size of the 18 to 24 Year Old Population, Total Population and Immigrant Population, by Educational Attainment, 1980 to 1995
(in Thousands)

	1980	1995	Absolute Change	Percent Change
Total Population				
Total	28,926.6	25,003.7	-3,922.9	-13.6%
Less than 12 Years	6,989.6	5,723.6	-1,266.0	-18.1%
12 Years	12,718.8	7,707.8	-5,011.0	-39.4%
13 to 15 Years	7,354.4	9,625.3	2,270.9	30.9%
16 or More Years	1,863.8	1,947.0	83.2	4.5%
Immigrant Population				
Total	1,565.4	3,066.2	1,500.8	95.9%
Less than 12 Years	612.0	1,253.5	641.5	104.8%
12 Years	480.1	747.7	267.6	55.7%
13 to 15 Years	387.8	912.6	524.8	135.3%
16 or More Years	85.5	152.4	66.9	78.2%

Note: Immigrant totals include those born in Puerto Rico and the outlying possessions of the United States. The 1980 population totals exclude members of the Armed Services serving abroad. The 1995 totals exclude members of the Armed Services and young adults in institutions such as prisons or jails.

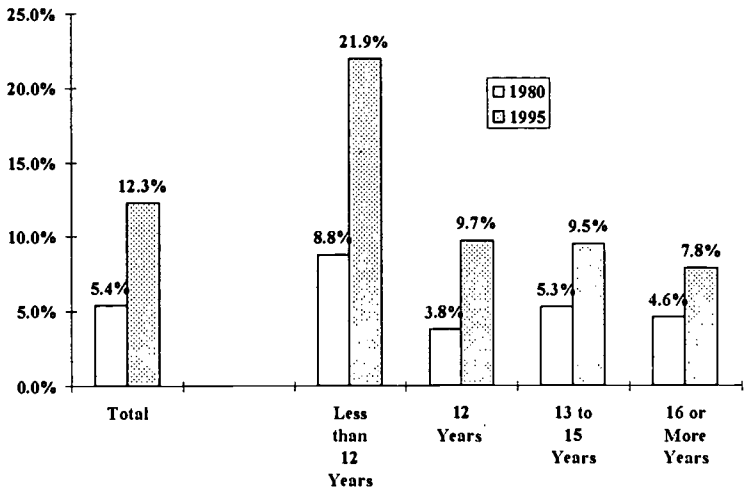
Although there were substantial increases in the number of immigrants in each educational attainment category, immigrants tend to be concentrated in the lower educational attainment groups. Of the nearly 3.1 million young adult immigrants in 1995, approximately 1.25 million (or 41 percent) had not completed high school, and another 0.7 million (or 24 percent) were high school graduates with no post-secondary schooling. Differences between the formal educational attainment of the entire young adult population and the young adult immigrant population in 1995 are portrayed graphically in Chart VII.

Chart VII:
Educational Attainment of the Total Young Adult Population (18-24) and the Young Adult Immigrant Population, 1995
(in Percent)



As a consequence of these divergent trends in the size of the native and immigrant young adult populations, the composition of the young adult population has changed markedly in a number of key respects between 1980 and 1995. At the time of the 1980 Census, only 5 percent of the young adult population was born abroad, but by 1995 their share had risen to over 12 percent (see Chart VIII). Increases in the immigrant share of the young adult population were particularly pronounced among those with no post-secondary schooling. The immigrant share of young adults who did not complete high school rose from 9 percent in 1980 to 22 percent by 1995, while the fraction of high school graduates with no post-secondary schooling who were immigrants rose from 4 percent in 1980 to nearly 10 percent by 1995.

Chart VIII:
Immigrant Share of the Young Adult Population,
by Educational Attainment, 1980 and 1995
(in Percent)



The nation's young adult immigrant population is not a homogeneous group, but instead differs in a number of key respects not only from the native born population but also amongst themselves. Differences in human capital characteristics, in year of arrival in the U.S., in country of origin, and in ability to adapt and become assimilated in American labor markets result in an extremely heterogeneous group of immigrants. Findings in Table 10 highlight some of these differences. An examination of the data in the top portion of the table reveals that approximately 5 percent of young adults were recent immigrants in 1995, i.e., those who had arrived in the U.S. since 1990. Another 7 percent were more established immigrants, who were born abroad but migrated to the U.S. before 1990. Recent immigrants were more likely to be found at both ends of the educational attainment distribution, with approximately half of the immigrants with

less than 12 years of schooling and 16 or more years of schooling being recent immigrants and the other half being more established immigrants.

An assessment of the labor market outcomes data in the bottom portion of Table 10 reveals that recent immigrants tend to face more serious employability problems compared to both native born young adults and more established immigrants. Only 57 percent of recent immigrants had been able to obtain any paid employment in 1994 versus 81 percent of native born Americans and 73 percent of more established immigrants. These employment gaps exist for recent immigrants in each educational attainment category; however, they tend to be largest for those with some college, likely due to the official restrictions on work among foreign college students. More established immigrants tend to closely match the employment rates of native born Americans in most educational attainment categories.

Table 10:
Educational Distribution of the Young Adult Population and Selected Labor Market Outcomes, by Immigrant Status/Year of Arrival in U.S. and Educational Attainment, 1995

	Total	Born in U.S.	Recent Immigrant	Immigrant, Not Recent
Educational Attainment (Percent)				
Total	100.0%	87.7%	4.9%	7.4%
Less than 12 Years	100.0%	78.1%	11.1%	10.8%
12 Years	100.0%	90.3%	3.3%	6.4%
13 to 15 Years	100.0%	90.5%	2.8%	6.7%
16 or More Years	100.0%	92.2%	3.7%	4.1%
Employed One or More Weeks (Percent)				
Total	79.2%	81.0%	56.6%	73.1%
Less than 12 Years	61.6%	62.6%	52.0%	63.9%
12 Years	83.0%	84.0%	69.1%	75.8%
13 to 15 Years	84.3%	85.8%	54.1%	77.4%
16 or More Years	90.8%	91.9%	62.7%	92.8%
Mean 1994 Annual Earnings, Employed				
Total	$9,672	$9,673	$9,792	$9,596
Less than 12 Years	$6,358	$5,796	$9,111	$8,034
12 Years	$10,807	$10,828	$11,129	$10,334
13 to 15 Years	$8,785	$8,748	$9,304	$9,188
16 or More Years	$16,245	$16,355	$11,140	$16,897

Once employed, however, the mean annual earnings of recent immigrants are statistically identical to those of native born young adults ($9,792 versus $9,673). Among school dropouts, the recent immigrants actually obtained higher mean earnings than native born dropouts ($9,111 versus $5,800). One would expect that poorly educated immigrants would be good substitutes in the production

process for native born dropouts and would, thus, compete with them for available jobs in selected central city neighborhoods. Some labor market analysts (Borjas, Freeman and Katz) and a recent Bureau of Labor Statistics study attribute a substantive portion of the declining relative earnings of poorly educated male native workers to the effects of increased immigration of low skilled workers. James Julius Wilson and his research colleagues at the University of Chicago found that many employers in the Chicago area preferred hiring young immigrants over poorly educated native born Black males due to their perceived superior work behaviors and greater cooperation with supervisors.

No study has yet been able to carefully document the effects of increased foreign immigration on the employment and earnings experiences of native born young adults in any race/ethnic or educational attainment category. It is most likely, however, that young native born school dropouts have been most adversely affected by these immigration developments, given the educational characteristics of young immigrants and their greater substitutability for young native born males with limited formal schooling. The nation's immigration policies (or lack thereof), thus, likely played some role in the steep deterioration of real earnings opportunities for young native born dropouts in the past two decades.

Trends in the Annual Earnings of Full-Time Employed Young Adults

The March CPS household surveys contain a work experience supplement that is used to track the labor force, employment, and earnings experiences of respondents (15+) in the prior calendar year. To determine the extent to which the real annual earnings of young adults (under 25) tracked

the same patterns exhibited by weekly wages over the 1973-93 period, we analyzed the 1973 and 1993 mean and median annual earnings of those young adults who worked full-time (35 or more hours per week) for at least 27 weeks during the calendar year. The mean annual earnings of employed men (in constant 1993 dollars) declined from $19,714 in 1973 to $15,623 in 1993, a reduction of 21%. (Table 11). Men in each of the seven age/educational attainment subgroups experienced earnings declines over this 20 year period; however, 21-24 year old four-year college graduates fared considerably better than each of their respective less educated counterparts. Their mean real annual earnings declined by only 12% versus a 27 to 28 percent drop for similar-aged males with no formal schooling beyond high school. During 1993, however, the mean earnings of young male college graduates were slightly below those of comparable-aged high school graduates in 1973. The earnings premium of young male college graduates rose considerably over this period, from only 10% in 1973 to 36% in 1993; however, all of this increase in the relative earnings premium of four year male college graduates was attributable to substantially reduced real earnings of high school graduates rather than to improved real earnings of college graduates.

Among young adult women meeting our employment criteria, mean real annual earnings remained basically unchanged over this 20 year period at $14,200. This finding of stagnation in the mean annual earnings of employed young women stands in contrast to our earlier finding of a 13% decline in their real median weekly earnings over the same time period. This result is attributable to two factors: the mean annual earnings of women did not fall as much as their median annual earnings due to rising inequality in the young adult female earnings distribution (similar developments also occurred in the male earnings

Table 11:
Estimates of the Actual and Hypothetical Mean Real Annual Earnings of 16-24 Year Olds Employed Full-Time for 27 or More Weeks, by Gender, Age, and Educational Attainment, U.S. 1973 and 1993

	Males			Females		
	(A)	(B)	(C)	(A)	(B)	(C)
Age/Educational Group	1973	1993	Percent Change	1973	1993	Percent Change
Total	$19,714	$15,623	-20.8%	$14,205	$14,153	-.4%
20 and Under, Less than 12	$12,530	$10,747	-14.4%	$9,038	$8,906	-1.5%
20 and Under, 12 Years	$16,173	$11,617	-28.2%	$11,937	$10,383	-13.0%
20 and Under, 13-15 Years	$13,331	$11,081	-16.9%	$12,152	$10,585	-12.9%
21-24, Less than 12	$18,816	$13,811	-26.6%	$10,354	$10,452	+.9%
21-24, 12 Years	$22,465	$16,196	-27.9%	$14,746	$13,918	-5.7%
21-24, 13-15 Years	$21,976	$17,417	-20.8%	$16,743	$15,228	-9.1%
21-24, 16+ Years	$24,844	$21,968	-11.6%	$19,239	$19,252	+.1%

Expected Earnings in 1993 if 1973 real earnings prevailed for each age/educational attainment subgroup in 1993.

Men	Women
Actual $15,623	Actual $14,153
Expected $20,391	Expected $15,121
Expected Less Actual +4,768	Expected Less Actual +$968

distribution), and employed young women worked more weeks and hours per year in 1993 than they did in 1973. Rising annual hours of work offset part of the decline in the real value of their median weekly earnings. Among 21-24 year old women, employed college graduates and school dropouts maintained their mean real earnings position while high school graduates and those with one to three years of post-secondary education experienced declines of 6 to 9 percent over the past two decades.

By using median rather than mean annual earnings as our measure of performance, the deterioration in the real annual earnings of both men and women become more severe. This finding is attributable to the rising degree of earnings inequality among young men, which has pushed up the mean relative to the median, reflecting a greater concentration of earnings at the upper tail of the distribution. The median real annual earnings of young men declined by 26% between 1973 and 1993, closely resembling the 31% drop in their estimated median real weekly earnings over the same time period. (Table 12). The median annual earnings of 21-24 year old men fell considerably for those lacking a four-year degree. Among women, median real annual earnings dropped by about 6% between 1973 and 1993, with all age and educational attainment subgroups experiencing a decline in their real earnings. Again, women with four or more years of college fared better than their peers with only a high school diploma or one to three years of college.

Table 12:
Estimates of the Median Real Annual Earnings of 16-24 Year Olds Employed Full-time for 27 or More Weeks, by Gender, Age, and Educational Attainment, U.S. 1973 and 1993
(in Constant 1993 CPI-UX1 Dollars)

	Males			Females		
	(A)	(B)	(C)	(A)	(B)	(C)
Age/Educational Group	1973	1993	Percent Change	1973	1993	Percent Change
Total	$18,601	$13,700	-26.3%	$13,776	$13,000	-5.6%
20 and Under, Less than 12 Years	$11,410	$9,000	-21.1%	$8,398	$8,000	-4.7%
20 and Under, 12 Years	$15,613	$11,000	-29.5%	$11,976	$9,100	-24.0%
20 and Under, 13-15 Years	$12,932	$10,400	-19.6%	$10,715	$9,100	-15.1%
21-24, Less than 12 Years	$17,689	$11,000	-37.8%	$9,797	$9,282	-5.3%
21-24, 12 Years	$21,430	$15,000	-30.0%	$14,695	$13,000	-11.5%
21-24 13-15 Years	$21,430	$16,000	-25.3%	$15,919	$14,000	-12.1%
21-24, 16+ Years	$22,961	$19,000	-17.3%	$19,287	$18,000	-6.7%

To identify the sources of the declines in the mean annual earnings of young men and women over the past two decades, we conducted a simple shift-share analysis. This technique allows one to disaggregate the sources of change in the overall earnings average into changes due to shifting age and educational distributions of young workers and to within group changes in the level of real earnings. The mean level of earnings of young adults may have declined because (a) the distribution of employed young adults has shifted into lower earning subgroups, or (b) earnings of given subgroups of young workers have deteriorated.[25]

As revealed earlier, the primary changes that took place in the age and educational characteristics of young adult workers over the 1973-93 period should have increased their earnings potential. Results of our simple shift-share

analysis bear this out. Among young men, if within group real earnings in 1993 had simply remained at their 1973 levels, the expected 1993 mean earnings level would have been $20,391 rather than the actual $15,623 earnings level, a difference of $4,768. (Table 11). This $20,391 expected earnings figure for young men is actually $600 or 3% above their mean 1973 earnings level. Similar findings apply to young adult women. If employed young women in each age/educational attainment subgroup had been able to maintain their 1973 real earnings in 1993, then overall they would have had expected mean annual earnings of $15,121, or nearly $1,000 above their actual 1993 earnings (see bottom of Table 11 for findings). Clearly, the improved human capital characteristics of young men and women would have been expected to enhance their real earnings position over the past two decades. Favorable labor supply and human capital developments apparently were overwhelmed by adverse labor demand, technological, and institutional forces.

The Shifting Industrial Patterns of Young Male Employment

Among the more frequently-cited demand side sources of the deterioration in the labor market position of young men, especially those persons lacking any post-secondary schooling and Blacks, is the changing industrial distribution of jobs, particularly those job shifts related to the so-called de-industrialization of the United States.[26] During the past two decades, young men have been less likely to gain access to jobs in the goods producing sector, especially in manufacturing industries, and they have become more dependent on firms in the retail trade and private service industries for their jobs. These interindustry shifts in employment may have contributed to the decline in the real annual earnings of young men since the industries whose job

shares have been declining (manufacturing, mining, transportation/communications/utilities) have historically tended to pay above average wages for young men.[27] For example, during 1973, the mean annual earnings of employed 20-29 year old men in manufacturing industries were 7% above the average for all young men while those young men working in transportation/communications/and utilities industries obtained wages 16% above the average.[28] In contrast, young adult males (20-29 years old) working in retail trade industries received mean annual earnings 14% below average and those employed in private service industries obtained mean annual earnings 13% below the average for all young men.

To obtain insights into the changing industrial characteristics of the jobs obtained by full-time employed young men under the age of 25, we analyzed the CPS work experience surveys for calendar years 1973 and 1993. (Table 13). During 1973, nearly 54% of all full-time employed young men held their jobs in the construction, mining, manufacturing, and transportation/utilities industries, with nearly one of every three young men employed in the nation's manufacturing industries. Retail trade industries accounted for only 1 of every 6 employed young men, and service industries absorbed another 13%. Many of the jobs in the goods producing industries and in the transportation/communications/utilities industries involved skilled and semi-skilled blue collar occupations, and a high share of these jobs were unionized.

Table 13:
The Industrial Distribution of Full-Time Employed*
Males (16-24 Years Old) in 1973 and 1993
(Numbers in Percent)

Major Industry	(A) 1973	(B) 1993	(C) Percentage Point Change, 1973 to 1993
Farm, Forestry, Fishing	4.9	5.0	+.1
Construction, Mining	14.1	11.1	-3.0
Manufacturing	32.3	22.7	-9.6
• Durable	21.1	13.8	-7.3
• Nondurable	11.2	8.9	-2.3
Transportation, Communications & Utilities	7.4	5.1	-2.3
Retail Trade	17.1	27.0	+9.9
Wholesale Trade	4.9	5.1	+.2
Finance, Insurance & Real Estate	2.8	2.2	-.6
Personal and Entertainment Services	2.3	5.4	+3.1
Business and Repair Services	4.6	9.2	+4.6
Professional Services	6.1	4.7	-1.4
Public Administration	3.5	2.5	-1.0
Total	100.0	100.0	.0

Note*: Full-time employed are those males who worked on average for 35 or more hours per week for 27 or more weeks during the year. Males are assigned to the industry accounting for the greatest number of weeks of employment.

By 1993, the fraction of all jobs held by young men accounted for by the construction/mining, manufacturing, and transportation/communications industries had declined considerably. Their combined share of all jobs held by young men had fallen from 54% to just under 39%, with a near 10 percentage point decline in manufacturing industries

alone. The retail trade industries and service industries substantially expanded their share of the jobs held by young men in 1993. During that year, 27% of all full-time employed young men worked in the retail trade sector, the largest single employer of these men, and nearly another 20% worked in service industries. Retail trade industries (eating and drinking establishments, grocery stores, department stores) and service industries had become the dominant employers of young adult men.

The shift in industry employment patterns stands out quite starkly when we compare the numbers of young men employed in key durable manufacturing industries in 1973 and 1993 with the number employed in eating and drinking establishments during the same two years. In 1973, there were 825,000 young men holding full-time jobs in primary and fabricated metals, machinery, electrical equipment, and motor vehicles and equipment manufacturing industries. During the same year, there were only 133,000 young men working in eating and drinking establishments, fewer than one-sixth the number employed in the above durable manufacturing industries. By 1993, however, there were 408,000 young men employed in eating and drinking establishments, a three-fold increase since 1973, while the number of men employed in the above durable manufacturing industries fell by 60% to a level of only 330,000, or 80,000 fewer than the number working in eating and drinking establishments. The typical young adult male shifted from a blue collar, construction, manufacturing, or trucking industry worker to a sales clerk, short-order cook, fast food counter worker, waiter, or bartender in the retail trade sector.

Given recent national industry employment projections by the U.S. Bureau of Labor Statistics, these industry employment patterns are likely to continue over the next

decade. Between the years 1990 and 2005, the Bureau of Labor Statistics has projected under its moderate growth scenario that nonfarm wage and salary employment will increase by 23.3 million, or 21%.[29] Employment in retail trade and service industries combined was projected to rise by 16.6 million or by 35% while employment in mining and manufacturing industries was projected to decline over this 15 year period. More than 70% of all net new wage and salary jobs were expected to be generated by firms in retail trade and service industries. The future real earnings position of young men in the United States will, thus, be critically influenced by the earnings of workers in the retail trade and service industries of the nation. Jobs in these industries continue to pay below average wages for all subgroups of young adult men. Yet, little systematic effort has been made to redesign work and jobs in these two sectors so that worker productivity and real earnings can rise over time.

The considerable shifts in the industrial distribution of the jobs held by young adult males over the past two decades have had an important impact on the degree to which young men (16-24) are represented by labor unions or employee associations at the workplace. During 1994, approximately 15 percent of all wage and salary workers in the U.S. were union members.[30] The unionization rates of these workers varied considerably by industry, ranging from lows of 2% in agriculture and finance/insurance/real estate and 6 percent in retail trade and private services to highs of 28% in transportation and public utilities and nearly 39% for government workers.[31] Given the high concentration of young male workers in retail trade and private service industries and in smaller firms in construction, manufacturing, and transportation industries, their unionization rate is the lowest of all age groups of male workers. During 1994, only 7.5% of employed 16-24 year

old males (including part-time workers) were members of labor unions, a membership rate only one-third as high as that of their older male colleagues (25-64). Approximately 92 of every 100 young male wage and salary workers in 1994 were neither members of labor unions nor represented by a union or employer association at their job sites. This weak union membership rate among young workers has adversely affected their real earnings position. Young workers who obtain access to jobs in unionized establishments have tended to obtain significantly higher hourly earnings than their peers in comparable non-union jobs.

The Changing Interindustry Earnings Structure for Young Men

The shifting industrial patterns of employment for young adults will have consequences for their earnings position to the degree that there exist substantive interindustry earnings differentials for these young men. Findings on the interindustry earnings structure for young males employed full-time for 27 or more weeks during 1973 and 1993 are displayed in Table 14. During 1973, young men employed in construction, mining, manufacturing, and transportation/ communications industries obtained annual earnings that were 5 to 14 percent above the average for all industries. In contrast, retail trade workers received earnings somewhat below average (6%) while agricultural workers were earning 38% below the average for all young men.

Table 14:
The Mean Annual Earnings of Full-Time Employed Young Adult Males (16-24 Years Old) by Major Industry Group in 1973 and 1993 (in 1993 Dollars)

Major Industry	(A) 1973 Earnings	(B) 1973 as % of Mean for All Young Men	(C) 1993 Earnings	(D) 1993 as % of Mean for All Young Men	(E) Percent Change, 1973-93
Farm, Forestry, Fishing	12,570	62.5	12,570	79.6	0%
Construction, Mining	21,181	105.4	18,077	114.5	-15%
Manufacturing	21,230	105.6	16,252	103.0	-23%
• Durable	21,426	106.6	16,498	104.5	-23%
• Non-durable	20,855	103.7	15,870	100.6	-24%
Transportation, Communications & Utilities	23,074	114.8	20,385	129.2	-12%
Retail Trade	18,856	93.8	13,506	85.5	-28%
Wholesale Trade	20,462	101.8	15,892	100.7	-23%
Finance, Insurance, & Real Estate	20,354	101.2	17,862	113.1	-12%
Personal and Entertainment Services	15,521	77.2	15,291	96.9	-2%
Business and Repair Services	20,090	99.9	15,536	98.4	-23%
Professional Services	18,951	94.3	17,753	112.5	-6%
Public Administration	21,133	105.1	23,658	149.9	+12%

Source: March 1974 and March 1994 CPS public use tapes, tabulations by Center for Labor Market Studies.

Leaving aside those young men employed in agriculture/forestry/fishing and personal/entertainment service industries, which together accounted for fewer than 10% of all employed young males in 1973, the interindustry wage structure in 1973 was fairly compressed. Thus, even considerable shifts in the share of employment away from mining/construction and manufacturing industries toward retail trade industries would not be expected by themselves to radically influence the mean real annual earnings of young

men. Given the 1973 interindustry earnings structure, a 15 percentage point decline in the share of young men employed in the non-farm, goods producing sector and a commensurate 15 percentage point increase in the share of young men employed in retail trade industries would have lowered the mean real annual earnings of young men by less than two percent. Clearly, other, stronger economic forces were at work in reducing the real earnings position of young men over the past two decades.

Between 1973 and 1993, the mean annual real earnings of employed young men had declined substantially (just under 22%). With the exception of those males employed in agriculture and the public administration sector, mean earnings of young men declined in every major industrial sector, including goods producing and services producing industries. The relative size of these earnings declines varied considerably by sector, ranging from lows of 2% in personal and entertainment services and 6% in professional services to highs of 23% in manufacturing and business/repair industries and 28% in retail trade industries. The steep decline of earnings in the retail trade industries appears to be related in part to the poor labor productivity performance of key segments of this sector over the past two decades. The U.S. Bureau of Labor Statistics recently has estimated that output per hour in such key retail trade industries as food stores, grocery stores, retail bakeries, variety stores, and eating and drinking establishments actually declined over the 1973-92 period.[32] At the same time, however, labor productivity rose strongly in most manufacturing industries, yet young men's real earnings in these industries also declined considerably over this time period. There was no automatic guarantee that the gains of increased labor productivity in manufacturing would be passed on to production workers in these industries.[33]

To identify the separate impacts of changes in the interindustry structure of the jobs held by young men and within industry changes in annual earnings to the overall decline in their mean annual earnings over the 1973-1993 period, we applied a version of shift-share analysis (Table 15). The mean annual real earnings of young men in 1993 were $15,783, an earnings level that was $4,319 below the mean earnings level of 1973. If the interindustry distribution of jobs (by major industrial sector) held by young men in 1993 were identical to that of 1973 but the actual 1993 earnings within industry prevailed, then mean annual earnings in 1993 would have been $16,352 rather than the $15,783 actually observed during that year. This represents an annual earnings difference of only $569, capable of explaining only 13% of the 1973-93 earnings gap. Changes in the industrial structure of the jobs held by young men, thus, played a role in reducing their average real earnings over the past two decades; however, this factor was clearly not the dominant one.

Table 15:
Findings of A Shift-Share Analysis of the Changes in the Real Annual Earnings of Young Adult Men, 1973-1993

Earnings Scenario	(A) Earnings Level	(B) Difference Between 1973 Earnings and This Earnings Level	(C) Percent of 1973/1993 Earnings Gap Attributable to this Factor
Actual 1993 Distribution of Workers by Industry and Earnings Within Industry	$15,783	$4,319	100.0
1973 Distribution of Workers by Industry and 1993 Earnings Within Industry	$16,352	$3,750	13.2
1993 Distribution of Workers by Industry and 1973 Earnings Within Industry	19,659	$443	89.7

The second hypothetical estimate of the 1993 earnings of young men is based on taking the 1993 interindustry distribution of jobs as given, but applying the 1973 real annual earnings within each industry to the 1993 employment shares of each major industry. If within industry real earnings had simply been maintained at their 1973 levels, the mean annual earnings of employed young men during 1993 would have been $19,659, or nearly $3,900 higher than their actual 1993 earnings level. Just under 90% of the change in the real annual earnings of young men between 1973 and 1993 is, thus, attributable to declines in their real earnings within major industrial sectors.

The above shift-share analysis of the changing real earnings position of young adult men was conducted at the major sectoral level, with 12 industrial sectors appearing in the analysis. Over the past two decades, however, the distribution of employed young men within a number of these major industrial sectors has also changed. For example, within the manufacturing sector, young men lost a substantial share of jobs in primary metals, fabricated metals, machinery, and motor vehicles and equipment industries, all of which paid above average earnings in 1973 while their job losses in lower paying manufacturing industries, such as apparel, textiles, and furniture and fixtures, were less severe. Within retail trade, the greatest growth in job opportunities for young men took place in eating and drinking establishments, which paid considerably below the average. A more disaggregated shift-share analysis, thus, might be expected to find a greater share of the earnings losses of young men attributable to their shifts among more detailed industry groups.

The shift-share analysis was, thus, repeated, using 58 industry groups classified at the two-digit SIC level. Findings of this more refined analysis revealed that 14% of the decline in the mean real annual earnings of young men between 1973 and 1993 was attributable to their shifting employment shares across these 58 industries while 82% was due to declining real earnings within these industries. Thus, the bulk of the decline in young men's annual earnings was attributable to their lower annual earnings with most industries in the U.S. economy, including many industries not affected by international trade forces. Young males simply became more marginal employees within most industries and received lower real earnings for their work effort.

Estimated Earnings Functions for Young Adult Men, 1973 and 1993

Labor economists and other analysts of the earnings experiences of workers often tend to use statistical earnings functions to estimate the independent influence of human capital variables, demographic characteristics, and job characteristics (industry of employment, employer size) on the level of earnings of individual workers during a given year.[35] The earnings function methodology typically involves the use of multiple regression techniques in which the natural log of the annual earnings of workers is regressed against a set of human capital variables, demographic variables, geographic or environmental variables (region of residence, local unemployment rates), and job characteristics.[36] To identify the determinants of the annual earnings of young males in 1973 and 1993 and to assess changes in the influence of these variables on earnings of young men over time, we have estimated two earnings functions for each year.

The first model (Model A) includes a set of human capital variables (years of potential work experience, years of formal schooling completed), a set of race-ethnic variables, and geographic variables (region of residence and metropolitan area status of residence) as explanatory variables. The dependent variable in both models is the natural log of the annual earnings of those 16-24 year old men who worked full-time for 27 or more weeks during the year. In the second model (Model B), a set of eleven industry variables is also included in the model as additional predictor variables. The base industry for the model is the retail trade industry. The estimated coefficients for the other industry variables represent the expected increase (decrease if negative) in annual earnings from being employed in a given industry (e.g., durable manufacturing)

relative to similar workers employed in retail trade. The base group of workers for Model A consists of 18 year old White, non-Hispanic males, with no years of prior work experience, who possessed a high school diploma and lived outside of the South in a metropolitan area.[37] In Model B, the base group of workers are the same as in Model A with the additional feature that they were employed by the retail trade industry. Definitions of each of the dependent and independent variables appearing in these models are displayed in Table 16.

An examination of the findings of our estimated earnings function for 1973 reveals that members of the base group (White, high school graduates, with no prior work experience) would have had expected annual earnings of just under $10,000.[38] Work experience paid off quite handsomely for young males in 1973. Each of the first few years of work experience increased expected annual earnings by close to 20%. The estimated effect of work experience is non-linear, tapering off with additional years of work experience; however, a young adult male with six years of work experience would be expected to earn 86% more than a comparable male with no prior work experience.[39] These results indicate that during the early 1970s young male adults were improving their annual earnings substantially as they gained additional years of work experience, suggesting a relative ease of moving from traditional youth labor market jobs to career jobs in the economy, including positions with many firms in the core goods producing sectors.

Formal schooling also paid handsome economic dividends to young adult males in the early 1970s. Holding all other variables constant, high school dropouts would be expected to earn 31% less than a high school graduate while those employed young adults with 1 to 3 years of college

Table 16:
Definitions of Variables Appearing in the Earnings Functions for Young Adult Men in 1973 and 1993

Variable Name	Definition
LNEARN	The natural log of the annual earnings of young adult men employed full-time for 27 or more weeks
EXP	Years of potential work experience variable. It equals age - 5-years of education completed
EXPSQ	Years of potential work experience squared
PRIMDROP	A dichotomous educational variable = 1 if completed 8 or fewer years of school = 0 if else
HSDROP	A dichotomous educational variable = 1 if completed 9-11 years of school = 0 if else
ED1315	A dichotomous educational variable = 1 if completed 13-15 years of school = 0 if else
COLGRAD	A dichotomous educational variable = 1 if completed 16 or more years of school = 0 if else
BLACK	A dichotomous race variable = 1 if Black, not Hispanic = 0 if else
HISPANIC	A dichotomous ethnic variable = 1 if Hispanic = 0 if else
OTHRACE	A dichotomous race variable = 1 if Asian/American Indian = 0 if else
SOUTH	A dichotomous geographic variable = 1 if living in South = 0 if else
NONMETRO	A geographic location variable = 1 if living in a non-metropolitan area = 0 if else

Variable Name	Definition
FFF	A dichotomous industry variable = 1 if farm, forestry, or fishing = 0 if else
CONSTR	A dichotomous industry variable = 1 if mining or construction = 0 if else
DUR	A dichotomous industry variable = 1 if durable manufacturing = 0 if else
NONDUR	A dichotomous industry variable = 1 if nondurable manufacturing = 0 if else
TCU	A dichotomous industry variable = 1 if transportation, communication & utilities = 0 if else
WHOLE	A dichotomous industry variable = 1 if wholesale trade = 0 if else
FIRE	A dichotomous industry variable = 1 if finance, insurance, real estate = 0 if else
PERS.ENT	A dichotomous industry variable = 1 if personal or entertainment services = 0 if else
BUSREP	A dichotomous industry variable = 1 if business or repair services = 0 if else
PROFSER	A dichotomous industry variable = 1 if professional services = 0 if else
PUBADM	A dichotomous industry variable = 1 if public administration = 0 if else

Table 17:
Findings of the Multivariate Statistical Analysis of the Annual Earnings of Young Adult Men, 1973 and 1993, Model A
(N = 3,545 and 2,279)

	1973		1993	
	(A) Coefficient	(B) t-Statistic	(A) Coefficient	(B) t-Statistic
EXP	.21	13.05**	.15	7.60**
EXP_SQ	-.01	-7.41**	-.01	-4.63**
PRIMDROP	-.60	-9.35**	-.50	-5.07**
HSDROP	-.31	-9.57**	-.19	-3.86**
ED_1315	.07	2.38**	.20	5.26**
COLGRAD	.44	9.458**	.57	9.03**
BLACK	-.19	-5.47**	-.16	-3.0**
HISPANIC	-.15	-3.18**	-.09	-1.99*
OTHRACE	-.11	-.91	-.01	-.06
SOUTH	-.06	-2.35*	-.02	-.54
NONMETRO	-.15	-6.25**	-.06	-1.67
CONSTANT	9.21	201.52**	8.94	129.48**
R2	.141		.084	
Degrees of Freedom	(11,3534)		(11,2267)	
F-statistic	52.5		18.7	
Sig. Level	.01**		.01**	

Note: ** implies significant at the .01 level.
* implies significant at the .05 level.

and those with a bachelor's degree would be expected to earn 7 and 44 percent, respectively, more than high school graduates. Black and Hispanic males fared less well than their White counterparts, obtaining expected annual earnings that were 19% and 15%, respectively, less than those of comparable White, non-Hispanic males. Finally, young employed males who lived in the South and in non-metropolitan areas had predicted earnings below those of each of their respective counterparts.[40] Southern workers had predicted earnings 6% below those of young males in other regions, and those residing in non-metropolitan areas had expected earnings 15% below those of their counterparts living in central cities and suburban portions of the nation's metropolitan areas.

When Model A was re-estimated with the 1993 earnings data, a number of important differences emerged. First, the 1993 predicted earnings for the base group of workers were significantly lower than in 1973.[41] The new predicted annual earnings for a White, non-Hispanic high school graduate with no prior work experience is only $7,632, nearly 23% below the predicted 1973 annual earnings level for base group members. Second, while work experience continues to pay substantial economic dividends for young males, the size of the economic payoff has been significantly diminished.[42] For example, the expected percentage increase in annual earnings from the first year of work experience falls from 20% in 1973 to 14% in 1993. Third, formal schooling continues to play a very significant role in determining the annual earnings of young adult men; however, the economic payoff from a high school diploma has been diminished from 31% to 19% while post-secondary schooling generates more favorable returns.[43] For example, young males with 13-15 years of schooling obtained a 20% earnings premium over high school

graduates in 1993 versus only a 7% expected earnings premium in 1973.[44]

Fourth, while Black and Hispanic males continue to have predicted earnings significantly below those of comparable White males, the relative sizes of these differentials have been narrowed somewhat over the past two decades.[45] Fifth, males living in the South and in non-metropolitan areas are no longer characterized by significantly lower annual earnings. Previous positive geographic earnings differentials for young men living outside of the South and in metropolitan areas appear to have been eliminated by 1993. Finally, the overall explanatory power of the 1993 earnings function is statistically significant, but is considerably lower than in 1993, being characterized by an R^2 of only .08 versus .14 in 1973. Young men's earnings experiences, thus, appear to be characterized by a greater degree of randomness in the 1990s.

The coefficients of the estimated earnings function for 1973 can be used to generate estimates of the expected earnings of young males in 1993. The annual earnings of young men can be considered to be a product of their endowments (their human capital characteristics, their demographic backgrounds) and the economic returns to those endowments. If young men had maintained their 1993 endowments, but received the same economic return on those endowments that they had obtained in 1973, how much would they have been expected to earn in 1993? The actual mean value of the 1993 natural log of earnings was 9.46, yielding an annual earnings figure that was 25% below that of their 1973 earnings. If the 1973 economic returns to endowments had prevailed in 1993, then the predicted mean value of the natural log of earnings of young men would have been 9.80, yielding an annual earnings level that was

actually 6% higher than that of 1973. (Table 18). The decline in the annual earnings of young men between 1973 and 1993 was, thus, entirely attributable to changing economic returns to given endowments not to a less favorable stock of endowments. These findings closely match those of our earlier shift-share analyses. Young men would have been expected to earn more in 1993 than in 1973 given their better human capital characteristics.

Table 18:
Comparisons of the Actual and Predicted Mean Natural Log of the Annual Earnings of Young Adult Men, 1973 and 1993

	(A)	(B)
Earnings Variable	Model A	Model B
Actual 1973 Earnings	9.74	9.74
Actual 1993 Earnings	9.46	9.46
Actual 1993 Less Actual 1973	-.28	-.28
Earnings Difference (in %)	-25%	-25%
Predicted 1993	9.80	9.77
Predicted 1993 Less Actual 1973	+.06	+.03
Earnings Difference (in %)	+6%	+3%

Note: The natural log of the predicted 1993 earnings was computed by multiplying the coefficients in the 1973 earnings model by the 1993 values of the independent variables for each employed adult male.

In Model B, the eleven industry of employment variables were entered into the earnings function as additional explanatory variables. The estimated coefficients of these industry variables indicate whether being employed in any of these industrial sectors rather than in retail trade had any significant effect on expected earnings, once the human capital, demographic, and geographic variables had been controlled for. In the 1973 earnings model, the coefficients on the construction/ mining, manufacturing, and transportation/communications industries were positive and statistically significant. (Table 19). Young men employed

in the above industries earned 9 to 13 percent more than their counterparts in the retail trade sector. The only group of workers with predicted earnings significantly below those of retail trade were those employed in the farm, forestry, and fishing industries and in the personal and entertainment service industries, with predicted earnings 44% and 26%, respectively, below those of young men in retail trade.

In the 1993 earnings model, the earnings premiums attached to being employed in an industry other than retail trade increased in magnitude and were statistically significant for a growing number of industrial sectors. Only the finance/ insurance/real estate sector failed to be characterized by a statistically significant coefficient. Young men employed in the nation's construction/mining, manufacturing, transportation/communications, and public administration sectors had predicted annual earnings 23 to 50 percent higher than those working in the retail trade industries, which had come to account for the largest share of jobs held by full-time employed young men.

Within the retail trade industries, young men's real annual earnings had plummeted sharply between 1973 and 1993, falling by 28%. Part of this real earnings deterioration was attributable to a shift in the distribution of young men employed in retail trade toward the eating and drinking establishments, which pay below average earnings for the industry. However, the real earnings declines for men in retail trade industries were fairly widespread, covering grocery stores, department stores, and gasoline service stations as well as eating and drinking places. In 1993, the mean annual earnings of those young men employed in eating and drinking industries was only $12,500 versus nearly $15,900 in non-durable manufacturing and $16,500 in durable manufacturing industries.

Table 19:
Findings of the Multivariate Statistical Analysis of the Annual Earnings of Young Adult Men, 1973 and 1993, Model B
(N = 3,545 and 2,279)

	1973		1993	
	(A) Coefficient	(B) t-Statistic	(A) Coefficient	(B) t-Statistic
EXP	.20	12.5**	.13	6.89**
EXP_SQ	-.01	-7.0**	-.01	-4.17**
PRIMDROP	-.54	-8.5**	-.36	-3.76**
HSDROP	-.30	-9.2**	-.6	-3.43**
ED_1315	.09	2.9**	.20	5.31**
COLGRAD	.48	10.0**	.55	8.79**
BLACK	-.20	-5.8**	-.15	-2.80**
HISPANIC	-.12	-2.5**	-.09	-2.06*
OTHRACE	-.06	-.5	-.00	-.07
SOUTH	-.05	-2.23**	-.03	-1.07
NONMETRO	-.12	-5.35**	-.05	-1.34
FFF	-.44	-7.86**	-.43	-5.86**
CONSTR	.09	2.37**	.27	5.12**
DUR	.13	3.89**	.26	5.27**
NONDUR	.09	2.07*	.23	3.97**
TCU	.13	2.72**	.46	6.32**
WHOLE	.04	.68	.19	2.59**
FIRE	.01	.16	.14	1.30
PERS_ENT	-.26	-3.58**	.15	2.18**
BUS_REP	-.08	-1.5	.09	1.66
PROFSERV	-.06	-1.17	.18	2.34**
PUB_ADM	.04	.67	.50	5.04**
CONSTANT	9.19	187.9**	8.85	125.8**
R2	.178		.148	
Degrees of Freedom	(22,3523)		(22,2256)	
F-statistic	34.3		17.1	
Sig. Level	.01		.01	

Note: ** implies significant at the .01 level.
* implies significant at the .05 level.

To determine how changing demographic and human capital endowments and industry affiliations have affected the declines in young men's earnings over the past two decades, we applied the coefficients for the 1973 earnings equation (Model B) to the actual 1993 values for those variables for each young man. The predicted 1993 mean value of the natural log of earnings was 9.77, yielding an earnings level that was 3% above their actual 1973 earnings. (Table 18). Despite some of the adverse shifts in the industry affiliations of young men between 1973 and 1993, they still would have fared better in 1993 if the economic returns to human capital, demographic endowments, and industry affiliations had remained unchanged over time. The severe deterioration in the real earnings position of most young men over the past two decades is, thus, attributable to declines in the economic returns to their work effort across nearly all major industries in the national economy. "Playing by the rules" just does not yield the same economic payoff to them.

Declines in The Expected Earnings of Males Over the Work Life

The deterioration in the economic fortunes of many young adult males over the past two decades, especially those with no formal schooling beyond high school, would be less worrisome if these earnings losses were recouped during their later adult years. Unfortunately, as noted earlier in our discussion of trends in the weekly earnings of adult men (25+), the weekly earnings of many adult males also have not kept pace with inflation over the past two decades. To identify trends in the real annual earnings of all employed males ages 18-62 over this time period, we examined the March 1974 and March 1994 work experience surveys. Findings are presented for all employed men and by years of schooling completed. (Table 20).

Table 20:
Trends in the Mean Real Annual Earnings of Employed* Males 18-62 Years Old in 1973 and 1993, by Years of Schooling Completed
(in Constant 1993 Dollars)

Years of Schooling	(A) 1973	(B) 1993	(C) Absolute Change	(D) Percent Change
All	$31,362	$28,706	-$2,656	-8.5%
Less than 12 Years	$25,594	$15,169	-$9,425	-38.2%
12 Years	$30,394	$23,720	-$6,674	-22.0%
13-15 Years	$29,367	$26,303	-$3,064	-10.4%
16 Years	$43,478	$40,380	-$3,098	-7.1%
17 or More Years	$52,123	$54,570	+$2,448	+4.7%

Source: March 1974 and March 1994 CPS public use tapes, tabulations by Center for Labor Market Studies, Northeastern University.

*Notes: Employed males are those with any positive earnings during the calendar year, including the self-employed as well as wage and salary workers.

The 1993 mean annual earnings of employed 18-62 year old males were $28,706, representing a decline of $2,656 or nearly 9% from their 1973 mean earnings. The trends in real annual earnings over this 20 year period varied substantially by educational attainment. Those men lacking a high school diploma (or a GED certificate) suffered the most severe earnings losses, experiencing a decline of 38% in their mean real annual earnings. Adult men completing only 12 years of school saw their annual earnings decline by 22% over this time period while their male counterparts with 13-15 years of school or a bachelor's degree encountered more moderate earnings losses of 10% and 7%, respectively. The only group of adult males that improved their real earnings position over this time period were men with some post-graduate education; i.e., 17 or more years of school. Their mean earnings rose by nearly

$2500 or 5% over the 1973-93 period. The size of the relative earnings gap between male bachelor degree holders (16 years of school) and high school graduates widened considerably over the past two decades, rising from 43% to 70%. However, all of the increase in the relative earnings position of male bachelor degree holders was attributable to the more rapid deterioration in the real annual earnings of male high school graduates rather than to any improvement in the real earnings position of male bachelor degree holders.

The decline in the mean real annual earnings of employed adult males took place over a time period in which their human capital characteristics continued to improve and more of them fell into the prime-age earnings groups. In 1973, 29% of the employed males ages 18-62 lacked a high school diploma or a GED, but by 1993 only 14% of employed males did so. In 1973, only one-third of all employed males (18-62 years old) had completed one or more years of post-secondary schooling. By 1993, 53% of all employed men had completed some post-secondary schooling, and during that year 26% of these employed males had obtained a bachelor's or more advanced degree versus only 17% of employed males back in 1973. Employed adult males in 1993 were better educated than in any previous year yet their real annual earnings remained below their 1973 peak levels.

The median age of these employed males in 1993 was 36 years, essentially identical to that of 1973; however, a considerably higher fraction of employed men in 1993 were in the prime-aged work years; i.e., 25-54 years old. In 1993, just under 79% of employed males were between 25 and 54 years of age versus only 66% of employed men in 1973. Higher fractions of employed men in 1973 were either in the youngest age group (under 25) or 55 and older.

Given its improved human capital characteristics, the 1993 male work force should have been obtaining a superior earnings record in comparison to its employed predecessors twenty years earlier. Unfortunately, neither human capital nor demographics were destiny for employed males in the U.S. in recent years.

A more comprehensive method for measuring the economic losses of employed males over the past two decades involves the use of lifetime earnings streams. At a given point in time, e.g. 1973, we can derive an estimate of the expected lifetime earnings of workers, using the cross-sectional earnings data from the Current Population Survey's work experience supplement. We generated estimates of the mean annual earnings of employed males by single age group from ages 18 to 62 in 1973 and 1993. Making a very conservative assumption (at least in 1973) that real wages for males in a given age group would not increase in the future, we derived an estimate of expected lifetime earnings in both 1973 and 1993 for employed males 18-62 and for selected educational subgroups (Table 21).

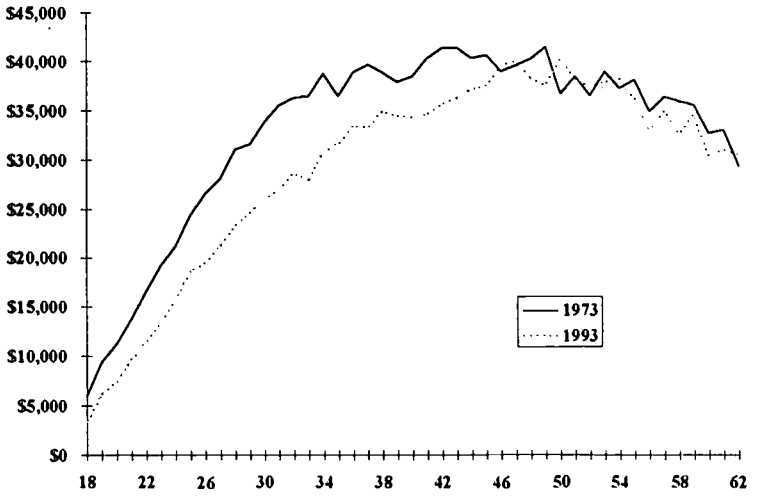
Table 21:
Estimated Value of the Lifetime Annual Earnings of Employed 18-62 Year Old Males, by Educational Attainment, 1973 and 1993
(in 1993 Dollars)

	(A)	(B)
Years of Schooling	1973	1993
All Men (Employed Only)	$1,481,690	$1,312,397
Less than 12	$1,119,503	$750,072
12	$1,468,467	$1,093,488
13-15	$1,634,382	$1,273,995
16	$1,976,460	$1,678,596
17 or More	$2,161,950	$1,995,593

Note: For those with 16 years and 17 or more years of schooling, age groups are 22-62 and 24-62, respectively. The CPI-U-X1 index was used to convert 1973 dollars into their equivalent 1993 dollars.

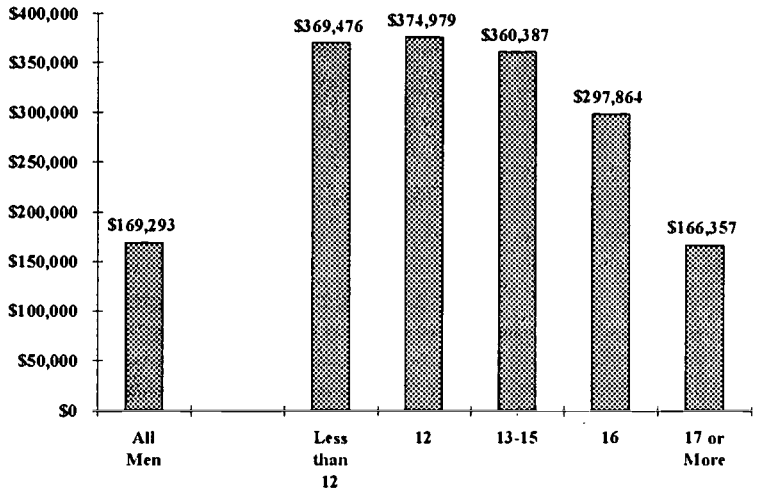
During 1973, the expected lifetime earnings of employed males were $1.482 million; however, by 1993, their estimated lifetime earnings had declined to $1.312 million, a drop of $169,293, or 11% (See Chart IX and Chart X). The absolute and relative sizes of these declines in estimated lifetime earnings varied considerably by years of schooling completed. For those males with 12 or fewer years of schooling, the absolute dollar value of these lifetime earnings losses ranged from $370,000 to $375,000. Males with 13-15 years of formal schooling also experienced a substantial absolute drop in their lifetime earnings.

Chart IX:
Mean Real Annual Earnings of Employed 18-62 Year Old Males, by Age, 1973 and 1993 (in 1993 Dollars)



Since those males lacking a high school diploma had lower lifetime earnings back in 1973, a comparable absolute drop in these lifetime earnings represents a considerably larger percentage decline. Among employed males with fewer than 12 years of schooling, lifetime earnings are estimated to have declined by 33% versus 26% for high school graduates and only 15% for four year college graduates. These substantial lifetime earnings losses of males with no post-secondary schooling occurred among White, non-Hispanic males as well as among Black men. In fact, the absolute and relative sizes of the lifetime earnings declines among White males with no post-secondary schooling were larger than those of Black men.[46]

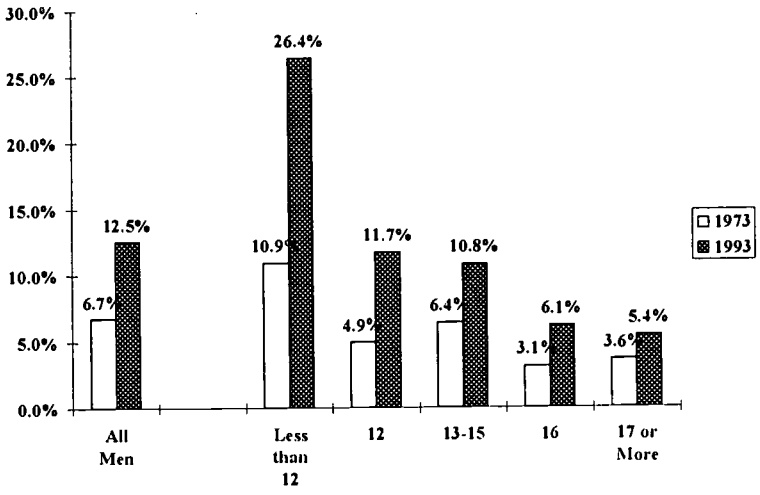
Chart X:
Cumulative Mean Real Annual Earnings Losses of Employed 18-62 Year Old Males (Excludes Zero-Earners), by Educational Attainment, 1973-1993



The Rise in the Number of Non-Workers

The above estimates of the annual and lifetime earnings declines of adult men in the U.S. between 1973 and 1993 were based on the earnings experiences of those men with some reported earnings during the year. Males with no reported earnings during the calendar year were excluded from the calculations. During 1993, a higher fraction of 18-62 year old men reported no positive earnings than in 1973. (Chart XI). For example, during 1993, one of every eight males in the above age group had no positive earnings, a near doubling of the 7% ratio prevailing in 1973. The rise in the fraction of non-workers took place in each major age subgroup, with above average increases among the young (18-24 years old) and among older males (55-64).[47] The rise in the share of adult males with no reported earnings also took place in every educational subgroup, with particularly large increases among those men lacking a high school diploma and high school graduates with no post-secondary schooling. Slightly more than 26% of all 18-62 year old males with no high school diploma reported zero earnings during 1993 as did nearly 12% of all high school graduates versus only 6% of those men who obtained a bachelor's or higher degree. Shifting patterns of labor demand among males over the past two decades have reduced both employment and earnings opportunities among the least well educated.[48] America's male blue collar working class has been particularly hard hit by these demand side changes; however, little serious attention has been paid to their economic plight by national economic policymakers in either political party over the past decade. Concerns about dislocated workers in general and a vaguely defined "forgotten middle class" have overwhelmed explicit concerns for the economic well-being of America's working class, their families, and their children.

Chart XI:
Percent of 18-62 Year Old Males with Zero Earnings, by Educational Attainment, 1973 and 1993



If we include those men with no reported earnings in our analysis, we can recalculate the 1973 and 1993 mean annual earnings for adult males and obtain new estimates of the rates of decline in their mean annual earnings over this 20 year period.[49] Including the non-workers in our earnings estimates yields a mean 1993 earnings level of $25,079, which was $4,143 or 14% below the mean 1973 earnings level (Table 22 and Chart XII). As expected, the mean earnings of male school dropouts are characterized by the largest absolute and relative declines. This group of adult males experienced a near halving of their real earnings between 1973 and 1993, with the sharp rise in the number of non-workers exacerbating the severe drop in the annual earnings of those school dropouts who remained employed. Male high school graduates also suffered substantial declines (28%) in their real earnings over this 20-year period. By 1993, their mean real annual earnings have fallen

below those of high school dropouts in 1973. Bachelor degree holders were not able to avoid real earnings declines; however, they fared considerably better than high school graduates, experiencing only a 10% decline in their mean real annual earnings. Part of the explanation lies in the differential employment rates of these two groups. The employment rates of older male college graduates (50-62) held up considerably better than those of their older counterparts with no post-secondary schooling.[50] Worker dislocation problems also were more pronounced among less educated workers, and they have experienced more severe difficulties becoming re-employed.

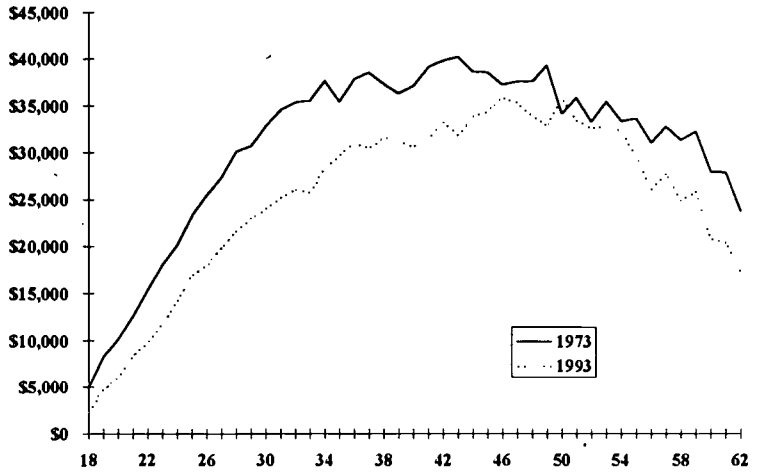
Table 22:
Trends in the Mean Real Annual Earnings of 18-62 Year Old Males* Between 1973 and 1993, by Years of Schooling Completed
(in Constant 1993 Dollars)

Years of Schooling	(A) 1973	(B) 1993	(C) Absolute Change	(D) Percent Change
All	$29,222	$25,079	-$4,143	-14.2%
Less than 12 Years	21,867	$11,150	-$10,717	-49.0%
12 Years	$28,879	$20,895	-$7,984	-27.6%
13-15 Years	$27,439	$23,411	-$4,028	-14.7%
16 Years	$42,105	$37,890	-$4,215	-10.0%
17 or More Years	$50,231	$51,606	+$1,375	+2.7%

Source: March 1974 and March 1994 CPS public use tapes, tabulations by Center for Labor Market Studies, Northeastern University.

Notes: Earnings estimates include those males with no positive reported earnings during the year; i.e., both zero earners and those self-employed men with reported net income losses.

Chart XII:
Mean Real Annual Earnings of All 18-62 Year Old Males, by Age, 1973 and 1993
(in 1993 Dollars)



Again, the only group of adult males to boost their real earnings position over this 20 year period were those completing 17 or more years of schooling. Their 1993 mean annual earnings were $51,600, or nearly $1,400 above their 1973 mean earnings level. During 1993, this group of men with a post-graduate education obtained mean earnings 2.5 times as high as male high school graduates and nearly five times higher than those of male school dropouts. The best educated adult males had substantially improved their relative earnings position over the past two decades. As President Clinton noted in a recent 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."[51]

Summary and Conclusions

The real earnings of young male adults (under 25) in the United States have declined markedly over the past two decades. The inflation-adjusted median weekly earnings of full-time employed males fell by 31% over the 1973-95 period while those of young women dropped by 13%. The deterioration in the real weekly earnings of young adults has been nearly continuous over the past 20 years, with no signs of abatement in recent years despite a renewal of strong overall job growth. While adult males (25+) also experienced real weekly earnings declines over this time period, the relative size of these wage declines were considerably steeper among young adult men. During the late 1960s, the median weekly earnings of full-time employed young men were equal to nearly three-fourths of those of adult men, allowing them to assume critical adult responsibilities at a relatively early age, to marry, and provide adequate economic support for their families and children. By 1995, however, the median weekly earnings of younger men had fallen to only one-half the size of those of older adult males (25+). A substantial lengthening of the period of economic adolescence has taken place for many young male adults. Since this change was not an abrupt one and since it did not affect the children of the nation's middle and upper middle classes to the same extent as the nation's working class, it seldom received the needed sustained attention from the national media and economic policymakers. The voices of the Forgotten Half are not well orchestrated, and their claims on national resources lack substantial organized political support. As this report was being written, the U.S. Congress was considering initiatives

to cut funding for a number of youth employment and training initiatives, especially those programs serving the non-college bound and the economically disadvantaged. The future fate of the school-to-work legislation enacted in 1994 remains in doubt.

The median real annual earnings of young adults with substantial attachment to the labor market also plummeted sharply over the past two decades, with young men experiencing the steeper drop (26% versus 6% for women). Young adult women were characterized by considerably smaller declines in their median real annual earnings since by working more weeks and hours during the year they were able to partly offset the effects of lower weekly wages. Among males, the size of the relative declines in annual earnings were strongly associated with the years of formal schooling that they had completed. Male high school dropouts and graduates with no post-secondary schooling (the "Forgotten Half") experienced the most severe earnings losses. These earnings declines among men with no post-secondary schooling were quite substantial among White, non-Hispanic males as well as among Blacks and Hispanics. The Forgotten Half, unfortunately, has been largely forgotten in the national economic debates taking place today in the Congress and state legislatures across the nation.

Efforts to explain the steep decline in young adult earnings, especially among men, have to primarily rely upon labor demand and institutional factors rather than supply-side explanations, with the exception of the rise in the pool of unskilled, immigrant labor.[52] The number of 18-24 year olds in the civilian non-institutional population of the nation peaked in the early 1980s and has declined considerably since then in both absolute and relative terms. Unfortunately, the demographic window of opportunity for

improving young adults' earnings position has now closed, and their numbers will be rising over the next decade. By 1993, employed young adults had completed more years of schooling than their counterparts two decades earlier, they obtained basic reading and math proficiencies at least as strong as those possessed by high school students in the early 1970s, and they had moderately more years of potential work experience. The reduced supply and improved human capital characteristics of young adults should have facilitated a rise in their real earnings rather than a steep decline. Our shift-share analyses and the findings of our human capital earnings models predicted an improvement in the real annual earnings of young male adults over the 1973-93 period. Unfortunately, these moderately optimistic predictions were far off the mark.

Changes in the industrial structure of the jobs held by young men over the past two decades did play a moderate role in reducing their real annual earnings. The declines in the share of young men holding jobs in mining, manufacturing, transportation, communications, and public utilities would have been expected to moderately reduce real annual earnings, given the wage premiums traditionally paid to young male workers in these industries. The shift in the industrial structure of employment opportunities can, however, only account for a small share (under 15%) of the overall decline in the mean annual earnings of young men. Within nearly all major industrial sectors, the mean annual earnings of young men declined over the past 20 years, and particularly steep declines occurred within the retail trade sector as young men were shifted into jobs in eating and drinking establishments and away from higher paying retail industries. In many respects, the retail trade sector became the employer of last resort for young men, absorbing those unable to find jobs in other, higher paying sectors. Young adults' jobs became more marginalized, with lower pay

increasingly accompanied by an absence of critical employee benefits such as health insurance. Few young workers were represented by a labor organization at the work place in recent years. Well under 10% of employed persons under 25 years of age were either members of labor unions or represented by unions or employee associations at the work place. Dissatisfaction with pay or working conditions would, thus, be expressed by exit from the firm rather than by a collective voice with the employer through union representation.

While the typical young non-college educated male held a blue collar job in a goods producing or transportation/utilities industry in the early 1970s, the prototype job in the 1990s was a retail sales, stock clerk, short-order cook, fast food worker, waiter/bus boy/bartender, or security guard job in retail trade and private service industries. Just-in-time, temporary, or transitory employment relationships became more of the norm for the X-Generation. As economic opportunities waned, more of them have remained at home with their parents or other relatives, far fewer have married before their mid to late 20's, and considerably fewer have assumed financial responsibilities for the children that they have fathered. Nearly 50% of the children born to women under 25 years of age were out-of-wedlock in the early 1990s. As a society, we have reduced the age of first sexual activity among men and women and lowered the age at which fertility can occur, but simultaneously lengthened the time period needed to achieve economic adulthood. A terrible social and economic price is being paid for our liberal sexual attitudes and our conservative economic strategies. We have turned "Men into Boyz" through our cultural and economic transformations.

The labor market problems of young adults have not gone unnoticed by academic researchers, the media, or national and state economic policymakers. During the late 1980s and early 1990s, a spate of commission and foundation reports focused attention on the labor market and earnings problems of young adults and young families, including studies by the Children's Defense Fund, the Center for National Policy, the Commission on the Skills of the American Workforce, the Ford Foundation's Project on Social Welfare and the American Future, the National Planning Association's Committee on New American Realities, and the William T. Grant Foundation's Commission on Work, Family, and Citizenship. Hillary Clinton played prominent roles on several of these commissions as well as former Secretaries of Labor under Presidents Carter and Reagan.

The federal government has responded at times to these youth labor market problems with new promising legislation, including the Youth Employment and Demonstration Projects Act of 1977 and the Job Training Partnership Act of 1982. In 1994, the U.S. Congress passed a scaled down version of the Clinton administration's school-to-work legislation, with its original promise of expanding career opportunities for young adults, including a national system of new youth apprenticeships. Yet, the modest levels of national funding ($200 million) for school-to-work programs, the absence of a clear focus to current youth initiatives by the states, the very limited numbers of new apprenticeship type slots, and the recent efforts by the U.S. House of Representatives to substantially scale back existing employment and training programs for teens and young adults, especially those serving economically disadvantaged youth, call into serious question the nation's commitment to solving the earnings problems of America's "Forgotten Half".

Recent national impact evaluations of employment and training programs for disadvantaged youth, including the national evaluation of JTPA Title II programs for out-of-school youth, the MDRC Jobstart demonstration program for disadvantaged dropouts, and the Summer Training and Education Program (STEP) for disadvantaged in-school youth, have found relatively few substantive positive impacts on the post-program employment and earnings experiences of participants. Faced with these findings, many national policymakers seem to have lost faith in the ability of government to influence labor market prospects for the more disadvantaged members of the Forgotten Half. The current situation in youth employment and training policy is rather reminiscent of the conversation between Alice and the Cat in Lewis Carrol's Alice's Adventures in Wonderland:

"Would you tell me please, which way I ought to go from here?"

"That depends a good deal on where you want to get to," said the Cat.

"I don't much care where," said Alice.

"Then it doesn't matter which way you go," said the Cat.

Lewis Carrol, Alice's Adventures in Wonderland.

This research monograph primarily was designed to describe and assess the changing labor market realities for young adults in the United States over the past two decades, with an emphasis on the real weekly and annual earnings of employed adults. It was not intended to provide a guide to policymakers, educators, youth organizations, business, and labor unions about what might be done to improve future real earnings prospects for young adults. A few, brief observations on what strategies and policies might

make a difference for young adults does, however, seem to be in order if for no other reason than to light a candle rather than to continue cursing the darkness.

First, it is imperative that there be general agreement on what constitutes the core of the youth labor market problem among those persons 18-24 who wish to engage in full-time labor market activity. The most critical labor market problem is not a lack of jobs for young adults, with the exception of high school dropouts and disadvantaged youth in some inner city poverty neighborhoods and rural areas. Instead, the major problems are the steep declines in the real weekly earnings of most full-time employed young men and women and among men without four year college degrees the equally dramatic drop in their real annual earnings. These declines have shown no recent signs of abating, and efforts to improve real earnings prospects for young adults will become more challenging in the years ahead as the demographic situation among young adults changes with increased labor supply pressures. Employment and training policymakers and administrators must keep their eyes on the prize: a restoration of real weekly and annual earnings gains for employed young adults. Our policies and programs must be measured against these two benchmark performance measures. Few previous youth programs including national impact evaluations have been routinely evaluated against such measures.

Second, the role of the nation's high schools, training institutions, and colleges and universities in solving these core youth labor market problems must be carefully and realistically defined and assessed. High schools do have a number of important roles to play in improving labor market prospect of young adults, but they cannot and should not be expected by themselves to alter the earnings prospects for young adults since they do not control the critical hiring,

training, and compensation policies of the nation's private and public employers that ultimately determine the labor market fate of young adults. Schools should concentrate on achieving three important results for students. They should continue to focus on reducing dropout problems of high school students, especially disadvantaged youth of all races and Hispanics. Young adults lacking a high school diploma continue to face the most severe labor market problems and typically have experienced the most severe real earnings declines. Dropouts also are substantially over-represented in every major social problem group: out-of-wedlock births, absent fatherhood, poverty, welfare dependency, and the incarcerated population.

The basic academic competencies and critical thinking skills of high school students need to be bolstered across the entire spectrum. Gains have been made in recent decades in improving reading and math proficiencies at the bottom of the proficiency distribution, but much more progress needs to be made in improving scores at all other points along the distribution. Adolescents from all gender and race-ethnic groups with a strong base of academic proficiencies are considerably less likely to fall behind modal grade, far less likely to drop out of school prior to graduation, more likely to enroll in and graduate from college, and more likely to receive training from their employers in their young adult years.[54] Multi-year, intensive, sequenced, and holistic approaches to meeting the educational and employment needs of poor adolescents hold promise for reducing future dropout rates and social pathologies. The recent impact evaluations of the Quantum Opportunities Program (QUOP) have provided positive evidence for the potential success of such lengthier, more intensive, structured approaches involving community agencies and close adult mentoring relationships.[55] High schools also can play a key role in improving the access of high school students to

employment and on-the-job training opportunities during the school year and summer. National research evidence has revealed that substantive in-school work experience does not only facilitate the early transition of graduates from school to work and boost wages on early post-high school jobs, but also significantly increases their earnings seven to eight years after graduation, especially for the non-college bound.[56]

Third, we must recognize that high schools by themselves cannot solve the labor market problems of young adults. Employers, both private and public, need to play a more active role in providing a wider array of in-school employment opportunities for youth and giving them an opportunity to acquire substantive skills on the job. Public sector employers (federal, state, and local) have particularly been neglectful here, providing a considerably below average share of the jobs held by the nation's young adults (16-24).[57] Employer-provided training consistently has been found to significantly raise the real earnings of young workers;[58] however, youth with limited basic academic skills and no post-secondary schooling receive such training at rates considerably below those of college graduates and young adults with more highly proficient basic academic skills. An increase in the breadth, diversity, and intensity of employer-provided training will be key to all future efforts to boost young worker earnings.

Finally, there is a critical need for economic policymakers, employers, and the public at large to seriously consider whether the young adult labor market "problems" described in this monograph have not really been a part of the nation's past "solutions" to a number of our economic woes. Past efforts to boost labor productivity and economic competitiveness in many goods producing industries and increasingly in trade and service industries

have led to the adoption of new technologies, capital investments, labor deployment, and corporate restructuring efforts that have substantially reduced the demand for semi-skilled blue collar workers and now for lower level white collar workers. Hiring for the more skilled blue collar and white collar positions has focused on older and more experienced workers (mid to late 20s) or on four year college graduates who are perceived as easier and less costly to train. Younger adults without a college education increasingly have played the role of temporary or just-in-time workers, whose labor costs are more variable and subject to management control to keep profits up in the short run. The "lean and mean" corporate strategy as defined recently by Bennett Harrison tends to assign younger workers a more marginal role in the work place, seldom being employed in the core firms in the nation's goods and service producing industries.[59] To keep overall health insurance and pension costs down, employers have increasingly failed to provide even limited health insurance benefits or pension benefits to their younger workers. In the early 1990s, slightly under 40% of all 20-29 year old men in the U.S. received employer-provided health insurance coverage, with those men lacking any post-secondary schooling being least likely to obtain health insurance coverage at their worksites. These young workers who would have filled the ranks of America's blue collar working class have been most adversely impacted by the structural changes in the U.S. economy. Their real wages have been reduced the most and many must now seek jobs in the lower wage trade and service industries.

The economic plight of many of these young members of the nation's working class has become more worrisome as the nation's political leaders and the national media continue to ignore the widespread existence of such a social class in America.[60] There has been an increasing tendency

to refer to a "middle class" of Americans so broadly defined that it includes all but the poorest and most affluent members of society. The growing economic divide recently described by President Clinton may have formal education as its fault line, but the growing divide between social classes is a fundamental source of the rising degree of economic inequality in America, and the youngest members of the nation's working class have been most dramatically affected by these economic transformations. A clearer recognition of this class-based rather than race-based problem among the young adult population might well serve as a foundation for a new national initiative to restore the economic dreams of this key segment of our society.

Endnotes:

1. See: William T. Grant Foundation Commission on Work, Family, and Citizenship, The Forgotten Half: Non-College Youth in America, Washington, D.C., 1988.

   A more comprehensive examination of trends in the employment, earnings, living arrangements, marital status, and poverty status of young workers and families from the late 1950s through the mid-1980s can be found in the following publications: (i) Gordon Berlin and Andrew Sum, Toward a More Perfect Union, Ford Foundation, New York, 1988; (ii) Cliff Johnson, Andrew Sum, and James Weill, Vanishing Dreams: The Growing Economic Plight of America's Young Families, Children's Defense Fund, Washington, D.C., 1988; (iii) Andrew M. Sum, Robert Taggart, and Neal Fogg, Withered Dreams: The Decline in the Economic Fortunes of Young Non-College Educated Male Adults and Their Families, Report Prepared for the W.T. Grant Foundation Commission on Work, Family, and Citizenship, 1988.

2. The steep declines in the annual and weekly earnings of young men with no post-secondary schooling and the difficulties that they have experienced in "settling down" into career jobs in the labor market are documented in the following publications:

   (i) Ford Foundation Project on Social Welfare and the American Future, The Common Good, Ford Foundation, New York, 1989; (ii) Paul Osterman, Is There A Problem with the Youth Labor Market and If So How Should We Fix It?, Paper Prepared for the Joint Center for Political and Economic Studies, Washington, D.C., July 1991; (iii) Frank Levy, "Recent Trends in U.S. Earnings and Family Incomes, NBER Macroeconomics, Annual 1989, The MIT Press, Cambridge, 1989; (iv) Andrew M. Sum and Joanna Heliotis, "Declining Real Wages of Youth," Workforce, Spring 1993, pp. 22-31.

3. During periods of strong employment growth, the real annual earnings of young men tend to improve as they gain access to more weeks and hours of paid employment, but weekly earnings never rose during the 1980s.

   See: Andrew M. Sum and Joanna Heliotis, op.cit.

4. See: Paul Osterman, op.cit.

5. See: U.S. Bureau of Labor Statistics, Employment and Earnings, January 1995, "Table 7," p. 171.

6. During 1987, the aggregate unemployment rate of the nation was 6.2% versus a 6.1% annual average rate of unemployment during 1994.

7. The CPS household survey is conducted monthly by the U.S. Census Bureau. Nationally, interviews were completed with approximately 57,000 households per month, but by 1996 this number had fallen to 47,400 due to budget cuts of the Bureau of Labor Statistics. The findings of the labor force sections of the monthly questionnaire are used by the U.S. Bureau of Labor Statistics to provide estimates of the size of the nation's civilian labor force, the number of employed persons (16+), the number of unemployed, and the monthly unemployment rate. Until 1979, the weekly earnings data were collected only during the May survey. Since then, the hourly and weekly wage data have been collected monthly from a subset of the national sample.

   See: (i) Earl F. Mellor and George D. Stanas, "Usual Weekly Earnings: Another Look at Intergroup Differences and Basic Trends," Monthly Labor Review, April 1982, U.S. Government Printing Office, Washington, D.C., pp. 15-24; (ii) Earl F. Mellor, "New Household Statistics on Weekly Earnings," Employment and Earnings, October 1980.

8. For evidence on these developments,

   See: (i) Clifford Johnson, Andrew Sum, and James Weill, Vanishing Dreams,...; (ii) Andrew M. Sum, et.al.,. The Changing Economic Fortunes of Young Black Men in the U.S., Center for Labor Market Studies, Northeastern University, Boston, 1991.

9. See: Andrew Sum, Robert Taggart, and Neal Fogg, Withered Dreams....

10. Wallace Peterson also has used this term "silent depression" to describe fundamental changes in American living standards during the past two decades.

    See: Wallace Peterson, The Silent Depression: The Fate of the American Dream, Norton, New York, 1994.

11. These projected inflation rates for 1995 and 1996 are based on a recent Economist magazine poll of economic forecasters in the U.S.

    See: "Economic Indicators," The Economist, March 18-24, 1995, p. 108.

12. The national time series evidence on the employment impacts of changes in the federal minimum wage generally indicate small negative impacts on the employment rates of teens but no statistically significant effects on the employment rates of 20-24 year olds.

    See: Charles Brown, Curtis Gilroy, and Andrew Kohen, "Time Series Evidence of the Effects of the Minimum Wage on Youth Employment and Unemployment," Journal of Human Resources, Volume 18(1), 1983, pp. 3-31; (ii) Alison J. Wellington, "Effects of the Minimum Wage on the Employment Status of Youths: An Update," Journal of Human Resources, Vol. 26, No. 1, 1991, pp. 27-46.

13. The population totals displayed in Table 4 exclude those persons serving in the nation's armed forces and the inmates of institutions, such as jails, prisons, and long stay hospitals.

14. The views of Richard Easterlin appear in the following publication:

    Richard Easterlin, Birth and Fortune: The Impact of Numbers on Personal Welfare, Basic Books, Inc., New York, 1980, p. 4.

15. The projected population totals for 16-24 year olds in Table 5 include young adults serving in the armed forces as well as inmates of institutions, such as jails and prisons.

16. For a review of the nature of the job and earnings changes of young adults as they move from adolescence through their late 20's,

    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, pp. 37-109.

17. Full-time employed students were classified by the highest grade they had completed at the time of the March 1974 and March 1994 CPS household surveys. Thus, high school students who reported 27 or more weeks of full-time employment were placed in the "less than 12 years" category. There were very few high school students in this educational category.

18. For a review of findings on this set of issues,

    See: (i) Bishop, John H., "Is the Test Score Decline Responsible for the Productivity Growth Decline?," American Economic Review, 1989, Volume 79, pp. 178-194; (ii) Richard J. Herrnstein and Charles Murray, The Bell Curve: Intelligence and Class Structure in American Life, The Free Press, New York, 1994.

19. See: Richard J. Herrnstein and Charles Murray, op.cit., pp. 424-425.

20. See: Ina S. Mullis, Eugene H. Owen, and Gary W. Phillips, America's Challenge: Accelerating Academic Achievement, A Summary of Findings from 20 Years of NAEP, Educational Testing Service, Princeton, New Jersey, September 1990.

21. Our tests of significance were based on a t-test of the difference between two sample means using the estimated standard errors provided by the authors of the NAEP study.

22. For more detailed findings on the 1986 National Science Assessment,

See: Ina V.S. Mullis and Lynn B. Jenkins, The Science Report Card: Elements of Risk and Recovery, Educational Testing Service, Princeton, July 1988.

23. See: John Bishop, The Productivity Consequences of What is Learned in High School, Cornell University School of Industrial and Labor Relations, Ithaca, 1988.

24. The group "other non-Whites", which includes Asians and American Indians, was combined with whites due to their small numbers among full-time employed young adults in 1973. Only 1% of full-time employed young men and women in 1973 fell under this particular racial category.

25. There is a potential third source of change: the interaction between shifting shares of workers and changing subgroup means. If shifts in these demographic shares and percentage changes in mean earnings are statistically independent of one another, then the first two factors will completely account for the observed change in overall mean earnings.

26. See: (i) Clifford Johnson and Andrew Sum, Declining Earnings of Young Men: Their Relation to Poverty, Teen Pregnancy, and Family Formation, Children's Defense Fund, Washington, D.C., May 1987; (ii) Harry J. Holzer, "Can We Solve Black Youth Unemployment?", Challenge, November-December 1988, pp. 43-49; (iii) John Kasarda, "Urban Change and Minority Opportunities," in Paul Peterson (Editor), The New Urban Reality, Brookings Institution, Washington, D.C., 1985, pp. 33-67.

27. See: (i) Andrew M. Sum and Neal W. Fogg, "Labor Market Turbulence and the Labor Market Experiences of Young Adults," in Peter Doeringer et.al. (Editors), Turbulence in the American Workplace, Oxford University Press, New York, 1991. pp. 17-45; (ii) Frank Levy, "Recent Trends in U.S. Earnings and Family Incomes," in NBER Macroeconomics Annual 1989. The MIT Press, Cambridge, 1989, pp. 73-113.

The Sum and Fogg paper examines the industrial patterns of the annual earnings of young men 18-29 years old in the U.S. during 1973 and 1986 and does not attempt to control for demographic and human capital differences among men. These are, thus, gross

earnings differences rather than the net impacts of industrial attachment. Levy's findings pertain to 25-34 year old men in the United States and are based on an earnings function model which statistically controls for differences in measured demographic and human capital characteristics.

28. See: Andrew M. Sum and Neal Fogg, op.cit.: "Table 2.K," p. 35.

29. See: Max Carey and James C. Franklin," Industry Output and Job Growth Continues Slow into Next Century," Outlook 1990-2005, BLS Bulletin 2402, U.S. Government Printing Office, Washington, D.C., May 1992.

30. See: U.S. Department of Labor, Bureau of Labor Statistics, Union Members in 1994, Washington, D.C., February 1995.

31. The figures cited in the text are for union membership. If we also take into account those workers represented by a union at their jobs, the union representation rate for all wage and salary workers rises to 17.5%. Ibid, "Table 2," p. 2.

32. See: U.S. Department of Labor, Bureau of Labor Statistics, Productivity by Industry, 1993, Washington, D.C., February 1995.

33. For a review of trends in labor productivity and the real earnings of production workers in manufacturing industries in the U.S. between 1979 and 1989,

    See: Andrew Sum and Julio Goicoechea, Broken Promises: Rising Labor Productivity in Manufacturing and the Decline in the Real Earnings of Production Workers Over the 1979-1989 Period, Center for Labor Market Studies, Northeastern University, Boston, 1991.

34. Within the retail trade industries, only 13% of young male adults were employed in eating and drinking establishments during 1973. More young men worked in grocery stores than in these food and drink industries. By 1993, 36% of employed young male adults were working in eating and drinking establishments, the dominant employer in retail trade. Only 14% of young men were working in grocery stores during 1993, a far second. Another interesting comparison is the relative importance of motor vehicle

dealers and gasoline service stations versus eating and drinking establishments. During 1973, nearly twice as many young men (25%) worked in car dealers and gasoline service stations than in eating and drinking establishments (13%). By 1993, three times as many young men worked in eating and drinking establishments as in car dealers and gasoline service stations (36% vs. 12%).

35. For a more detailed discussion of the theoretical foundations and statistical estimation of human capital earnings functions,

    See: (i) Jacob Mincer, Schooling, Experience, and Earnings, Columbia University Press, New York, 1974; (ii) Solomon Polachek and W. Stanley Siebert, The Economics of Earnings, Cambridge University Press, Cambridge, 1993.

36. Labor economists and others estimating earnings functions tend to use the natural log of earnings as the dependent variable rather than the absolute value of earnings since the distribution of earnings is typically found to approximate a log normal rather than a standard normal distribution.

37. The constant term in these models represents the expected annual earnings of the base group of workers. Members of the base group have values of zero for each of the explanatory variables on the right-hand side of the model.

38. The anti-log of the constant term yields the expected annual earnings for members of the base group. The anti-log of 9.21, the constant term in the 1973 earnings equation, yields an expected annual earnings of $9,997.

39. The variable EXPSQ represents years of potential work experience squared. The small, but statistically significant negative coefficient on this variable implies that the marginal payoff to work experience declines somewhat as young adults moved through the labor market from their late teens to their mid-20's. A sixth year of work experience had a predicted payoff of 9% -- versus a payoff of 11% for the fifth year of work experience.

40. The South region was defined in accord with traditional Census Bureau definitions. The southern states include those in the South

Atlantic region, the East South Central region, and the West South Central region.

41. A t-test of the significance of the difference between the constant terms in these two models yielded findings which indicated that the difference was statistically significant at the .01 level.

42. The difference between the coefficients on the EXP variable in the 1973 and 1993 earnings functions was statistically significant at the .02 level.

43. Using a two-tailed t-test, the difference between the coefficients on the HSDROP variable was significant at the .06 level. A high school diploma, thus, produced a significantly smaller economic payoff in 1993 than in 1973.

44. Given the conventional wisdom and statistical evidence for older groups of workers that formal schooling has come to play a more critical role in determining earnings in U.S. labor markets, we applied a one-tailed test to the differences between the coefficients for ED1315 and COLGRD in the two earnings models. The differences were found to be statistically significant at the .01 and .05 levels, respectively. Formal schooling beyond high school does generate a higher earnings premium for adult males.

45. T-tests of the differences between the coefficients for both Black and Hispanic males in 1973 and 1993 reveal that the 1993 coefficients though lower in magnitude are not sufficiently smaller to be judged statistically significant.

46. For example, White, non-Hispanic males lacking a high school diploma experienced a 32% drop in their lifetime earnings versus a 23% decline for Black males. Among high school graduates, the estimated lifetime earnings declines were 24% and 18% for White and Black males, respectively.

47. Among 18-24 year olds, a small portion of the rise in zero earners was attributable to an increased college enrollment rate; however, the bulk of the increase occurred among high school dropouts and non-enrolled high school graduates. Among both of the latter groups, the incidence of non-workers doubled between 1973 and 1993.

48. For another look at the changing employment and wage patterns of adult workers in the U.S. by education, occupation, and skill level,

    See: (i) Chinhui John and Kevin M. Murphy, "Inequality in Labor Market Outcomes," Economic Policy Review, Federal Reserve Bank of New York, January 1995, pp. 26-32; (ii) Lawrence Katz and Kevin M. Murphy," Changes in the Wage Structure, 1963-1987: Supply and Demand Factors," Quarterly Journal of Economics, 1992, pp. 35-78.

49. The non-workers group actually includes those men with zero reported earnings during the calendar year as well as those persons (primarily self-employed individuals) who reported an income loss during the year; i.e., negative earnings.

50. For example, between March 1974 and March 1993, the employment rate of all civilian males ages 45-64 declined from 84% to 75%. The absolute declines in the employment/ population ratios of these older men ranged from 20 percentage points among those with less than 12 years of schooling to only 7 percentage points for those with a college degree.

    See: Center for Labor Market Studies, Northeastern University, "Trends in the Employment Rates of 45-64 Year Old Males in the United States," A Report Prepared for the Boston Federal Reserve Bank, Research Department, Boston, 1995.

51. See: *The Boston Globe*, Saturday, April 8, 1995, p. 1.

52. Several studies of the declining relative earnings of poorly educated, male native workers attribute a portion (typically one-third) of their earnings declines during the 1980s to the effects of increased immigration of low skilled workers. For a recent review of this evidence,

    See: George J. Borjas, "The Internationalization of the U.S. Labor Market and the Wage Structure," in Economic Policy Review, Federal Reserve Bank of New York, January 1995, pp. 3-8.

53. During 1991, there were 1.621 million live births to women under 25 years of age. Of these births, nearly 798,000 or 49% were out of wedlock births.

See: National Center for Health Statistics, Monthly Vital Statistics Report, "Advance Report of Final Natality Statistics, 1991," Vol. 42, No. 3, September 9, 1993.

54. For a review of the statistical relationships between the basic academic skill test scores and the dropout behavior of high school students,

See: (i) Gordon Berlin and Andrew Sum, Toward a More Perfect Union...; (ii) Andrew Hahn and Jacqueline Danzberger, Dropouts in America: Enough is Known for Action, The Institute for Educational Leadership, Washington, D.C., 1987; (iii) Robert Taggart, Andrew M. Sum, and Gordon Berlin, "Basic Skills: The Sine Qua Non," Youth and Society, Volume 13, September 1987, pp. 3-27.

55. For a review of the findings on the QOP impact evaluation,

See: (i) Andrew Hahn, with Tom Leavit and Paul Aaron, Evaluation of the Quantum Opportunities Program (QUOP): Did the Program Work? Brandeis University, Center for Human Resources, Waltham, 1994; (ii) Robert Taggart, Quantum Opportunity Program, Howard University, Opportunity Institute, Washington, D.C., 1995.

56. For recent examples of studies on the relationships between in-school employment experience and post-graduate labor market success,

See: (i) David Stern and Yoshi-fuma Nakata, "Characteristics of High School Students' Paid Jobs and Employment Experiences After Graduation," in Adolescence and Work: Influences of Social Structures, Labor Markets, and Culture, Lawrence Erlbaum Associates, Hillsdale, New Jersey, 1989, pp. 189-233; (ii) Christopher J. Ruhm, The Effects of High School Work Experience on Future Economic Attainment, Employment Policies Institute, Washington, D.C., May 1994; (iii) Jeff Grogger,

The Early Careers of Non-College Bound Men, Employment Policies Institute, Washington, D.C., May 1994.

57. During 1993, only 9% of all employed 18-24 year olds in the nation held a job in a federal, state, or local government agency other than the armed forces while nearly 17% of all employed 25-64 year olds did so. Young adults in each gender and race-ethnic group are under-represented in government employment.

58. For reviews of national research findings on the receipt of job-related training by U.S. workers in various educational groups and the impacts of classroom and employer-provided training on the wages and earnings of young workers,

    See: (i) Alan Eck, "Job-Related Education and Training: Their Impact on Earnings," Monthly Labor Review, October 1993, pp. 21-38; (ii) Lisa Lynch, "Pay Offs to Alternative Training Strategies at Work," in Working Under Different Rules, (Editor: Richard B. Freeman), Russell Sage Foundation. New York. 1994. pp. 63-95 (iii) Andrew M. Sum, Literacy in the Labor Force, Educational Testing Service, Princeton, New Jersey, 1994; (iv) Jonathan Veum, "Training Among Young Adults: Who, What Kind, and For How Long?," Monthly Labor Review, August 1993, pp. 27-32.

59. See: Bennett Harrison, Lean and Mean: The Changing Landscape of Corporate Power in the Age of Flexibility, Basic Books, New York, 1994.

60. For a recent analysis of the General Social Survey's findings on the social class designations of the U.S. public,

    See: S.M. Miller and Karen Marie Ferroggiaro, "Behind the Numbers: Class Dismissed," The American Prospect, Spring 1995, pp. 100-104.

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