Chapter 8

Forecasting the Labor Market Prospects of Low-Skilled Americans

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Recent studies find that the 1990s economic expansion substantially improved the absolute and relative economic positions of less skilled and less educated Americans.[1] The national unemployment rate started at 6.8 percent in 1991 and fell to 4.3 percent in 2001, setting a new record of 120 months. For 34 months, from August 1998 to May 2001, the jobless rate was at or below 4.5 percent. Employment rates of most demographic groups, especially youth and minorities, reached historic highs, eroding some of the persistent and historical barriers to work.

The economy's ability to reduce barriers to work can partly be attributed to the willingness of policy makers not to slow growth for fear of inflation. Even with estimates that indicated that the nonaccelerating inflation rate of unemployment (NAIRU) had fallen, sentiments among policy makers and economists were that the low unemployment rates were unsustainable. The U.S. Federal Reserve Board of Governors began a series of increases in the Federal Funds rate on June 30, 1999. On that date the rate was increased 25 basis points to 5.0 percent. From that point to May 2000, the board increased the Federal Funds rate five times, raising the rate to 6.5 percent. For the remainder of 2000, the Board of Governors kept the Federal Funds Rate at 6.5 percent. Even though the board began to see a moderation in economic activity, it still felt that "the risks continue to be weighted mainly toward conditions that may generate heightened inflation pressures in the foreseeable future." It was not until the Board of Governors' December 19, 2000 meeting that the economy had slowed enough that they shifted their bias "toward conditions that may generate economic weakness in the foreseeable future."

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[1] See, for example, Reimers (2000), Freeman and Rodgers (2000), Freeman (2001), Hoynes, Hines, and Krueger (2001). A second round of studies continues to find gains, but they have not made up the lost ground that occurred from the 1970s to 1980s (Holzer and Offner 2004; Milanovich 2002).

In fact, by November 2001, the NBER Business Cycle Dating Committee felt that it had accumulated enough evidence to conclude that March 2001, three months after the Federal Reserve shifted its bias, marked the beginning of a recession. On July 17th, 2003 the Dating Committee determined that a trough in business activity occurred in the economy in November 2001. This trough signaled the end of the 8-month recession that had started March 2001.

Using November 2001 as the recession's end yields an economic contraction that lasted 8 months, making it the second shortest recession since 1969. Over this 8-month period, the U.S. unemployment rate rose from 4.3 to 5.6 percent, with labor force participation falling from 67.1 to 66.7 percent. Although mild by historical standards, published Bureau of Labor Statistics data show that a portion of the gains from the 1990s boom to less skilled and less educated Americans has been eroded. Since November 2001, the economy has shown signs of recovery. Nonfarm payroll employment, one of the indicators on which the NBER Business Cycle Dating Committee bases its decision, has begun to trend upward, albeit not until the beginning of 2004.

This chapter takes a forward-looking approach. I forecast the post recession labor market experiences of less skilled men and women (nonenrolled 16- to 24-year-olds). The Bush Administration forecasts predict that the unemployment rate will end 2004 at 5.5 percent and fall slightly to 5.3 percent in 2005.[2] By historical standards these unemployment rates are quite low, but compared to the peak of the 1990s boom they are one full point above the jobless rate at that time. They reflect a growing economy, but with "looser" labor markets.

If policy makers and the public view these forecasts as the most likely path that the economy will take, what are their implications for the labor market prospects of young less skilled Americans, especially young nonenrolled minorities? Will they act as a limiting factor on the ability of the economy to improve the absolute and relative economic positions of these groups? How many fewer young less skilled Americans will be pulled into the labor market? If these macroeconomic forecasts are realized, what are their implications for crime? What are their implications for former welfare recipients trying to obtain employment? What are their implications on the funding of social programs?

This chapter first estimates the differential impact that macroeconomic conditions (aggregate demand) have on the employment-population ratios, employment rates (1 minus the unemployment rate), and labor force participation rates of nonenrolled 16- to 24-year-olds by race/ethnicity, gender, and educational attainment. The chapter adds to a large literature that shows there are different relationships between macroeconomic

[2]Over the next two years, the Congressional Budget Office's forecasts are similar, ending at 5.6 percent during 2004 and falling slightly to 5.2 percent in 2005.

policies and various socio-economic groups and attempts to explain the constant 2 to 1 ratio of the black-white unemployment rate.[3]

The findings can be summarized as follows:

- nonenrolled 16- to 24-year-old African Americans are the most cyclically sensitive demographic group. From 1970 to 2003, a one-point increase in the national unemployment rate is associated with a 6.4 percent decline in their employment-population ratio;

- nonenrolled 16 to 24 year old Hispanics are the second most sensitive to changes in macroeconomic conditions. A one-point increase in the U.S. unemployment rate is associated with a 6.0 percent decline in their employment-population ratio;

- nonenrolled less-educated men are the third most sensitive to the business cycle, with a 2.4 to 3.7 percent decline in their employment-population ratio for a one-point increase in the U.S. unemployment rate; and

- for each of these groups, no less than two-thirds of the decline in employment-population ratios is due to individuals moving from employment to unemployment, and not from labor force reentry.

The chapter then uses these empirical relationships and the Bush Administration 2004 and 2005 forecasts of the national unemployment rate to predict the employment-population ratios, employment rates (1 minus unemployment rate), and labor force participation rates of Americans with the least skills, nonenrolled 16- to 24-year-olds. The evidence suggests that employment-population ratios of less skilled Americans will improve over the next decade. However, for most demographic groups, they will not return to their values at the peak of the 1990s boom.

During the peak year of the 1990s economic expansion, the employment-population ratios of nonenrolled 16- to 24-year-old whites, blacks, and Hispanics were 78.3, 59.5, and 70.7 percent. Even with the forecasted drop in unemployment, white and black employment-population ratios will not return to their peak values. The Hispanic ratio will fall just short of its peak value in 2000.

At the peak of the 1990s boom, the employment-population ratio of nonenrolled high school dropout men was 67.7 percent. The employment-population ratio fell to 64.7 percent in 2003, but it will trend back up to 66.4 percent by 2005.

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[3] See, for example, Hoynes (2000); Thorbecke (1999); Moorthy (1988); Korenman and Okun (1989); Spriggs and Williams (2000); Blank and Blinder (1996); Shulman (1991); Wilson, Tienda, and Wu (1991); and Badgett (1994).

In the next section of this chapter I describe recent macroeconomic trends using aggregate published data on GDP growth, industrial production, employment, productivity, and real wages. The section shows that based on these measures the recession from March 2001 to November 2001 was mild, compared to the 1980s recession. In later sections of the chapter, I describe the econometric models that the chapter estimates; present estimates of the relationship between aggregate demand and the participation, employment, and unemployment of young nonenrolled Americans and ten-year forecasts of their labor market outcomes; and discuss the chapter's findings and their implications.

U.S. MACROECONOMIC TRENDS

This section compares and contrasts the economic expansions and the recessions that have occurred since 1960. Continuously lower unemployment rates, faster employment growth, acceleration in productivity growth, and the growth in real hourly earnings distinguish the 1990s boom from previous booms. A smaller rise in unemployment, a smaller drop in employment, continued productivity, and real hourly earnings growth differentiate the recession that started in March 2001 from past recessions. The impact of the most recent recession on the less skilled, especially less skilled African Americans, appears not to have been as severe as in past recessions, but compared to prime-age workers, less skilled workers disproportionately bore the brunt of the slowdown. The remainder of this section summarizes these trends in greater detail.

As measured by real gross domestic product (GDP) growth, the economy expanded by 40.0 percent during the 1990s boom, compared to 36.9 percent during the 1980s boom.[4] The average annual increase in GDP was also greater during the 1990s expansion. Growth in industrial production during the 1990s was over four times greater than during the 1980s. Although not back to its growth rates of the 1960s, productivity grew at a faster rate during the 1990s economic expansion than during the 1980s expansion. From 1991 to 2000, productivity grew at an average annual rate of 2.1 percent from 1991 to 2000, compared to 1.8 percent from 1982 to 1990. Poverty among families fell more in the 1990s than in the 1980s: by 2.9 versus 1.9 percent.

Job growth was similar across expansions. From November 1982 to July 1990, 21 million new jobs were created, compared to 24 million new jobs from March 1991 to March 2001. However, the composition of job growth differed across expansions. During the 1980s expansion, 42 percent of the newly created jobs were in service industries, compared to 53 percent in the 1990s expansion.

A very different pattern exists in real hourly earnings. Inflation was moderate over both periods, with average annual increases of 3.5 and 3.4 percent. So, movements in nominal hourly wages explain the stagnation and subsequent growth in real earnings during the 1990s. Prior to 1996, average real hourly earnings of nonagricultural private

[4] The NBER Dating Committee designated the periods from November 1982 to July 1990 and March 1991 to March 2001 as expansions.

sector workers remained at approximately $13.28 (2001 dollars). In 1996, real hourly earnings began to rise for the first time in over a decade, jumping to $13.34 and continuing to rise to $13.88 in 1998. Real hourly earnings finished the boom at $14.33.

Turning to aggregate labor market trends, substantial declines in unemployment occurred during the two booms. The employment-population ratio and labor force participation rate exhibited smaller increases during the 1990s expansion, presumably due to the higher initial ratios. The employment-population ratio increased by 5.5 percentage points from November 1982 to July 1990 and by 2.5 points from March 1991 to March 2001, while labor force participation increased by 2.3 and 0.8 percent, respectively. In summary, these macroeconomic indicators point to a stronger economy during the 1990s.

I now shift to summarizing the patterns of the recessions that have occurred since December 1969. The 8-month recent recession that ended in November 2001 is tied for the second shortest recession on record since 1960. Over this 44-year period, a tie exists for the longest recession. Recessions of 16 months lasted from July 1981 to November 1982 and November 1973 to March 1975. Other lengthy recessions lasted from December 1969 to November 1970 and April 1960 to February 1961. The shortest recessions lasted 6 months, from January 1980 to July 1980, and 8 months, from July 1990 to March 1991.

As measured by real GDP growth, the economy expanded by 0.12 percent per quarter during the 2001 recession, compared to 0.53 and 1.09 percent contractions during the 1980s recessions (Figure 1). Industrial production has fallen but nowhere near its decline in the 1980s. From March 2001 to November 2001, industrial production fell at an average monthly rate of 0.42 percent, compared to 0.85 percent during the January 1980 to July 1980 recession (Figure 2). Private sector employment during the 8-month 2001 recession contracted by 2.0 million, 600,000 fewer than during the 16-month recession from July 1981 to November 1982 (Figure 3).

<<FIGURES 1-3 HERE>>

Productivity and real wage growth behaved quite differently during the current recession. Productivity continued to grow at a rapid pace, compared to previous recessions. Productivity grew at an average annual rate of 3.3 percent from the first quarter of 2001 to the fourth quarter of 2001, compared to 0.2 percent from July 1981 to November 1982. The recession that ran from the fourth quarter of 1969 to the fourth quarter of 1970 saw productivity grow at 1.8 percent (Figure 4). Inflation-adjusted hourly wages continued to rise during the recession, making the current recession the only one in which nominal wage growth has stayed ahead of inflation (Figure 5).

<<FIGURES 4 AND 5 HERE>>

Figure 6 plots the annual and October unemployment rates of men and women aged 16 and older. I provide this comparison because the employment-population ratios,

unemployment rates, and labor force participation rates of nonenrolled 16- to 24-year-olds used in the regression analysis come from the October supplement of the Current Population Survey. The figure shows that the two series closely track each other, indicating that our estimates of the relationships between the labor market outcomes of nonenrolled young adults and the national unemployment rates will be independent of whether the annual average or October national unemployment rates are used to proxy for aggregate demand.

<<FIGURE 6 HERE>>

Figures 7 to 9 compare the labor market outcomes of nonenrolled 16- to 24-year-old whites, African Americans, and Hispanics. Over the full length of the series, nonenrolled whites have higher employment-population ratios than African Americans and Hispanics. The African American ratio jumps from 50 to 60 percent during the 1990s boom, but a more than 15-point difference still remains between African Americans and whites. The Hispanic ratio also grew rapidly during the 1990s boom, jumping from around 60 to 70 percent. The labor force participation of African Americans and Hispanics both increased, but the key to the large increases in African American and Hispanic employment-population ratios was the decline in each group's unemployment rate that occurred during the 1990s boom. Although still too high, the African American and Hispanic unemployment rates fell to around 20 and 9 percent, both series records.

<<FIGURES 7-9 HERE>>

Describing the labor market experiences of 16- to 24-year-old men and women by educational attainment reveals that high school dropouts have the greatest variation in employment-population ratios from 1970 to 2003 (Figure 10). After deteriorating during the 1980s recession, the labor market outcomes of high school dropouts recovered, but not to the levels that preceded the recession. High school graduates have higher employment-population ratios than dropouts, but they, too, fell during the 1980s recession and did not return to the pre-recession levels. The 1990s boom had a modest impact on their ratios. Holzer and Offner (2004) also find similar evidence. The gains were not strong enough to counter the long-term structural decline in participation.[5]

<<FIGURE 10 HERE>>

Figure 10 presents some of the most startling trends. They show the labor market statistics for nonenrolled women by educational attainment. The charts clearly demonstrate the collective effects that welfare reform and the tight labor market had on employment-population ratios. The employment-population ratios of nonenrolled high school dropout women jumped from 30 percent to almost 50 percent from 1996 to 2000, while the employment-population ratio of high school graduates increased modestly over

[5] The white teenage record was set in August 1978. The black teenage record was set in June 1998.

the same period. Because of the timing, much of this jump is due to increased labor force participation. The unemployment rate for high school dropout women began to fall prior to welfare reform, from over 30 percent to around 20 percent. Participation made its biggest increases after 1996. Even at the boom's peak in 2000, however, participation of nonenrolled high school dropout women remained 15 points below the participation of nonenrolled women with high school diplomas.

METHODS

To identify the relationships between aggregate demand and the labor market outcomes of nonenrolled young adults, I estimate the simple model used in the widely cited Clark and Summers (1981, 1990) studies. Although simplistic by today's time series methods, their model provides a clear and straightforward framework for describing the cyclical behavior of employment, unemployment, and participation. These three measures are used to summarize the labor market outcomes of a particular demographic group. For the ith demographic group (e.g., nonenrolled 16- to 24-year-old African Americans), the three measures are related by the following identity:

$$(1)\quad \left(\frac{E}{N}\right)_i = \left(\frac{E}{L}\right)_i \left(\frac{L}{N}\right)_i,$$

where E denotes employment, N denotes the civilian population, and L denotes the labor force.

This identity indicates that the employment-population ratio (E/N, share of the civilian population employed) is the product of the employment rate (E/L, 1 minus the unemployment rate) and the participation rate (L/N, share of civilian population in the labor force). A change in the share of the civilian population that is employed can be sorted into two components: a change in the unemployment rate and a change in the participation rate. To make it easier to measure the contribution of each component, Clark and Summers take the natural logarithm of Equation 1. This transformation of the identity also has the benefit of allowing us to describe each component's contribution in percent.

Formally, taking logarithms and differentiating Equation 1 yields the decomposition:

$$(2)\quad d\ln\left(\frac{E}{N}\right)_i = d\ln\left(\frac{E}{L}\right)_i + d\ln\left(\frac{L}{N}\right)_i.$$

Changes in the employment-population ratio can be decomposed into changes in employment and participation rates. People in the labor force are either employed or unemployed, which implies that:

$$(3)\quad d\ln\left(\frac{E}{N}\right)_i = d\ln(1-UR)_i + d\ln\left(\frac{L}{N}\right)_i,$$

where UR denotes the unemployment rate. Clark and Summers use this decomposition to provide the basis for estimating the effects of overall macroeconomic performance on youth employment.

To place this model into an empirical framework, Clark and Summers assume that the employment rate (1 minus unemployment rate) and participation rate for each group depend on aggregate demand, seasonal factors, and time. The latter captures the average annual change in variables that have not been included in the equation. Seasonal changes in the data are modeled using monthly dummy variables. The specifications for the participation and employment rate (1 minus unemployment rate) are:

$$(4)\quad \ln(PR)_{it} = \beta_0 + \sum_{j=0}^{7}\beta_{t-j}URATE_{t-j} + \delta_1 T + \delta_2 T^2 + v_{it}, \text{ and}$$

$$(5)\quad \ln(1-UR_{it}) = \alpha_0 + \sum_{j=0}^{7}\alpha_{t-j}URATE_{t-j} + \phi_1 T + \phi_2 T^2 + u_{it},$$

where URATE denotes the unemployment rate, the proxy for aggregate demand. Clark and Summers use the unemployment rate of men aged 35 to 44 as their proxy for aggregate demand. I present models that utilize the national unemployment rate. Both are assumed to describe the variation in job opportunities and the ease of finding a job. Many workers, especially teenagers, may react slowly to changes in the availability of employment. Because of this, lagged values of the unemployment rate are included in the model. The term T denotes a time trend that starts at the beginning of each series, and T^2 denotes the square of the time trend.

How does one interpret the coefficients of the unemployment rate (URATE)? The cyclical sensitivity of the ith demographic group's participation rate is the sum of the unemployment rate coefficients ($\pi_{PR} = \sum\beta_{t\text{-}j}$). An estimate of –1.0 implies that a 1 percentage point increase in the URATE (e.g., from 0.6 to 0.5) generates a 1 percent decrease in the ith group's participation rate (e.g., 0.430 to 0.434).

The earlier identity ensures that the relationship between the employment-population ratio and aggregate demand and time can be written as:

$$(6)\quad \ln(EN)_{it} = \beta_0 - \alpha_0 + \sum_{j=0}^{7}(\beta_{t-j} - \alpha_{t-j})URATE_{t-j} + (\delta_1 - \phi_2)T + (\delta_2 - \phi_2)T^2 + e_i.$$

Equations 4, 5, and 6 can be used to decompose cyclical changes in the employment-population ratio into its portions due to changes in unemployment and participation, because for the ith demographic group:

(7) $\pi_{EN} = \pi_{pr} + \pi_{(1-UR)}$.

For example, we will be able to determine whether an increase in the employment-population ratio is due to movements from unemployment to employment and/or movements from out of the labor force to employment.

To provide an update to Clark and Summers' earlier results on teenagers, I estimate the models using published monthly data from the Bureau of Labor Statistics that span from 1954 to 2004. I use monthly data and estimate the models using an eight-month, first-degree polynomial distributed lag with the restriction that the coefficient on the ninth lag equals zero. I follow Clark and Summers by estimating all the equations with maximum likelihood techniques that correct for the positive serial correlation that exist in the data.

The models for nonenrolled young adults are estimated with shorter time series. The Bureau of Labor Statistics did not begin to publish participation, unemployment rates, and employment-population ratios for nonenrolled African Americans and Hispanics until October 1970 and October 1985. Labor market statistics by educational attainment were not published in the October supplement of the CPS until 1970. I estimate the models using a four-year, first-degree polynomial distributed lag with the restriction that the coefficient on the fourth lag equals zero. [6]

RESULTS

Table 1 presents for white teenagers estimates of the π_{EN}, $\pi_{(1-UR)}$, and π_{PR} , the sum of the coefficients on the unemployment rate in the distributed lag. They serve as a benchmark to Clark and Summers' estimates, which were based on quarterly data from 1954 to 1976. Column 1 reports the estimated relationships when the unemployment rate of men aged 35 to 44 is used as the proxy for aggregate demand, and Column 2 reports the estimated relationships with the U.S. unemployment rate. Both measures of aggregate demand exhibit the strong relationship between the health of the macroeconomy and youth labor market outcomes that Clark and Summers found. For white teenagers, a one-point increase in the prime-age male unemployment rate decreases the employment-population ratio of the teen population by 3.5 percent.[7] Over one-half of the decline comes through a decrease in the employment rate (1 minus the unemployment rate). Constraining the employment-population ratio's effect to equal the sum of the participation and

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[6] Just as Clark and Summers experiment with different lag structures, I also tried different structures and found that the estimates of the cyclical response were robust to choice of lag structures.

[7] Using quarterly data from 1954 to 1976, Clark and Summers (1981,1990) obtain an estimate for teenage white women and men of 4.25 and 4.4 percent, with 2.78 and 2.38 points of the relationship coming from a decline in participation.

employment rates' effects yields a coefficient of –3.5.[8] Using the national unemployment rate as the proxy for aggregate demand generates a 3.1 percent decline in the employment-population ratio, with a decline in participation having the same relative importance. The relationship is robust to constraining the employment-population ratio's effect to equal the sum of the effects of the employment and labor force participation rates.

<<TABLE 1 HERE>>

Table 2 presents the estimates for white and black teenagers over the length of each group's series (e.g, white teenagers: January 1954 to November 2004).[9] Extending the series of white teenagers to November 2004 indicates that white teenagers remain quite sensitive to the macroeconomy. A one-point increase in the unemployment rate of men aged 35 to 44 generates a 1.5 percent decline in the employment-population ratio. All of the response comes from employment (1 minus unemployment rate). Utilizing the national unemployment rate as the measure of aggregated demand leads to a smaller estimate of 1.2 percent, again with all of the relationship attributable to a decline in the employment rate of white teens.

<<TABLE 2 HERE>>

Black teens are more than five times as sensitive to fluctuations in aggregate demand than white teens. Both unemployment rate specifications indicate that a one-point increase in the unemployment rate is associated with a 9.0 to 9.5 percent decline in their employment rate. Almost 60 percent of the employment-population ratio's decline is due to an increase in the time needed to find a job.

I now shift to describing the sensitivity of the volume's target population, nonenrolled less skilled Americans, to macroeconomic fluctuations. Table 3 presents by age, race, gender, and educational attainment estimates of the π_{EN}, $\pi_{(1-UR)}$, and π_{PR} the sum of the coefficients on the unemployment rate in the distributed lag for nonenrolled young adults. These estimates do not constrain a change in the employment-population ratio to equal the sum of the change in the unemployment and participation rates as shown in Equation 7. The estimates are consistent with Clark and Summers and others. They exhibit strong relationships between the health of the macroeconomy and labor market outcomes of teenagers and young adults. A one-point increase in the U.S. unemployment rate lowers the employment-population ratios of nonenrolled 16- to 19- and 20- to 24-year-olds by 0.72 and 0.76 percent, with the decline in each group's employment-population ratio coming from reductions in its employment rate.

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[8] I obtain this value by summing –1.938 and –1.004, the estimates for the employment and participation rates in Column 1 of Table 1.

[9] Monthly labor force information on Hispanic teenagers is not published.

<<TABLE 3 HERE>>

Nonenrolled 16- to 24-year-old African Americans, high school dropout men, and Hispanics are the most sensitive to macroeconomic conditions. For nonenrolled whites, a one-point increase in the unemployment rate lowers their employment-population ratio by 1.0 percent. All of the declines come through a decrease in their employment rate. A one-point increase in the U.S. unemployment rate lowers the employment-population ratios of African Americans and Hispanics by 6.4 and 6.0 percent. For African Americans, all of the reduction is due to weaker job prospects; two-thirds of the reduction in the Hispanic employment-population ratio is due to weaker job prospects.

Table 3's estimates show that the employment-population ratios of nonenrolled 16- to 24-year-old men and women have different responses to a change in the U.S. unemployment rate. A one-point increase in the unemployment rate lowers women's employment-population ratio by 0.50 percent, compared to 1.85 percent for men. All of the reductions are due to a decline in each group's employment rate. Once the data are disggregated by educational attainment, however, the variation in experience expands.

Panel B of Table 3 indicates that nonenrolled high school dropouts, especially men, have the largest sensitivity to changes in the U.S. unemployment rate. A one-point increase in the U.S. unemployment rate lowers the employment-population ratio of nonenrolled high school dropout men by 3.7 percent; this figure is 1.9 percent for women. All of the reductions in the employment rate explain the decline. As one would expect, the sensitivity to macroeconomic fluctuations falls as educational attainment rises; however, the importance of the employment rate in explaining falling employment-population ratios does not diminish.

In summary, my measure of aggregate demand, the U.S. unemployment rate, provides continued confirmation of the long-held view of the least skilled as the most likely to be "last hired" and "first fired," with minorities and less educated men and women the most susceptible to macroeconomic downturns. Education and skills remain one of the best protections against cyclical downturns in the economy.

I now put the estimated coefficients in Table 3 to use. Using 2003 as the base year, I first simulate the impact that increases in the national unemployment rate have on the labor market outcomes of nonenrolled teenagers and young adults. The simulation can be viewed as a "what if" exercise of the economy stalling and experiencing a mild or severe recession. An increase in the unemployment rate of 2.0 percentage points would push the U.S. unemployment rate from 6.0 to 8.0 percent, which would still be well below the peak of the 1980s recession. An increase in the unemployment rate by 4.0 percentage points would be considered a severe recession, moving the unemployment rate to 10.0 percent, the peak of the 1980's recession.

Panel A of Table 4 reveals that a 2.0 point increase in the U.S unemployment rate would lower the teenage employment-population ratio by 1.2 percentage points from 56.6 to 55.4 percent, compared to a 1.7 point drop in the 20- to 24-year-old employment-

population ratio. For both age groups, the decline in the employment-population ratio is solely due to a fall in the employment rate. A severe recession (an increase in the national unemployment rate of 4.0 points) would lower the teenage employment-population ratio to 52.6 percent and the young adult employment-population ratio to 68.7 percent. The reduction in the employment-population ratios is predominately due to larger decreases in the employment rates. These individuals stay in the labor force.

<<TABLE 4 HERE>>

Panel B of Table 4 presents the results from another "what if" calculation. I use the estimates in Table 3, the October 2003 average employment, participation, and unemployment rates, and forecasts of the U.S. unemployment rate over the next decade to generate estimates of what the path of employment, participation, and unemployment might look like for nonenrolled young adults. For a point of comparison, the table also contains the peak values for the 1990s boom.

The entries in Panel B suggest that teenage employment will slowly rise as the national unemployment rate falls from 6.0 percent in 2003 to 5.5 percent in 2004, and to 5.3 percent in 2005. At the end of the forecast period, the teenage employment-population ratio will be 6.5 points below its peak during the 1990s boom. The employment-population ratio of 20- to 24-year-olds will be 4.1 percentage points below its 1990s peak. Since the erosion in employment is forecast to be slightly larger for teenagers than young adults, a small expansion in the gap will occur. The key result in this table is that the failure of the employment-population ratio to return to its peak levels is due to lower employment rates (higher unemployment rates), which are the result of a higher national unemployment rate.

To illustrate the macroeconomy's recent inability to absorb the least-skilled Americans, I construct the following calculation. If the 2004 forecast of a 5.5 percent U.S. unemployment rate occurs, then compared to 3.9 percent, the boom's lowest unemployment rate, there will be 943,000 fewer less skilled Americans employed. To generate these estimates, I first multiply the 2004 forecast of the demographic group (e.g., 16- to 24-year-olds) by its civilian population in 2003. This product equals the predicted employment level in 2004, assuming zero population growth. The calculation for nonenrolled 16- to 24-year-olds is 0.709*15,903,000 = 11,275,227. I then compare this predicted level of 2004 employment to the level of employment in 2000 (12,218,000 – 11,275,227 = 942,773). The difference is the reduction in nonenrolled employment that can be attributed to a higher U.S. unemployment rate.

Table 5 presents simulations by race and ethnicity. Focusing on the forecast in Panel B reveals that after falling to 74.4, 54.9, and 67.5 percent for nonenrolled whites, blacks, and Hispanics, respectively, the employment-population ratios are predicted to rise over the next two years. The white employment-population ratio will fall short of its 1990s peak by 3.4 points. The employment-population ratio of blacks will fall short of its 1990s peak by 2.1 percentage points, and the Hispanic employment-population ratio will also fall short of its 1990s peak, by 0.3 points.

<<TABLE 5 HERE>>

Assuming no population growth, the forecasts in Table 5 imply that since the boom's peak in 2000, the economy has not been able to absorb 773,000 nonenrolled young whites, 213,000 nonenrolled young blacks; however the number of nonenrolled young Hispanics has risen by 240,000, due in part to the growth in their population.[10]

Table 6 shifts to comparing the future experience of nonenrolled men and women. At the higher national jobless rates not all of those that will be searching for jobs will be able to obtain employment. The men's employment-population ratio is forecast to be 3.6 percentage points below its peak during the 1990s boom. The women's employment-population ratio is predicted to be 4.3 percentage points below its peak.

<<TABLE 6 HERE>>

We conclude with forecasts that disaggregate by educational attainment and gender. Panel B of Tables 7 and 8 indicate that the forecasted national unemployment rates will not be low enough to absorb the least educated of the nonenrolled. Employment-population ratios of both male and female high school dropouts and graduates will be several percentage points below their peak values obtained during the 1990s boom.

<<TABLES 7 AND 8 HERE>>

Assuming that the civilian population for these sub-populations does not grow from 2003 to 2005, the implied number of nonenrolled men and women that the economy will not pull in is approximately 983,000, with 870,000 or 88 percent of these young adults possessing no more than a high school diploma.

These results provide a potentially sobering picture of the future for America's nonenrolled youth, especially minorities, men and women with low levels of education. The Administration forecasts an unemployment rate for 2004 of 5.5 percent—which, given that the average actual unemployment rate for January to November is 5.53 percent. The forecast will most likely occur. The estimates in this section suggest that when the jobless rate fell to 3.9 percent, at the boom's peak, 942,000 additional nonenrolled young adults found jobs. In the absence of the extremely tight labor markets

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[10] These estimates are constructed as follows: multiply the 2004 forecast of the demographic group (e.g., nonenrolled whites) by its civilian population in 2003. This product equals the predicted employment level in 2004, assuming that population remained constant. The calculation for nonenrolled whites is 0.748*12,570,000 = 9,402,360. Compare this predicted level of 2004 employment to the level of employment in 2000 (10,175,000 – 9,402,360 = 772,640). The difference is the decline in employment that we attribute to a higher national unemployment rate. For nonenrolled blacks the predicted difference is 213,385 [1,543,000 – (0.567*2,345,000)]. For nonenrolled Hispanics, the predicted difference is –239800 [2,151,000 – (0.695*3,440,000)].

of the late 1990s, policy makers will have to find other ways to reduce barriers to job search, entry, and retention and to cushion the effects that technological change and globalization may have on the labor market opportunities of the less skilled. These strategies become even more important as the Federal Reserve continues with its increases in the federal funds rate, which will act to slow the economy. Carpenter and Rodgers (2004) show that contractionary monetary policy has a disparate negative effect on the employment-population ratio of the least skilled.

DISCUSSION

This chapter looks forward, presenting estimates of the economic opportunities that less skilled Americans will experience over the next ten years. The Bush Administration forecasts that the U.S. unemployment rate will fall to 5.5 percent in 2004, and fall to 5.3 percent in 2005. These national unemployment rates will reflect a growing economy, but with a significantly "looser" labor market. This chapter shows that if current policies continue, the future macroeconomy will not exhibit the breadth and depth of the 1990s boom.

The chapter reinforces the view that young nonenrolled African Americans are the most cyclically sensitive demographic group. A one-point increase in the U.S. unemployment rate is associated with a 6.4 percent decline in their employment-population ratio, with the declines coming from an increase in their unemployment rate. The chapter's most startling result is that the employment-population ratio of nonenrolled less educated men and women are extremely sensitive to the macroeconomy. Both results have implications for how a "work first" philosophy toward social safety nets, such as welfare, can successfully function. The results have implications for the ability of ex-offenders to find jobs.

The chapter then uses these empirical relationships and economy-wide Bush Administration forecasts to predict employment-population ratios, labor force participation rates, and employment rates (one minus the unemployment rate) of nonenrolled young adults over the next ten years. The evidence indicates that the employment-population ratios of young nonenrolled adults will improve over the next decade. However, the ratios will not return to the record lows of the 1990s boom. The lower employment-population ratios will reflect lower employment rates (higher unemployment rates), especially for nonenrolled blacks, nonenrolled men and women with a high school diploma or less.

If the 2004 forecast of the U.S. unemployment rate of 5.5 percent is realized, then, since the peak of the expansion in 2000, approximately 940,000 fewer less skilled Americans will be employed. To date, the average U.S. unemployment rate over the first eleven months of 2004 is 5.53 percent, and many experts believe that the jobless rate will fall modestly in 2005.

What implications does having a higher national unemployment rate have on social policy? First, if the Bush Administration forecasts come to pass, the economy will not provide the breadth and depth of opportunities that it did during the 1990s. Second, the

macroeconomic policy that underpins these forecasts provides an upper bound on less skilled employment-population ratios. Furthermore, if policy makers seek to raise the employment-population ratios of nonenrolled young adults, they will have to make skill investments and find other vehicles to stimulate aggregate demand. More generally, unless these actions are taken, the pool of untapped (unemployed and out of the labor force, but want a job) and partially tapped (working part-time for economic reasons) individuals will continue to grow over the next ten years, and "work first" employment and welfare policies will not be as successful. Ex-offenders will have greater difficulty finding employment. Communities in the Mississippi Delta, Appalachia, and others throughout the U.S. that have persistently high unemployment and poverty rates will not be left behind.

What are some policies that could be utilized to strengthen the employment of less skilled Americans? First, there are policies that foster *continuously* tight labor markets. Finding out why the tremendous fiscal stimulus in the form of tax cuts and expenditures on Iraq, Afghanistan and homeland security have produced less on the jobs front than the Administration and independent analysts hoped it would, and seeking ways to re-couple economic and employment growth are of extreme importance.

Building the skills of adults and youth in a slowing growing economy will be crucial, especially for nonenrolled young adults. Also, raising the value of work via reasonable increases in the minimum wage and creation of living wages and expansions in the Earned Income Tax Credit will add to the future wage growth and productivity of less skilled Americans.

Another group of programs includes holistic geographic grant approaches, such as the Youth Opportunity Grants that target funds to and coordinate resources in areas with high unemployment and poverty rates.

Policies that remove barriers to work are also a part of this comprehensive strategy for work. Today, it is the rule rather than the exception that both parents work, and it goes without saying that single parents have to work. Because of this, access to "high quality" child care must receive higher priority. Access to transportation must also be a greater priority. Research has shown that much of the job growth in recent decades has been in suburban areas, which place a greater premium on having an automobile.

Finally —I mention this only in passing, since the topic is addressed elsewhere in this book—policies need to be strengthened that address the adverse impact that both incarceration and the dramatic growth in arrears has had on less skilled men.

During the late 1990s and in the beginning of 2000, the United States was in an excellent fiscal position to make these investments. It was simply a matter of placing the welfare of less skilled Americans higher on the list of priorities. Since 2001, however, the fiscal position that would make these investments possible has been severely altered. The massive revenue shortfalls that have emerged in most state governments and the federal government's fiscal actions will undoubtedly constrain serious efforts to address the

needs of less skilled Americans. Years from now, when economic historians write about the 1990s boom, many who focus on social policy may label the period as one of missed opportunities.

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Table 1: White Teenagers' Cyclical Response of Participation, Unemployment, and Employment 1954–1976
(Standard Errors in Parentheses)

Variable	Male 35-44 year old Unemployment Rate	US Unemployment Rate
ln(EPOP)	-3.548	-3.099
	(0.216)	(0.177)
ln(EMP)	-2.073	-1.832
	(0.087)	(0.066)
ln(LFP)	-1.475	-1.265
	(0.188)	(0.159)

Notes: Author's calculations using published data from the Bureau of Labor Statistics. The coefficients are the sum of the coefficients on the unemployment rate obtained from an eight-month, polynomial in the first degree, with the coefficient on the 9th month set equal to zero. The estimates have been corrected for first order serial correlation.
ln(EPOP): logarithm of the employment population ratio
ln(LFP): logarithm of the labor force participation ratio
ln(EMP): logarithm of the employment rate (1 minus the unemployment rate)

Table 2: Cyclical Behavior of Unemployment, Participation, and Employment for Teenagers (Standard Errors in Parentheses)

Panel A: Male 35-44 year old Unemployment Rate		
Variable	**White**	**Black**
ln(EPOP)	-1.472	-9.450
	(0.211)	(0.337)
ln(EMP)	-1.608	-5.363
	(0.049)	(0.226)
ln(LFP)	0.133	-4.099
	(0.194)	(0.250)
Panel B: US Unemployment Rate		
Variable	**White**	**Black**
ln(EPOP)	-1.242	-9.036
	(0.203)	(0.288)
ln(EMP)	-1.652	-5.238
	(0.039)	(0.190)
ln(LFP)	0.408	-3.810
	(0.183)	(0.231)

Notes: The coefficients in Panel A are the sum of the coefficients on the unemployment rate of men aged 35 to 44 obtained from an eight-month, polynomial in the first degree, with the coefficient on the 9th month set equal to zero. The coefficients in Panel B are the sum of the coefficients on the U.S. unemployment rate obtained from an eight-month, polynomial in the first degree, with the coefficient on the 9th month set equal to zero. All models contain month dummy variables and time trends. They have also been corrected for first-order serial correlation. The white teen series runs from January 1954 to November 2004. The black teen series runs from January 1972 to November 2004.
ln(EPOP): logarithm of the employment population ratio
ln(LFP): logarithm of the labor force participation ratio
ln(EMP): logarithm of the employment rate (1 minus the unemployment rate)

Table 3: Cyclical Behavior of Unemployment, Employment, and Participation of Nonenrolled 16–24-Year-Olds (Standard Errors in Parentheses)

Panel A:	**Age**			**Race and Ethnicity**			**Gender**	
Variable:	**16-24**	**16-19**	**20-24**	**White**	**Black**	**Hispanic**	**Men**	**Women**
ln(EPOP)	-0.762	-0.717	-0.755	-1.019	-6.403	-5.993	-1.846	-0.459
	(0.357)	(0.455)	(0.324)	(0.576)	(1.293)	(0.789)	(0.368)	(0.502)
ln(EMP)	-1.636	-2.904	-1.537	-1.673	-6.347	-3.968	-1.987	-1.244
	(0.253)	(0.437)	(0.238)	(0.370)	(1.056)	(0.779)	(0.314)	(0.235)
ln(LFP)	0.468	1.411	0.289	0.655	-0.034	-2.025	0.189	0.855
	(0.189)	(0.440)	(0.174)	(0.368)	(0.643)	(0.770)	(0.105)	(0.407)

Panel B:	**Men**				**Women**			
Variable:	**High School Dropout**	**High School Graduates**	**Some College**	**College Graduates**	**High School Dropout**	**High School Graduates**	**Some College**	**College Graduates**
ln(EPOP)	-3.692	-2.442	-2.027	-0.210	-1.879	-1.302	-0.341	-0.977
	(0.971)	(0.683)	(0.443)	(0.615)	(2.514)	(0.883)	(0.546)	(0.649)
ln(EMP)	-3.808	-1.732	-1.727	-0.195	-4.414	-2.077	-1.142	-1.136
	(0.832)	(0.474)	(0.383)	(0.504)	(1.006)	(0.360)	(0.346)	(0.392)
ln(LFP)	0.107	-0.542	-0.295	-0.015	2.541	0.796	0.711	0.145
	(0.440)	(0.238)	(0.236)	(0.303)	(2.111)	(0.683)	(0.492)	(0.424)

Notes: The coefficients are the sum of the coefficients on the U.S. unemployment rate obtained from a four-year, polynomial in the first degree, with the coefficient on fifth year set equal to zero. All models contain a time trend and have been corrected for first-order serial correlation. All data are from October. The series by age run from October 1953 to October 2003. The series for whites and blacks run from 1970 to 2003 and for Hispanic from 1985 to 2003. The series by gender run from 1953 to 2003. The series by gender and education run from 1970 to 2003.
ln(EPOP): logarithm of the employment population ratio
ln(LFP): logarithm of the labor force participation ratio
ln(EMP): logarithm of the employment rate (1 minus the unemployment rate)

Table 4: Simulations of Changes in the U.S. Unemployment on the Cyclical Behavior of Nonenrolled 16–24-Year-Olds by Age

Panel A: Assuming 1.0 point increases in US Unemployment Rate

			Percentage Point Increase in Unemployment Rate			
Age 16-24	**Peak of Boom (2000)**	**Base Year (2003)**	**1.0**	**2.0**	**3.0**	**4.0**
EPOP	75.2%	70.6%	70.1%	69.0%	67.4%	65.4%
EMP	90.9%	86.9%	85.5%	82.7%	78.6%	73.5%
LFP	82.7%	81.3%	81.7%	82.4%	83.6%	85.2%
Age 16-19						
EPOP	63.4%	56.6%	56.2%	55.4%	54.2%	52.6%
EMP	83.2%	77.8%	75.5%	71.2%	65.0%	57.4%
LFP	76.3%	72.7%	73.7%	75.8%	79.0%	83.5%
Age 20-24						
EPOP	78.6%	74.1%	73.5%	72.4%	70.8%	68.7%
EMP	92.9%	88.9%	87.5%	84.8%	80.9%	76.0%
LFP	84.6%	83.4%	83.6%	84.1%	84.9%	85.8%

Panel B: Assuming Bush Administration Forecasts of the U.S. Unemployment Rate

			Forecast	
	Peak of Boom (2000)	**Base Year (2003)**	**2004**	**2005**
U.S. Unemployment Rate	**3.9**	**6.0**	**5.5**	**5.3**
Age 16-24				
EPOP	75.2%	70.6%	**70.9%**	71.0%
EMP	90.9%	86.9%	87.6%	87.9%
LFP	82.7%	81.3%	81.1%	81.0%
Age 16-19				
EPOP	63.4%	56.6%	56.8%	56.9%
EMP	83.2%	77.8%	78.9%	79.4%
LFP	76.3%	72.7%	72.2%	72.0%
Age 20-24				
EPOP	78.6%	74.1%	74.4%	74.5%
EMP	92.9%	88.9%	89.6%	89.9%
LFP	84.6%	83.4%	83.3%	83.2%

Notes: Author's calculations using published data from the October Supplement of the Current Population Survey, Bureau of Labor Statistics. Base year corresponds to the year in which the impact of an increase in the unemployment rate is based.
EMP: 1 minus the unemployment rate
LFP: Labor force participation rate
EPOP: Employment Population Ratio

Table 5: Simulations of an Increase in the Unemployment Rate on the Cyclical Behavior of Nonenrolled 16–24-Year-Olds by Race and Ethnicity

Panel A: Assuming 1.0 point increases in US Unemployment Rate

			Percentage Point Increase in Unemployment Rate			
White	**Peak of Boom (2000)**	**Base Year (2003)**	**1.0**	**2.0**	**3.0**	**4.0**
EPOP	78.3%	74.4%	73.6%	72.1%	69.9%	67.1%
EMP	92.6%	89.5%	88.0%	85.1%	80.8%	75.4%
LFP	84.6%	83.1%	83.6%	84.7%	86.4%	88.7%
Black						
EPOP	59.5%	54.9%	51.4%	52.0%	52.8%	54.0%
EMP	81.3%	73.9%	69.2%	60.4%	48.9%	36.5%
LFP	73.2%	74.3%	74.3%	74.2%	74.1%	74.0%
Hispanic						
EPOP	70.7%	67.5%	63.5%	55.8%	45.8%	34.8%
EMP	91.8%	87.7%	84.2%	77.5%	68.3%	57.5%
LFP	77.0%	77.0%	75.4%	72.4%	68.0%	62.5%

Panel B: Assuming Bush Administration Forecasts of the U.S. Unemployment Rate

			Forecast	
	Peak of Boom (2000)	**Base Year (2003)**	**2004**	**2005**
White	**3.9**	**6.0**	**5.5**	**5.3**
EPOP	78.3%	74.4%	74.8%	74.9%
EMP	92.6%	89.5%	90.2%	90.6%
LFP	84.6%	83.1%	82.8%	82.7%
Black				
EPOP	59.5%	54.9%	56.7%	57.4%
EMP	81.3%	73.9%	76.2%	77.2%
LFP	73.2%	74.3%	74.3%	74.3%
Hispanic				
EPOP	70.7%	67.5%	69.5%	70.4%
EMP	91.8%	87.7%	89.4%	90.1%
LFP	77.0%	77.0%	77.8%	78.1%

Notes: Author's calculations using published data from the October Supplement of the Current Population Survey, Bureau of Labor Statistics. Based year corresponds to the year in which the impact of an increase in the unemployment rate is based.
EMP: 1 minus the unemployment rate
LFP: Labor force participation rate
EPOP: Employment Population Ratio

Table 6: Simulations of an Increase in the Unemployment Rate on the Cyclical Behavior of Nonenrolled 16–24 Year Olds by Gender

Panel A: Assuming 1.0 point increases in US Unemployment Rate

			Percentage Point Increase in Unemployment Rate			
Men	**Peak of Boom (2000)**	**Base Year (2003)**	**1.0**	**2.0**	**3.0**	**4.0**
EPOP	80.5%	75.9%	74.5%	71.7%	67.8%	62.8%
EMP	90.7%	86.9%	85.2%	81.8%	76.9%	70.8%
LFP	88.7%	87.4%	87.6%	87.9%	88.4%	89.1%
Women						
EPOP	69.4%	64.9%	64.6%	64.0%	63.1%	62.0%
EMP	91.0%	87.0%	85.9%	83.8%	80.7%	76.6%
LFP	76.3%	74.6%	75.2%	76.5%	78.5%	81.2%

Panel B: Assuming Bush Administration Forecasts of the U.S. Unemployment Rate

			Forecast	
	Peak of Boom (2000)	**Base Year (2003)**	**2004**	**2005**
U.S. Unemployment Rate	**3.9**	**6.0**	**5.5**	**5.3**
Men				
EPOP	80.5%	75.9%	76.6%	76.9%
EMP	90.7%	86.9%	87.8%	88.1%
LFP	88.7%	87.4%	87.3%	87.3%
Women				
EPOP	69.4%	64.9%	65.0%	65.1%
EMP	91.0%	87.0%	87.5%	87.8%
LFP	76.3%	74.6%	74.3%	74.2%

Notes: Author's calculations using published data from the October Supplement of the Current Population Survey, Bureau of Labor Statistics. Base year corresponds to the year in which the impact of an increase in the unemployment rate is based.
EMP: 1 minus the unemployment rate
LFP: Labor force participation rate
EPOP: Employment Population Ratio

Table 7: Simulations of an Increase in the Unemployment Rate on the Cyclical Behavior of Nonenrolled 16–24-Year-Old Men by Educational Attainment

Panel A: Assuming 1.0 point increases in US Unemployment Rate

			Percentage Point Increase in Unemployment Rate			
High School Dropout	**Peak of Boom (2000)**	**Base Year (2003)**	**1.0**	**2.0**	**3.0**	**4.0**
EPOP	67.7%	64.7%	62.3%	57.7%	51.3%	43.7%
EMP	83.7%	81.7%	78.6%	72.6%	64.3%	54.5%
LFP	80.9%	79.2%	79.3%	79.5%	79.7%	80.0%
High School Graduate						
EPOP	81.3%	76.3%	74.4%	70.8%	65.6%	59.2%
EMP	90.7%	86.5%	85.0%	82.1%	77.8%	72.4%
LFP	89.6%	88.2%	87.7%	86.8%	85.4%	83.5%
Some College						
EPOP	90.1%	83.9%	82.2%	78.9%	74.1%	68.1%
EMP	97.0%	90.4%	88.8%	85.8%	81.3%	75.7%
LFP	92.9%	92.8%	92.5%	92.0%	91.2%	90.1%
College Graduate						
EPOP	91.1%	86.6%	86.4%	86.1%	85.5%	84.8%
EMP	94.4%	92.8%	92.6%	92.3%	91.7%	91.0%
LFP	96.6%	93.3%	93.3%	93.3%	93.2%	93.2%

Panel B: Assuming Bush Administration Forecasts of the U.S. Unemployment Rate

			Forecast	
	Peak of Boom (2000)	**Base Year (2003)**	**2004**	**2005**
U.S. Unemployment Rate	**3.9**	**6.0**	**5.5**	**5.3**
High School Dropout				
EPOP	67.7%	64.7%	65.9%	66.4%
EMP	83.7%	81.7%	83.3%	83.9%
LFP	80.9%	79.2%	79.2%	79.1%
High School Graduate				
EPOP	81.3%	76.3%	77.2%	77.6%
EMP	90.7%	86.5%	87.2%	87.6%
LFP	89.6%	88.2%	88.4%	88.5%
Some College				
EPOP	90.1%	83.9%	84.8%	85.1%
EMP	97.0%	90.4%	91.2%	91.5%
LFP	92.9%	92.8%	92.9%	93.0%
College Graduate				
EPOP	91.1%	86.6%	86.7%	86.7%
EMP	94.4%	92.8%	92.9%	92.9%
LFP	96.6%	93.3%	93.3%	93.3%

Notes: Author's calculations using published data from the October Supplement of the Current Population Survey, Bureau of Labor Statistics. Base year corresponds to the year in which the impact of an increase in the unemployment rate is based.
EMP: 1 minus the unemployment rate
LFP: Labor force participation rate
EPOP: Employment Population Ratio

Table 8: Simulations of an Increase in the Unemployment Rate on the Cyclical Behavior of Nonenrolled 16–24-Year-Old Women by Educational Attainment

Panel A: Assuming 1.0 point increases in US Unemployment Rate

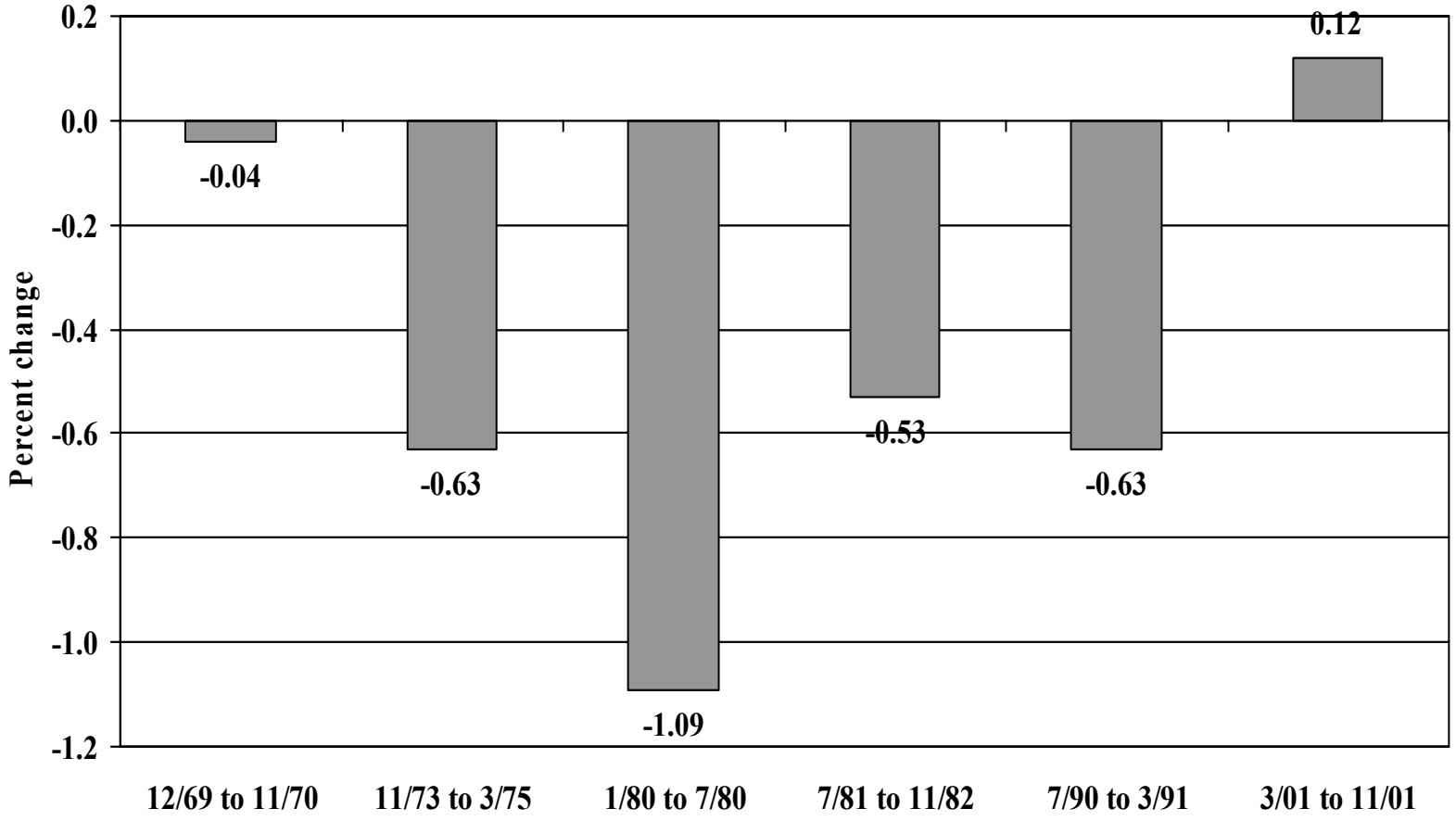
			Percentage Point Increase in Unemployment Rate			
High School Dropout	**Peak of Boom (2000)**	**Base Year (2003)**	**1.0**	**2.0**	**3.0**	**4.0**
EPOP	43.7%	38.2%	37.5%	36.1%	34.0%	31.5%
EMP	79.7%	75.2%	71.9%	65.5%	56.9%	46.8%
LFP	54.8%	50.8%	51.3%	51.8%	52.2%	52.6%
High School Graduate						
EPOP	71.2%	63.2%	62.4%	60.8%	58.4%	55.3%
EMP	91.2%	85.2%	83.4%	80.0%	75.0%	68.7%
LFP	78.0%	74.2%	74.8%	76.0%	77.8%	80.3%
Some College						
EPOP	78.8%	78.5%	78.2%	77.7%	76.9%	75.9%
EMP	94.1%	91.5%	90.5%	88.4%	85.4%	81.5%
LFP	83.7%	85.8%	86.4%	87.6%	89.5%	92.1%
College Graduate						
EPOP	90.9%	85.8%	85.0%	83.3%	80.9%	77.7%
EMP	96.9%	93.8%	92.7%	90.6%	87.5%	83.6%
LFP	93.9%	91.5%	91.6%	91.9%	92.3%	92.8%

Panel B: Assuming Bush Administration and the Blue Chip Forecasts of the U.S. Unemployment Rate

			Forecast	
	Peak of Boom (2000)	**Base Year (2003)**	**2004**	**2005**
U.S. Unemployment Rate	**3.9**	**6.0**	**5.5**	**5.3**
High School Dropout				
EPOP	43.7%	38.2%	38.6%	38.7%
EMP	79.7%	75.2%	76.9%	77.5%
LFP	54.8%	50.8%	50.2%	49.9%
High School Graduate				
EPOP	71.2%	63.2%	63.6%	63.8%
EMP	91.2%	85.2%	86.1%	86.4%
LFP	78.0%	74.2%	73.9%	73.8%
Some College				
EPOP	78.8%	78.5%	78.6%	78.7%
EMP	94.1%	91.5%	92.0%	92.2%
LFP	83.7%	85.8%	85.5%	85.4%
College Graduate				
EPOP	90.9%	85.8%	86.2%	86.4%
EMP	96.9%	93.8%	94.3%	94.5%
LFP	93.9%	91.5%	91.4%	91.4%

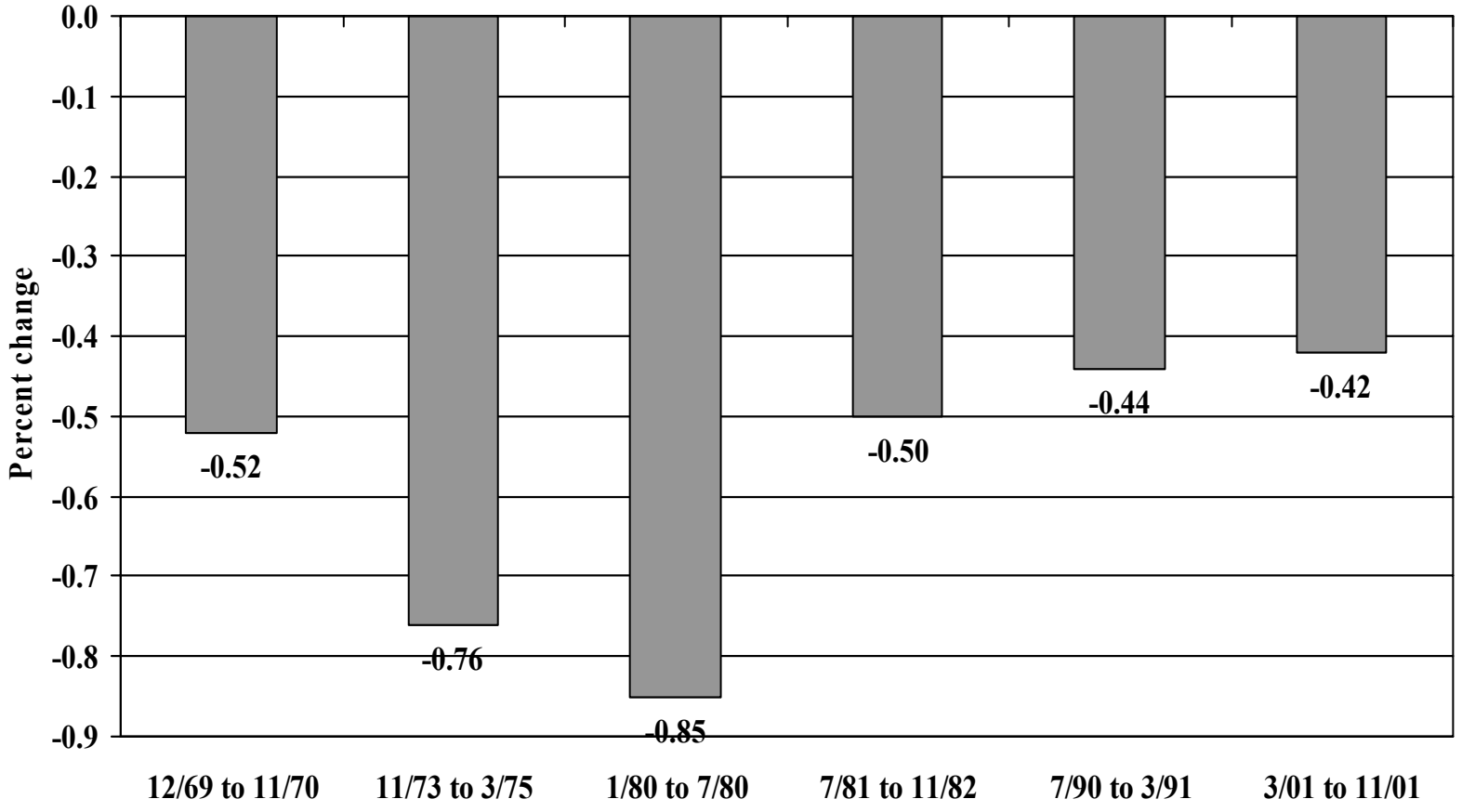
Notes: Author's calculations using published data from the October Supplement of the Current Population Survey, Bureau of Labor Statistics. Base year corresponds to the year in which the impact of an increase in the unemployment rate is based.
EMP: 1 minus the unemployment rate
LFP: Labor force participation rate
EPOP: Employment Population Ratio

Figure 1: Average Quarterly Change in Real GDP by Recession



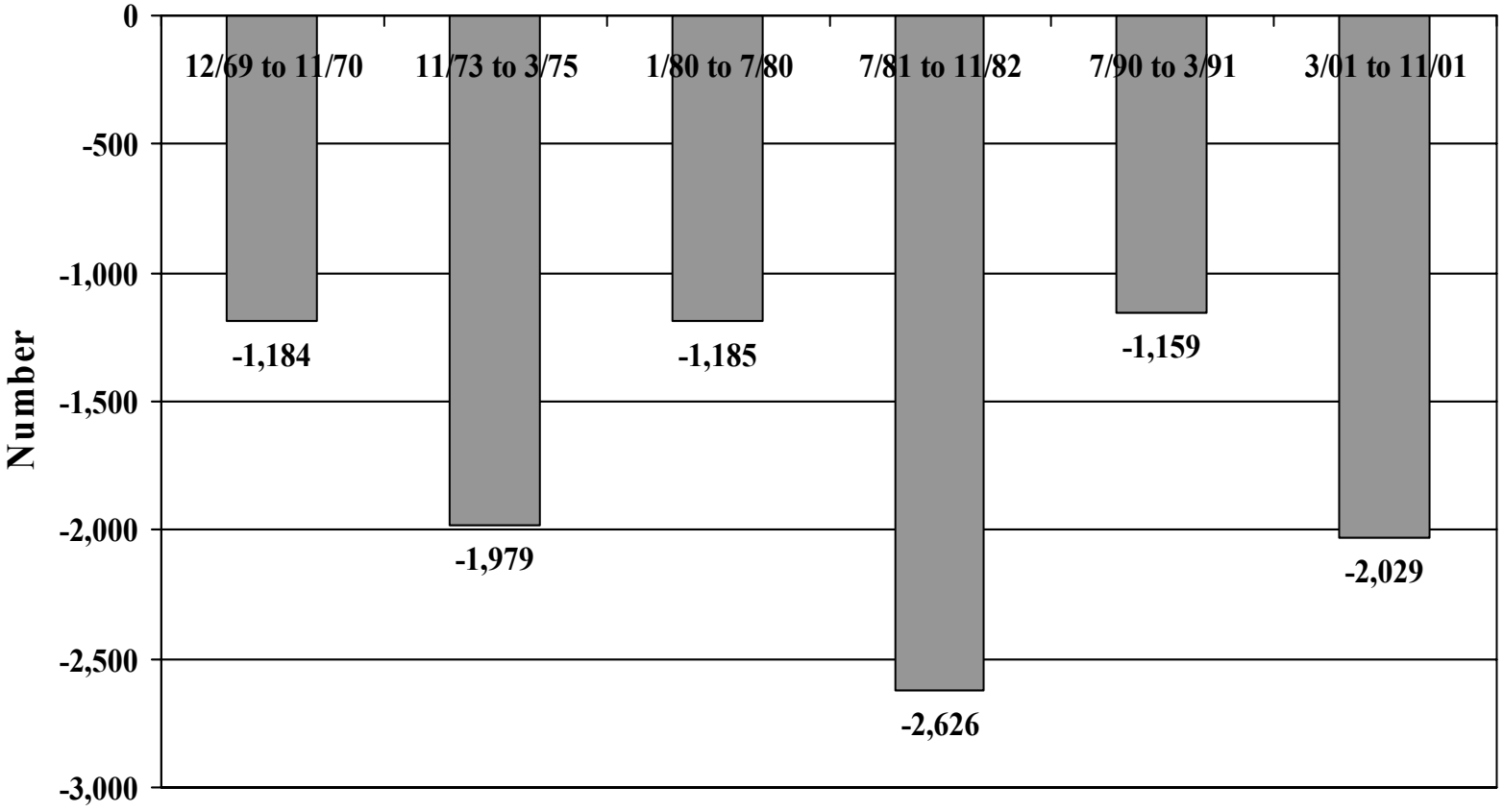
Notes: Author's calculations from published Bureau of Economic Analysis data. Recession designations come from the National Bureau of Economic Research. The NBER has not officially designated March 2002 as the end of the 2001 recession.

Figure 2: Average Monthly Change in Industrial Production by Recession



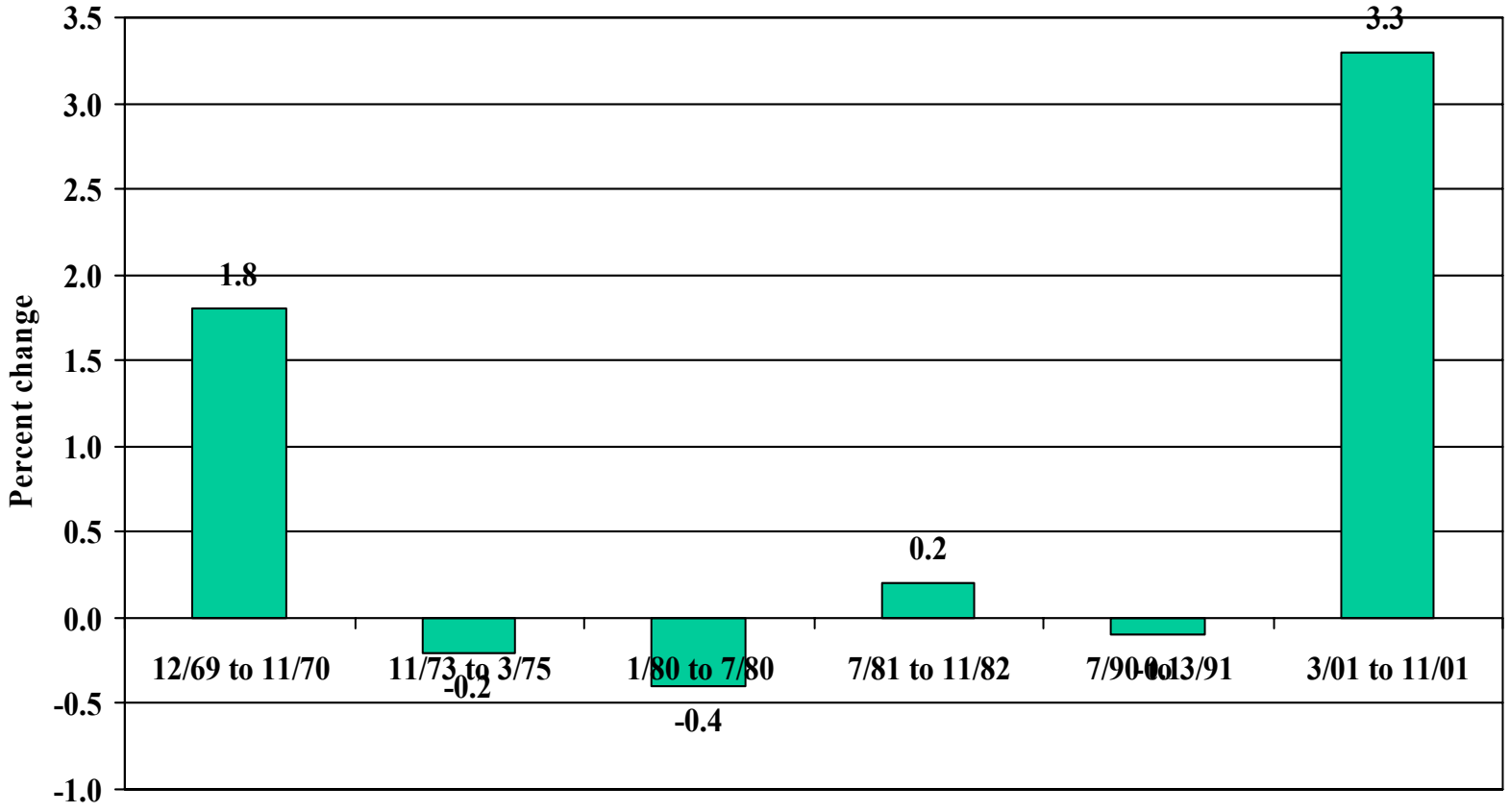
Notes: Author's calculations from published Federal Reserve data. Recession designations come from the National Bureau of Economic Research.

Figure 3: Contraction in Private Sector Employment by Recession (in thousands)



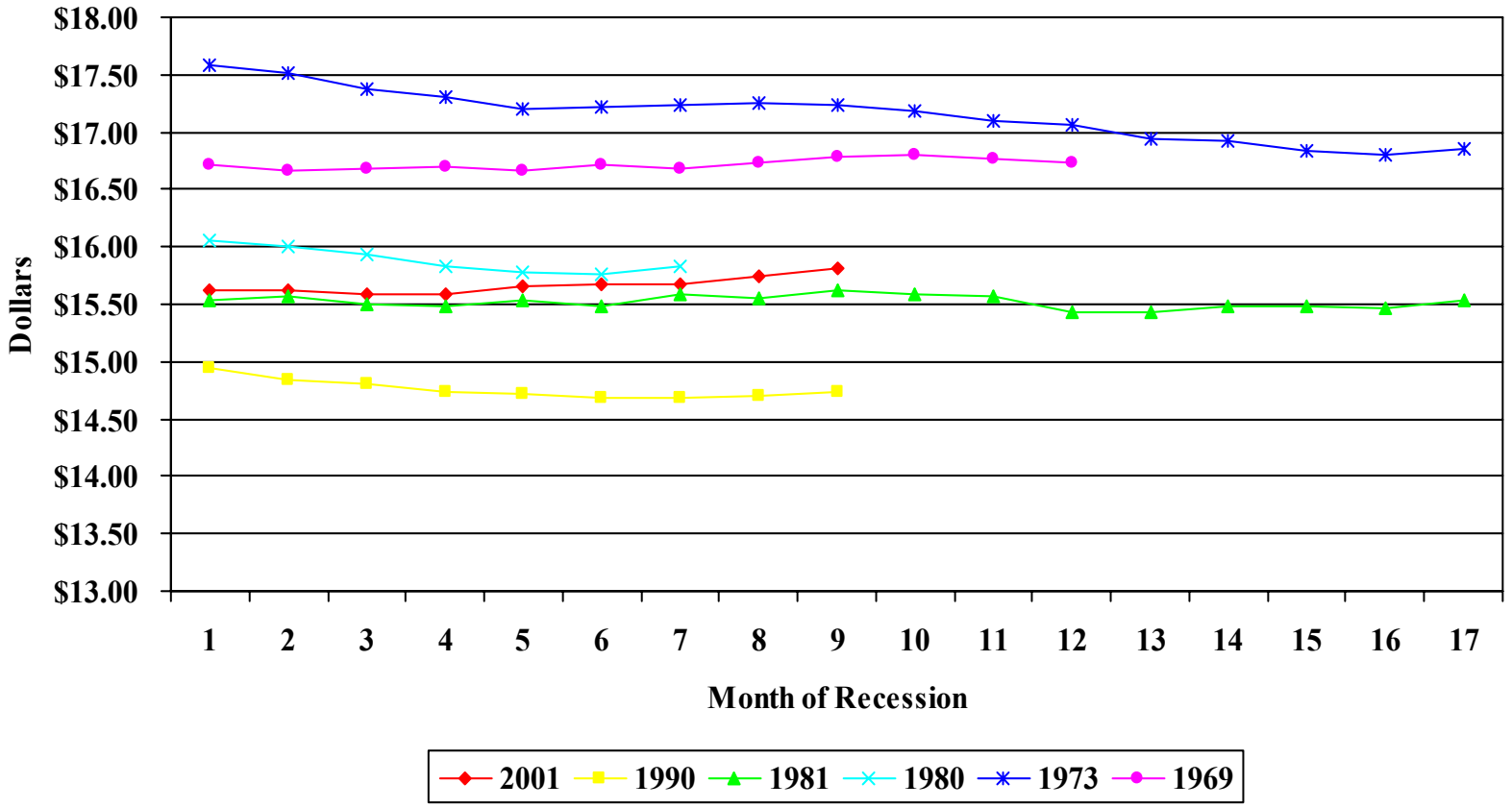
Source: Author's tabulations from published Bureau of Labor Statistics (BLS) data.

Figure 4: Average Quarterly Change in Productivity by Recession



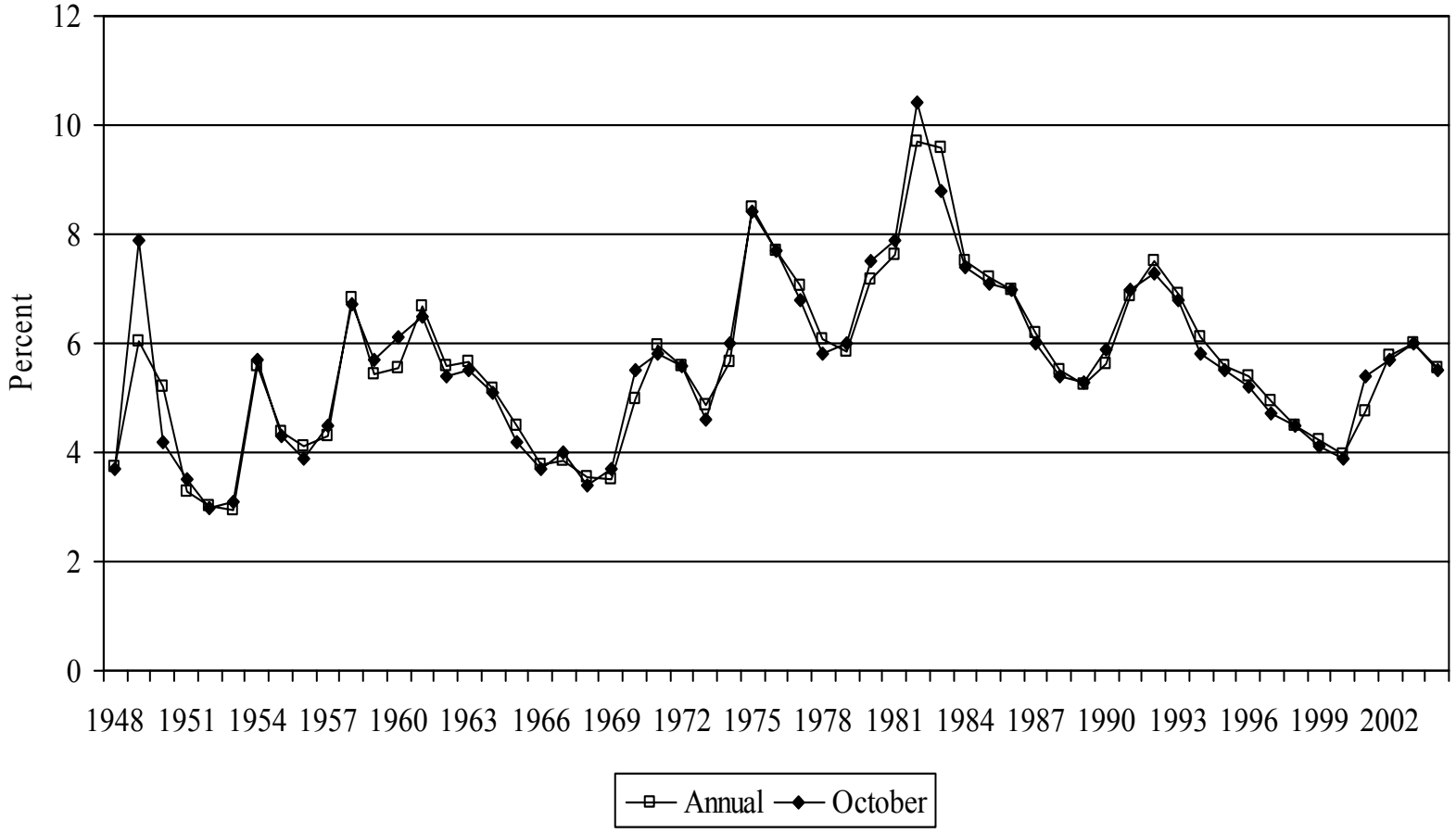
Source: Author's tabulations from published Bureau of Labor Statistics data. Figures are the percent change a quarter ago, at annual rate.

Figure 5: The Pattern of Real Hourly Wages by Recession (October 2004 Dollars)



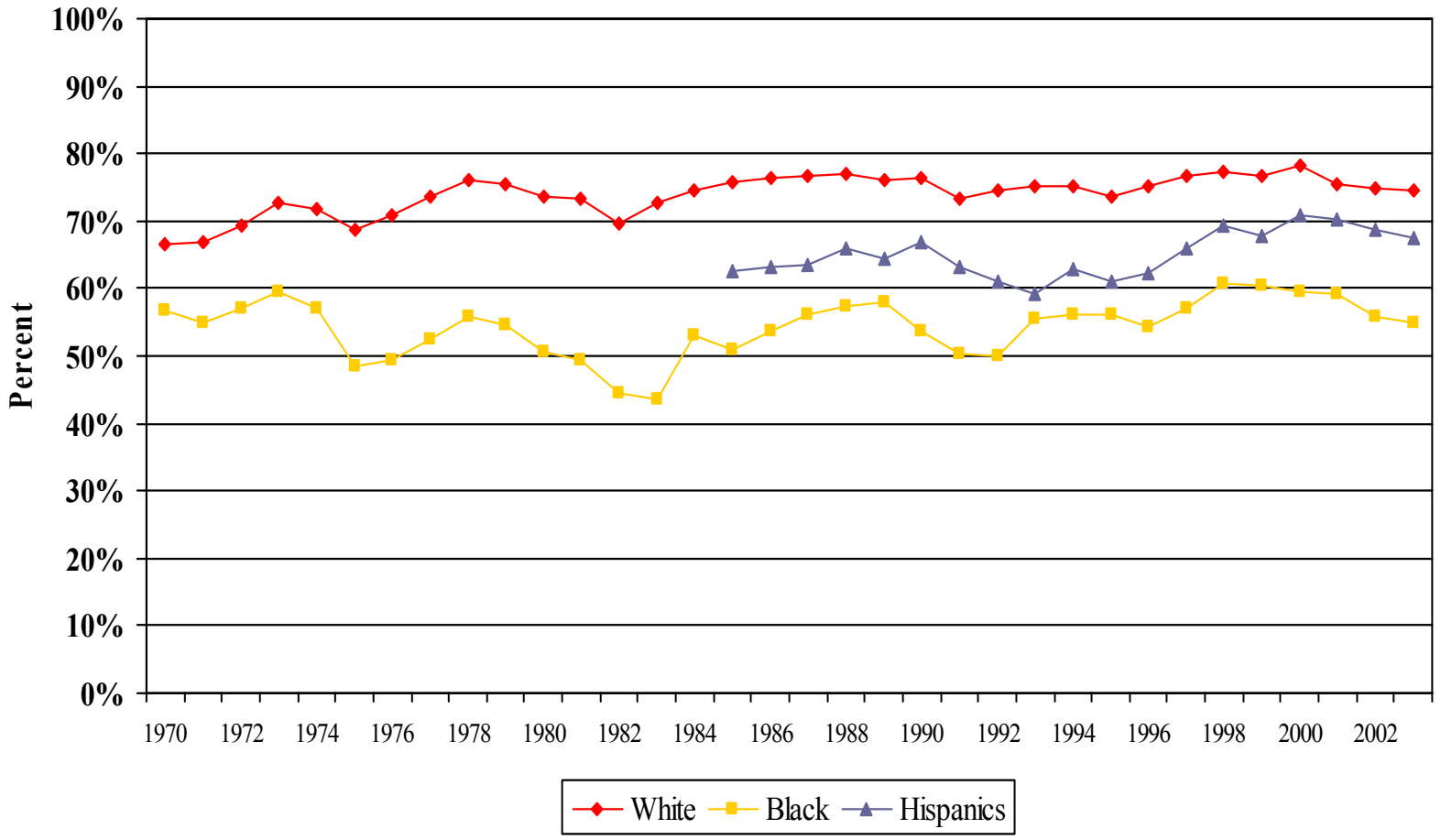
Source: Author's tabulations from published Bureau of Labor Statistics data.

Figure 6: Selected U.S. Unemployment Rates, 1948 to 2004



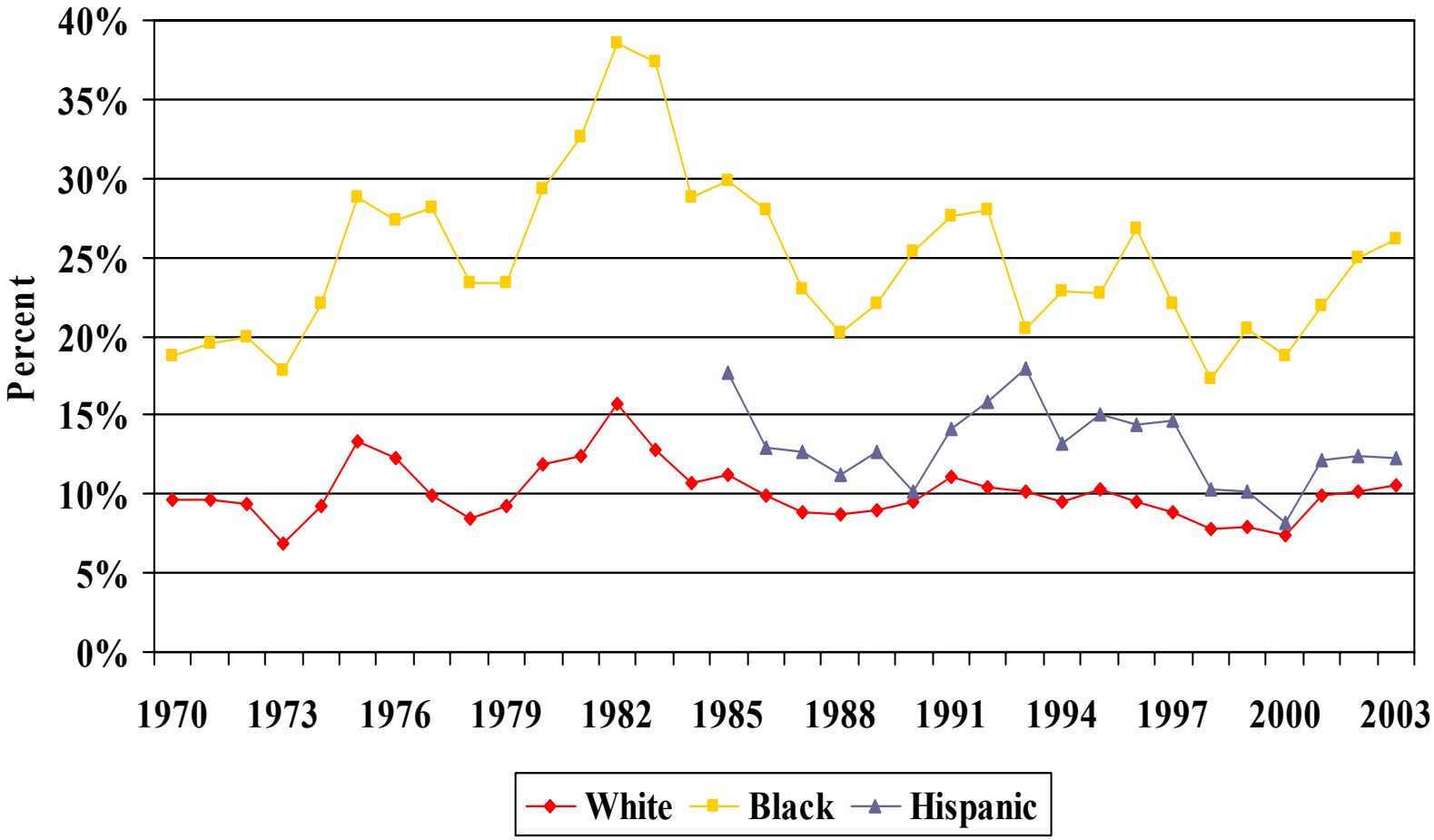
Source: Author's tabulations from published Bureau of Labor Statistics data.

Figure 7: Employment-Population Ratios of Non-Enrolled 16 to 24 Year olds by Race and Ethnicity



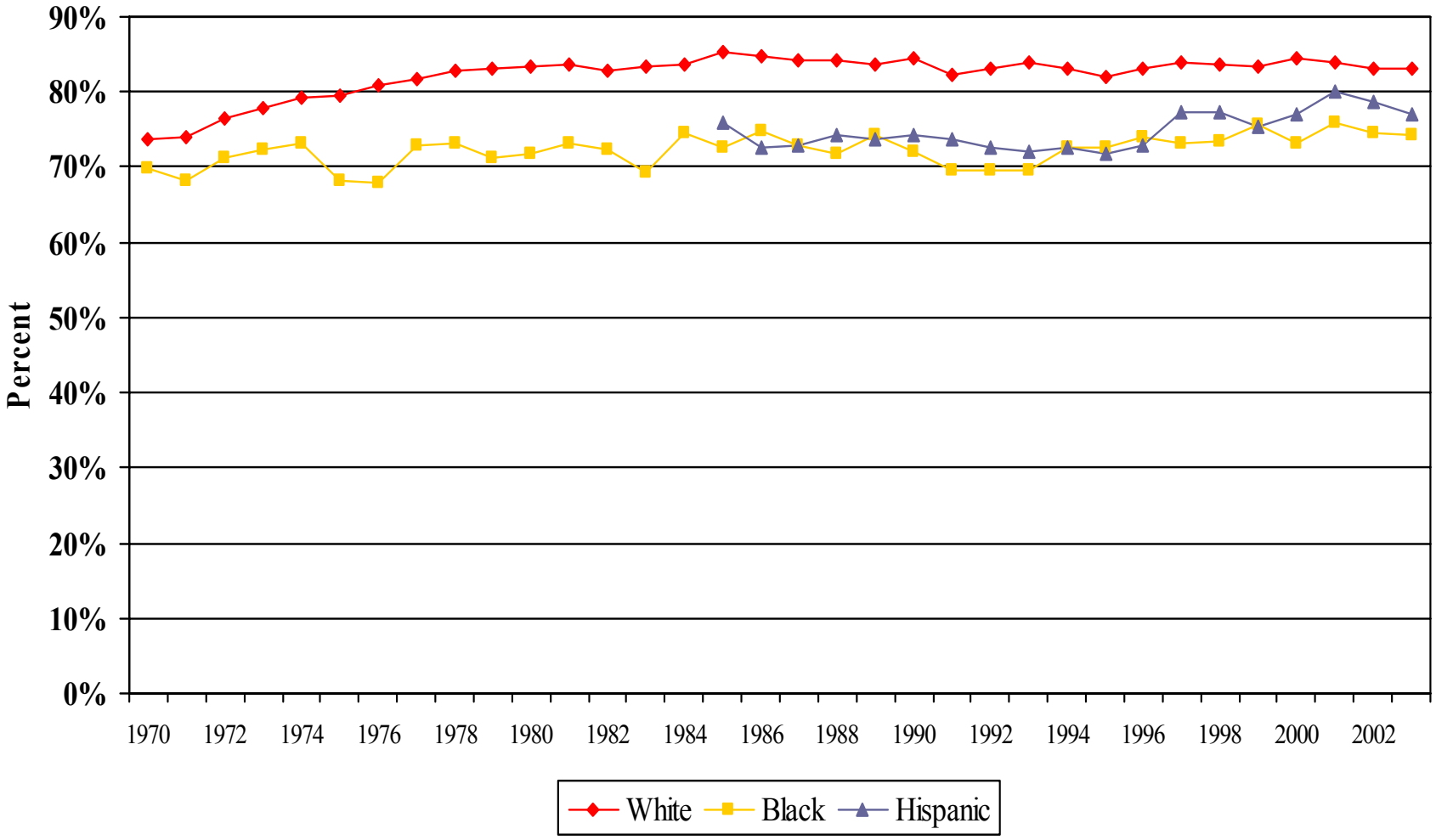
Source: Author's tabulations from published Bureau of Labor Statistics data.

Figure 8: Unemployment Rates of Non-Enrolled 16 to 24 Year Olds by Race and Ethnicity



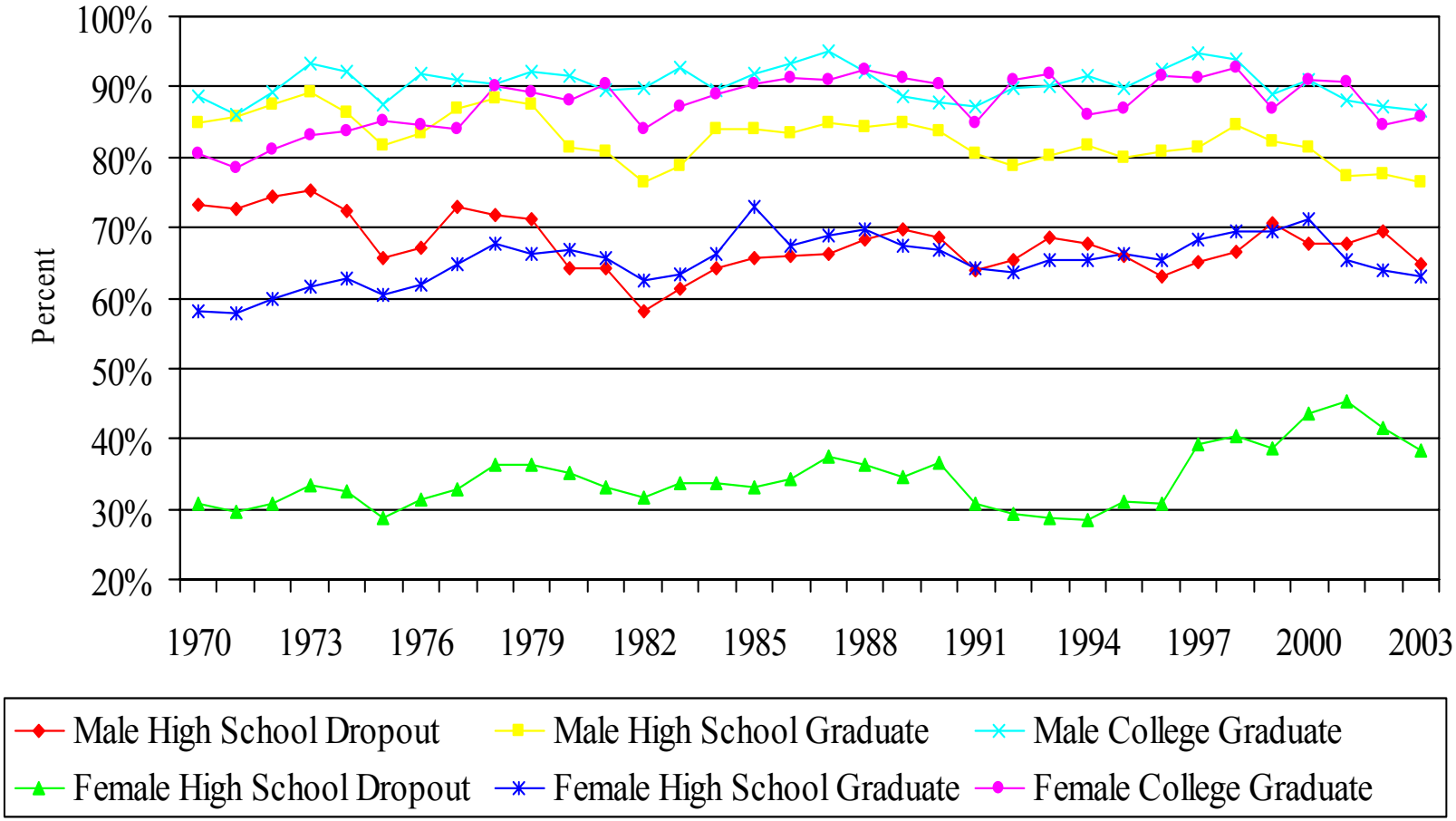
Source: Author's tabulations from published Bureau of Labor Statistics October data.

Figure 9: Labor Force Participation of Non-Enrolled 16 to 24 Year olds by Race and Ethnicity



Source: Author's tabulations from published Bureau of Labor Statistics data.

Figure 10: Young Non-Enrolled Male Employment Population Ratio by Educational Attainment



Notes: Chart displays October data from the BLS on 16-24 year olds.