



CLOSUP Working Paper Series
Number 28

April 2010

The Risk of Unemployment among Disadvantaged and Advantaged Male Workers, 1968-2003

Benjamin J. Keys, University of Michigan

Sheldon Danziger, National Poverty Center, Gerald R. Ford School of Public
Policy,
University of Michigan

This paper is available online at <http://closup.umich.edu>

Any opinions, findings, conclusions, or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the view of the Center for Local, State, and Urban Policy or any sponsoring agency

Center for Local, State, and Urban Policy
Gerald R. Ford School of Public Policy
University of Michigan

Abstract

The Risk of Unemployment among Disadvantaged and Advantaged Male Workers, 1968-2003¹
Benjamin J. Keys and Sheldon Danziger, University of Michigan

Over the last three decades, structural changes in the American labor market eliminated many highly-paid, stable jobs that had previously been available to workers with a high school diploma or less. Job security is important, particularly for the least advantaged, who may be less able to adjust to income losses than other workers and less able to plan for the future when jobs are not secure. Job loss is likely to have deleterious consequences for less-educated workers as they are less likely than others to receive severance packages and more likely to have difficulty finding new jobs.

This paper addresses several questions about changes in employment stability over the last three decades: How likely is it that a man who is employed in one year is unemployed two years later? Conversely, how likely is it that a man who is unemployed in one year is employed two years later? How have these probabilities changed over time? How do trends in employment security differ for workers classified by education and race?

We analyze longitudinal data from the Panel Study of Income Dynamics (PSID) for the period from 1968 through 2003. We compare the unemployment risk of employed male household heads classified by age, educational attainment, and race. We find that younger, less-educated, and minority male workers have a higher risk of becoming unemployed over a two-year period and a lower probability of moving from unemployment back to employment.

¹This project was supported in part by funds provided by the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, #5 U01PE000001-05 and #1 U01 AE000002-01. Any opinions and conclusions expressed are solely those of the authors and should not be construed as representing opinions or policy of any agency of the Federal government.

The Risk of Unemployment among Disadvantaged and Advantaged Male Workers, 1968-2003

Benjamin J. Keys and Sheldon Danziger, University of Michigan¹
January 21, 2008

I. Introduction

Over the last three decades, structural changes in the American labor market eliminated many highly-paid, stable jobs that had previously been available to workers with a high school diploma or less. Even though unemployment rates for much of the past decade have been lower than they were from the mid-1970s through the early 1990s, the relative economic position of less-educated male workers is lower now than it was a quarter century ago. For example, among workers between the ages of 15 and 54 who were high school dropouts, real hourly wage rates in 2004 were nine percent below their 1979 levels; among high school graduates in the same age range, real wages in 2004 were only five percent higher than in 1979 (Blank, Danziger and Schoeni, 2006). Declines in the extent of unionization, erosion of the real value of the minimum wage, increased globalization of labor and product markets, increased immigration, and a technology-driven wage premium for college graduates have all contributed to the labor market problems of less-educated workers (Freeman, 2007).

Job security is important, particularly for disadvantaged workers who have fewer financial resources to cushion income losses than other workers and are less able to plan for the future when jobs are insecure. Job losses have more deleterious consequences for less-educated workers who are less likely than other workers to receive severance packages and more likely than others to have difficulty finding new jobs. This paper addresses

several questions about changes in employment stability over the last three decades: How likely is it that a man who is employed when interviewed in one year is unemployed when interviewed two years later? Conversely, how likely is it that a man who is unemployed when interviewed in one year is employed when interviewed two years later? How have these probabilities changed over time? How do trends in employment security differ for workers classified by education and race?

We analyze longitudinal data from the Panel Study of Income Dynamics (PSID) for the period from 1968 through 2003. We compare the risk of unemployment for employed male household heads classified by age (20-30, 31-40, 41-50, 51-62), educational attainment (high school dropout, high school diploma, some college, college graduate), and race (white, black). We focus on transitions into and out of unemployment as unemployment most frequently reflects involuntary job loss. We do not analyze individuals who have exited from employment to being out of the labor force, because our data do not distinguish between those who left jobs and the labor force for personal reasons, such as to attend school or to retire early, and those who stopped looking for work because they thought no jobs were available (discouraged workers). We find that younger, less-educated, and minority male workers have a higher risk of unemployment at the end of a two-year period, and also have a lower probability of returning to work after having been unemployed.

The next section briefly reviews previous studies. Section III describes our data and methods. Section IV presents our results and section V summarizes key findings.

II. Previous studies

Because Farber (2008) reviews the previous literature, we mention only studies that are closely related to our analysis.² Young workers usually work at a series of jobs after completing their education. Topel and Ward (1992) estimate that a typical male holds seven jobs in his first ten years in the labor market. Thus, we control for a worker's age. Fairlie and Kletzer (1998) document that black men were about 25 percent more likely to experience job displacement than whites during the 1980s (4.8 vs. 3.8 percent per year). In addition, black displaced workers were 30 percent less likely to be re-employed by the next survey (44 vs. 61 percent). These differences can be attributed partly to the fact that black men had on average completed fewer years of schooling than white men. Thus, we control for racial and educational differences in estimating the risk of unemployment and the likelihood that an unemployed worker returns to employment, and we also calculate the risk of unemployment for separate race and education categories.

Business cycle fluctuations strongly affect the likelihood of job loss. After accounting for business cycle fluctuations, Diebold, Neumark, and Polsky (1997) conclude that job stability was roughly constant over the 1973 to 1991 period. However, job retention rates fell for less-educated and African-American workers, relative to higher-educated and white employees. We account for the business cycle by evaluating how the risk of unemployment for various workers is affected by fluctuations in the national unemployment rate and how this risk has varied during each of the last several decades to see if there have been secular trends that are unrelated to cyclical fluctuations.

Our methodology draws heavily from that of two prior studies. Gottschalk and Moffitt (1999) analyze three measures of job insecurity: the probability that a job ends

involuntarily, the probability of starting a spell of non-employment (either becoming unemployed or leaving the labor force) conditional on involuntary job loss, and the probability that the subsequent job has lower wages than the involuntarily terminated job. They find that all three probabilities were generally unchanged from the early 1980s through the mid-1990s. Valletta (1999) finds that between 1976 and 1991, the annual likelihood of involuntary dismissals increased from 4.1 to 5.5 percent for men, with the unemployment rate being the strongest predictor of dismissals, and that higher job tenure and higher wages are negatively related to the probability of job loss.³

Building on these studies, we estimate the effects of business cycles, differences across decades, and demographic characteristics on the likelihood that a man working at one interview is unemployed when interviewed two years later and that an unemployed worker in one year has returned to work two years later. Our study period is longer than those of other authors. We estimate both unemployment and re-employment probabilities, and examine how these probabilities and the factors that influence them vary by race, age, and educational attainment.

III. Data and Methods

The Panel Study of Income Dynamics (PSID) has followed the same individuals from 1968 to the present. In each year, our sample includes male household heads between the ages of 20 and 62 who are not students and who have valid race, gender, and education information. The PSID gathers the employment information we use only from household heads, which means that a young adult living with his parents is not a PSID head and is not included. We analyze the risk of unemployment over the period from 1968

to 2003, using all 35 years of the panel data, and extending the results of recent studies through the economic boom of the 1990s and the period of slow economic growth following the 2001 recession.⁴

We define unemployment risk as the likelihood that an individual who is employed at one PSID interview is unemployed at the interview two years later. For any year t , our sample consists of men who worked at the time $t-2$ interview. We define a man as having exited from employment to unemployment if he was not working but was searching for a job at the time t interview. We define a man as having exited from unemployment to employment if he was unemployed at the time $t-2$ interview but was working when interviewed at time t .⁵

We now describe trends in employment and unemployment for workers classified by education and race. Then we estimate regressions that control for demographic attributes, the business cycle, and secular trends (See, Valletta 1999).

IV. Results

a. Trends

Figure 3.1 shows the employment rate from 1968 through 2003 for male household heads between the ages of 20 and 62, classified by educational attainment. The rate for college graduates (top line) is about 95 percent for most years between 1968 and the early 1990s; the rate then declined to about 90 percent after 1994. The employment rates for high school graduates and those with some college (the second and third lines) follow roughly the same pattern, although the long-run decline is somewhat greater. About 95

percent of high school graduates worked in the late 1960s; the rate fell to about 90 percent by 1980 and then to around 85 percent in the early 2000s.

High school dropouts (bottom line) are much less likely than other men to be employed in any year and have experienced the greatest decline over the 35-year period.⁶ In the late 1960s, their employment rate was about 90 percent. It fell to 74 percent in 1983 due to the severe recession. For the next two decades, their employment rate rarely exceeded 75 percent. The gap between the employment rate of college graduates and high school dropouts was four percentage points in 1968, but 15 points in 2003.⁷

High school dropouts are more likely to be unemployed than those with higher education in any year, and this differential has also grown over time. Figure 3.2 documents that unemployment for dropouts rose from 3.9 percent in 1968 to 13.8 percent in 1983. The rate remained above ten percent until the economic boom of the 1990s when it fell to five percent in 1997. However by 2003, it had increased back to ten percent.

The unemployment rates for high school graduates and heads with some college follow the business cycle. Among high school graduates, unemployment rose from around two percent in the late 1960s to 6.7 percent during the recession in the early 1970s, and then fell to about four percent, before rising to 10.5 percent in 1983. The rate fell to less than five percent in the late 1980s, rose to about eight percent in 1992 and fell to 3.5 percent in 1999. The rate for college graduates is roughly flat, around two percent in any interview year. Thus, the less-educated are much more likely to lose their jobs due to business cycle fluctuations than are college graduates.

Figure 3.3 shows the employment rate separately for African-American and white men. The sharp decline in employment over the 35-year period for blacks is similar to that for all high school dropouts. In the late 1960s, black and white males were employed at similar rates (88 and 92 percent in 1969, respectively). The racial gap widened to nine percentage points by 1979 (84 vs. 93 percent) and to 13 points by 1983 (76 vs. 87 percent) before narrowing during the 1990s boom. In 2003, only 77 percent of black male household heads and 86 percent of whites were employed. As shown below, educational attainment differences contribute to this racial employment gap.

The unemployment rate for African-American men exceeds that for whites (Figure 3.4). While both series show cyclical patterns, black men are more likely to lose their jobs during economic downturns. The unemployment rate spiked for blacks in the mid-1970s, early 1980s, and early 1990s. Between 1979 and 1983, the unemployment rose from 7.7 to 15.4 percent for blacks and from 1.7 to 6.2 percent for whites. Between 1997 and 2003, the white rate increased from 2.1 to 3.7 percent, whereas the black rate increased from 5.7 to 9.4 percent. These data include only household heads who have lower unemployment rates than other men; also, men between the ages of 20 and 62 have lower rates than those of younger and older men.

Figure 3.5 takes advantage of the panel nature of the PSID data and shows the probability that a male employed at the year $t-2$ interview was unemployed at the year t interview. This risk of unemployment was highest in 1983—6.9 percent of men working at the 1981 interview were out of work and searching for jobs when interviewed two years later. This two-year exit probability fell to 3.6 percent in 1989, rose to 5.5 percent in 1992,

declined to 2.2 percent in 1999 and then increased to 4.2 percent in 2003. The pattern from the early 1980s to the mid-1990s is consistent with changes in the national unemployment rate over the business cycle.

Figure 3.6 shows the probability that an unemployed worker at the t-2 interview was working at the year t interview. The exit from unemployment to employment is highest in good economic times--the early 1970s, late 1970s, and late 1990s. Among men unemployed in 1981, 50 percent were employed in 1983; in contrast, among men unemployed in 1997, 65 percent had returned to work in 1999. The upward trend in recent years, despite the increased risk of unemployment shown in Figure 3.5, indicates that the effects of the 2001 recession on the likelihood of re-employment were relatively modest. Unemployed workers have a harder time finding jobs now than in the late 1970s, but have an easier time than in the 1980s and early 1990s.

Regression analysis allows us to identify how age, race, educational attainment, and the business cycle affect the risk of unemployment and the probability that the unemployed return to work that are shown in Figures 3.5 and 3.6. The regression coefficients shown in the tables below represent deviations from a baseline exit probability. The baseline worker is defined as a white male college graduate between the ages of 51-62 in the early 2000s. A coefficient greater than one indicates that a man with different attributes (e.g., race or age or education) is more likely to experience an exit than a man with the baseline attributes; a coefficient less than one indicates that the man is less likely to exit.⁸

b. Regression Results

Column 1 of Table 3.1 shows the regression results for all male household heads between the ages of 20 and 62. The coefficient on high school dropout, for example, indicates that the risk of unemployment for dropouts was 3.3 times higher than that of college graduates during any two-year period between 1968 and 2003.⁹ High school graduates were 1.9 times more likely and those with some college 1.7 times more likely to exit from work to unemployment than college graduates. The risk of unemployment was twice as high for African-Americans as whites. Workers between the ages of 20 and 30 were 3.2 times as likely as workers between the ages of 51 and 62 (the baseline age group) to exit from employment to unemployment. Workers between the ages of 31 and 40 were twice as likely to exit and those between 41 and 50 were 1.5 times as likely as older workers.

Like previous studies, we estimate how the risk of unemployment varies over the business cycle, as measured by the year t national unemployment rate. A one percentage point increase in this rate increases a worker's risk of exiting to unemployment by 20.8 percent. To determine how the risk of unemployment differs by decade, holding the unemployment rate constant, we include indicator variables for the 1970s, 1980s, and 1990s. These indicators identify labor market changes that were independent of business cycle fluctuations. We find an upward secular trend in the risk of unemployment--the coefficients for the 1970s, 1980s and 1990s indicators are all statistically significant and below one. This means that that workers fared better in all three decades than they have during 2001-2003 (the reference years). In the 1970s, the risk of unemployment was only

about one-third of the risk in the early 2000s; in the 1990s, the risk was about two-thirds the magnitude of the early 2000s.

We estimate regressions for the risk of unemployment separately for each of four educational attainment groups and present the results in columns 2 through 5 of Table 3.1. The coefficients in columns 3 and 4 of the top row show that the African-American males who are high school graduates and have some college have a greater risk relative to that of their white counterparts. Compared to white high school graduates, African American high school graduates are about 2.5 times more likely to exit to unemployment. African American college graduates are 1.6 times as likely as white college graduates to exit.

Figure 3.1 demonstrated that less-educated workers are at higher risk of unemployment due to cyclical shocks than are more-educated workers. This result is supported in the regression analysis. A one percentage point increase in the unemployment rate increases exits to unemployment among dropouts by 20 percent and by about 24 percent for both high school graduates and those with some college (columns 2, 3, 4, respectively, Table 3.1). In contrast, there is no statistically significant relationship between the unemployment rate and the risk of unemployment for college graduates, who are relatively insulated from business cycle fluctuations (column 5, Table 3.1).

Table 3.2 presents regression results parallel to those of Table 3.1, except that the dependent variable is the probability that an unemployed worker at the year t-2 interview had returned to work at the year t interview. The first row in column 1 shows that unemployed black men are only about half as likely to return to work as whites. This race effect is large and significant for all education groups except college graduates

(coefficients are below 1.0 and significant in columns 2 through 4, but about 1.0 and not significant in column 5). Thus, holding education constant, black workers have a higher risk of unemployment than white workers (Table 3.1), and, except for college graduates, are also less likely to find a new job after having lost one (Table 3.2).

Workers between the ages of 20 and 30 are 3.2 times more likely to lose a job than 51 to 62 year olds (Table 3.1, column 1), but are 1.5 times more likely to return to work after experiencing unemployment (Table 3.2, column 1). Older unemployed workers may pursue new jobs less aggressively, whether because they have access to early retirement benefits or disability benefits or because they are more disillusioned about their employment prospects.

A one percentage point increase in the national unemployment rate is associated with a 10 percent decline in the likelihood that an unemployed man returns to work (0.906, column 1). This business cycle effect is concentrated among high school dropouts and those who have completed some college (significant coefficients in columns 2 and 4). The probability that unemployed college graduates return to work does not vary significantly with the unemployment rate.

Unemployed workers in the 1970s were about 70 percent more likely to return to work two years later than were unemployed workers in 2001-2003. Returns to work in the 1980s and 1990s were not significantly different than in the most recent years.

c. Variations in Predicted Exit Probabilities

We use the regression coefficients from a specification like the one shown in Table 3.1, but with separate regressions for whites and blacks, to estimate predicted probabilities

of the risk of unemployment for a baseline worker between the ages of 20 and 30, for a hypothetical year during the 1990s, assuming that the unemployment rate was six percent, the mean for the 1968-2003 period. These results are shown in Table 3.3. The baseline probability for a worker in each educational attainment category is shown in the top row of the top panel for white men and the top row of the bottom panel for black men.

The risk of unemployment between two years falls as education increases. White high school dropouts have a risk of unemployment of 8.8 percent, compared to 1.8 percent for college graduates. For blacks, the risk of unemployment falls from 19.3 percent for high school dropouts to 6.3 percent for those with some college. There are too few black college graduates in the PSID sample to reliably estimate their risk of unemployment.

The racial gap in the risk of unemployment is large—holding education constant, a black worker is about twice as likely to exit to unemployment as a white man. For high school graduates, the risk of unemployment is 10.4 percent for a young black man and 3.9 percent for a young white man.

A comparison of the first two rows in each panel of Table 3.3 shows that workers ages 20 to 30 have a higher risk of unemployment than those ages 31 to 40, for those with a high school degree or less. Among those with some college or a college degree, the age effect is negligible.

Rows 3 through 5 in each panel show how the risk of unemployment varies over recent decades. The risk is highest in the 2001-2003 period and lower in the 1970s and 1980s. For example, the unemployment risk for a young white high school graduate increased from 2.5 percent in the 1970s to 3.3 percent in the 1980s to 3.9 percent in the

1990s to 4.1 percent in the recent period. For a young black high school graduate, the unemployment risk over these periods rose from 7.3 to 9.5 to 10.4 to 22.5 percent.

The bottom two rows in each panel of Table 3.3 document that there are large business cycle effects for less-educated workers. An increase in the national unemployment rate from 3.5 to 9.7 percent--the best and worst rates over the 35-year study period--raises the risk of unemployment from 1.9 to 8.9 percent for white high school graduates and from 6.5 to 17.7 percent for black high school graduates.

In Table 3.4, we use regression coefficients like those in Table 3.2, but estimated separately for white and black men, to compute predicted probabilities of exiting from unemployment back into employment. The baseline worker is again a male household head between the ages of 20 and 30 in the 1990s, evaluated at the mean unemployment rate over the study period. Larger numbers represent better outcomes, indicating the likelihood that a worker who was unemployed at the interview two years ago was working at the current interview.

The most educated are much more likely to return to work than the least educated. For example, 88.8 percent of unemployed white college graduates return to work compared to 68.5 percent of high school graduates. About two-thirds of unemployed blacks with some college, but only 39.6 percent of black high school dropouts returned to work.

The racial gap in returning to work is large among those with a high school degree or less. Unemployed white high school graduates are 20 percentage points more likely to get a new job than blacks high school graduates—77.2 compared to 57.3 percent.

Younger workers are more mobile and move in and out of jobs more often than older workers, especially for less-educated white workers. Among white high school graduates, the probability that an unemployed worker returns to work is 77.2 percent for those between the ages of 20 and 30, but only 59.4 percent for those 31 through 40.

The business cycle has its largest effects on the least educated. When unemployment is low, the likelihood that an unemployed high school dropout has returned to work two years later is 75.1 and 50.5 percent, respectively, for whites and blacks; these rates fall to 59.5 and 27.8 percent, respectively, when unemployment is high.

d. Monthly Transitions

The results presented thus far compare a man's employment status at one interview with his status at the interview two years later, ignoring any transitions into and out of employment which occurred between interviews. In Figure 3.7, we present monthly data, available in the PSID only from 1982 through 1999, to document transitions that occur during the two-year window for men who were employed at both the t-2 and t interviews. In the analyses above, these men were considered as not having experienced any employment instability.

The line with diamonds shows the fraction of men employed at both interviews who were unemployed at some point in the interim. This risk of unemployment fell dramatically, from 25 percent in the deepest recessionary year, 1982, to about 6 percent in the strongest boom year, 1999. This pattern is similar to the one shown in Figure 3.5—between 1982 and 1999, the risk of moving from employment at interview t-2 to unemployment at t also fell.

The line with squares in Figure 3.7 shows the fraction of men who switched employers during the two years between interviews without experiencing any unemployment. The fraction who switched jobs increased from about eight percent over a two-year period in the early 1980s to about 15 percent in 1999. These results reflect the business cycle and are consistent with the declines in tenure with a single employer documented by Farber (2007).¹⁰

When we estimate regressions using the 1982-1999 monthly data (not shown), the results are similar to those reported in Table 3.1. The risk of experiencing any month of unemployment during a two-year period is higher for African Americans, for those with less education, and for younger workers.

V. Summary

We have analyzed changes in the risk of unemployment and the likelihood that the unemployed return to work using 35 years of panel data and documented that the labor market prospects of the disadvantaged worsened relative to those of more advantaged workers. Differences in trends in the employment rate and unemployment rate of low-skilled and minority household heads are large. Among male heads of household between the ages of 20 and 62, the gap between the employment rate of college graduates and that of high school dropouts was four percentage points in 1968, but rose to 15 points in 2003. The racial employment gap also increased over these years from two to nine percentage points.

The risk of unemployment is higher for less-educated and black workers than for college graduates and white workers. The risk of unemployment rises and falls as the

economy moves into and out of recessions. However, the risk, holding the unemployment rate constant, has increased in each decade from the 1970s to the present. Less-educated and minority workers face a dual disadvantage in the labor market: they are more likely to lose a job and, at any unemployment rate, are less likely to find a new one.

References

- Rebecca M. Blank, Sheldon Danziger and Robert Schoeni, "Work and Poverty During the Past Quarter Century," in *Working and Poor: How Economic and Policy Changes are Affecting Low-Wage Workers*, ed. Rebecca M. Blank, Sheldon Danziger and Robert Schoeni (New York: Russell Sage Foundation, 2006): 1-20.
- Johanne Boisjoly, Greg J. Duncan, and Timothy Smeeding, "The Shifting Incidence of Involuntary Job Losses from 1968 to 1992," *Industrial Relations* 37(2) (1998): 207-231.
- Francis X. Diebold, David Neumark, and Daniel Polsky, "Job Stability in the United States," *Journal of Labor Economics* 15(2) (1997): 206-233.
- Robert W. Fairlie and Lori G. Kletzer, "Jobs Lost, Jobs Regained: An Analysis of Black/White Differences in Job Displacement in the 1980s," *Industrial Relations* 37(4) (1998): 460-477.
- Henry S. Farber, "Mobility and Stability: The Dynamics of Job Change in Labor Markets," in *Handbook of Labor Economics*, Vol. 3, ed. Orley Ashenfelter and David Card (London: Elsevier Press, 1999), 2439-2483.
- Henry S. Farber, "Employment Insecurity: The Decline in Worker-Firm Attachment in the United States," in K. Newman, ed. *This Volume* (2008).
- Richard B. Freeman, *America Works: Critical Thoughts on the Exceptional U.S. Labor Market* (New York: Russell Sage Foundation, 2007).
- Peter Gottschalk and Robert Moffitt, "Changes in Job Instability and Insecurity Using Monthly Survey Data," *Journal of Labor Economics* 17(4) (1999): S91-S126.
- David Neumark, ed., *On the Job: Is Long-Term Employment a Thing of the Past?* (New York: Russell Sage Foundation, 2000).
- Robert H. Topel and Michael P. Ward, "Job Mobility and the Careers of Young Men," *Quarterly Journal of Economics* 107(2) (1992): 439-479.
- Robert G. Valletta, "Declining Job Security," *Journal of Labor Economics* 17(4) (1999): S170-S197.

¹ Benjamin J. Keys is a doctoral student in economics and Sheldon Danziger is the H. J. Meyer Distinguished University Professor of Public Policy and co-director of the National Poverty Center at the Gerald R. Ford School of Public Policy, University of Michigan. Rebecca Blank, Charles Brown, Brian Cadena, Peter Gottschalk, Katherine Newman, Robert Schoeni, and an anonymous referee provided helpful comments on a prior draft; David Ratner provided excellent research assistance. This project was supported in part by funds provided by the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, #5 U01 PE000001-05 and #1 U01 AE000002-01. Any opinions and conclusions expressed are solely those of the authors and should not be construed as representing opinions or policy of any agency of the Federal government.

² Neumark (2000) and Farber (1999) also summarize related studies of employment security.

³ See, Boisjoly et al. (1998) for analysis of patterns of involuntary job loss in the PSID.

⁴ Interviews were conducted annually between 1968 and 1997 and biennially after that date. As a result, we analyze the change in employment status over two-year periods between 1968 and 2003.

⁵ We do not evaluate work experiences between interviews. That is, some men who worked at both the t-2 and t interviews, were unemployed at some time between these interviews, but are not counted as having exited to unemployment by our interview-to-interview method. For selected years, one can evaluate employment histories between

interviews (Gottschalk and Moffitt 1999). For these years, we present results which are similar to the interview-to-interview results we discuss in Section IV. d.

⁶ Our sample includes men who are between the ages of 20 and 62 in each year. Thus, in each year of the 35-year study period, men who were 19 in the previous year enter the sample and those who were 62 age out of the sample. Because the new entrants have completed more years of schooling than the older workers exiting the sample, the average education of the sample and of the workforce increases over time. For example, high school dropouts were 39 percent of our sample in 1968, but only 13 percent in 2003; college graduates increased from 15 to 29 percent of the sample over these years. Thus, while we document that the relative risk of unemployment has increased more for high school dropouts than for more-educated workers, the reader should note that dropouts now represent a much smaller share of the workforce than they did in 1968.

⁷ These male employment rate trends in the PSID are similar to those in the Current Population Survey. For example, between 1970 and 1999, among white men between the ages of 25 and 54, the employment rate fell by 17 percentage points for high school dropouts and by 5 points for men with at least a high school degree, but not a college degree (Data not shown; provided to the authors by Deborah Reed, Public Policy Institute of California).

⁸ We estimate logistic regressions for male household heads in which the dependent variable is 1 if a worker at the time of the $t-2$ interview was unemployed when interviewed two years later. Coefficients are presented as log-odds ratios.

⁹ The first ($t-2$) year in the PSID is 1968, so the first t year in the tables is 1970.

¹⁰ We have estimated regression models similar to those in Tables 3.1 and 3.2 that utilize the monthly work history data that are available for the 1982-1999 period. Results are available on request from the authors.

Table 3.1. The risk of unemployment, male household heads

Logistic Regression analysis					
	All	High School Dropout	High School Graduate	Some College	College Graduate
Black	2.023** (11.82)	1.694** (5.53)	2.560** (9.71)	2.234** (6.09)	1.575+ (1.69)
Age 20-30	3.224** (13.08)	4.325** (11.79)	3.074** (6.42)	2.148** (3.35)	1.064 (0.21)
Age 31-40	2.072** (8.08)	2.213** (6.19)	1.922** (3.59)	2.383** (3.98)	1.154 (0.57)
Age 41-50	1.526** (4.64)	1.472** (3.03)	1.476* (2.03)	1.668* (2.36)	1.218 (0.78)
HS Dropout	3.321** (11.08)				
HS Graduate	1.919** (6.22)				
Some College	1.694** (4.71)				
Unemployment Rate	1.208** (10.81)	1.200** (6.67)	1.246** (7.21)	1.236** (4.65)	1.040 (0.67)
1970s	0.367** (9.31)	0.413** (4.08)	0.414** (4.91)	0.460** (3.41)	0.376** (3.04)
1980s	0.549** (5.66)	0.713 (1.56)	0.549** (3.29)	0.480** (3.45)	0.450** (2.60)
1990s	0.682** (3.84)	0.769 (1.25)	0.626** (2.80)	0.698+ (1.81)	0.801 (0.91)
Observations	66539	18277	22135	12598	13529

Source: Authors' calculations using the PSID, 1970-2003.

Robust z statistics from standard errors clustered at the individual level in parentheses.

+ significant at 10%; * significant at 5%; ** significant at 1%

Sample is of male household heads, age 20-62, who were employed at interview two years earlier.

In column 1, the baseline (omitted) category is a white male college graduate aged 51-62 in 2001-2003. In subsequent columns the baseline is a white male aged 51-62 in 2001-2003.

The risk of unemployment is calculated as the probability that a man who was employed in year t-2 is unemployed in year t.

Table 3.2. The likelihood of returning to work, male household heads

	All	High School Dropout	High School Graduate	Some College	College Graduate
Black	0.483** (7.70)	0.445** (5.73)	0.542** (3.94)	0.376** (3.98)	1.047 (0.09)
Age 20-30	1.510** (2.91)	1.353 (1.64)	1.700* (2.04)	1.319 (0.66)	3.539+ (1.74)
Age 31-40	1.161 (1.02)	1.055 (0.27)	1.128 (0.45)	1.306 (0.67)	2.199 (1.25)
Age 41-50	1.081 (0.46)	1.404 (1.49)	0.892 (0.40)	1.104 (0.23)	0.694 (0.55)
HS Dropout	0.436** (3.26)				
HS Graduate	0.576* (2.16)				
Some College	0.752 (1.05)				
Unemployment Rate	0.906** (3.06)	0.864** (3.10)	0.968 (0.57)	0.860+ (1.76)	1.046 (0.31)
1970s	1.720** (2.60)	1.828+ (1.68)	1.441 (1.04)	2.492 (1.64)	1.122 (0.16)
1980s	1.056 (0.26)	1.411 (0.97)	0.715 (1.00)	1.124 (0.25)	0.920 (0.12)
1990s	0.840 (0.91)	0.864 (0.42)	0.706 (1.09)	1.209 (0.41)	1.109 (0.20)
Observations	3714	1658	1222	558	276

Source: Authors' calculations using the PSID, 1970-2003.

Robust z statistics from standard errors clustered at the individual level in parentheses.

+ significant at 10%; * significant at 5%; ** significant at 1%

Sample is of male household heads, age 20-62, who were unemployed at interview two years earlier.

In column 1, the baseline (omitted) category is a white male college graduate aged 51-62 in 2001-2003. In subsequent columns the baseline is a white male aged 51-62 in 2001-2003.

The likelihood of returning to work is calculated as the probability that a man who was unemployed in year t-2 is employed in year t.

Table 3.3. Predicted Risk of Unemployment, Male household heads

	High School Dropout	High School Graduate	Some College	College Graduate
White male Baseline:				
Baseline	8.8	3.9	3.3	1.8
Age 31-40	5.2	2.6	3.8	1.8
1970s	5.4	2.5	1.9	1.0
1980s	7.5	3.3	2.5	1.3
2001-2003	12.9	4.1	4.0	2.3
Minimum unemployment (3.5)	4.4	1.9	2.3	1.6
Maximum unemployment (9.7)	18.9	8.9	5.1	2.0
Black male baseline:				
Baseline	19.3	10.4	6.3	*
Age 31-40	9.9	6.4	6.8	*
1970s	10.3	7.3	5.9	*
1980s	18.7	9.5	3.9	*
2001-2003	21.0	22.5	11.0	*
Minimum unemployment (3.5)	14.7	6.5	2.5	*
Maximum unemployment (9.7)	26.1	17.7	17.5	*

Source: Authors' calculations using PSID, 1970-2003.

These use the specification from columns 2-5 of table 1 (estimated separately for whites and blacks) to predict exits to unemployment. Sample is restricted to male household heads, age 20-62, who were employed in the interview two years prior.

Baseline individual is a male head of household between the ages of 20-30, in the 1990s with the mean unemployment rate over the 1968-2003 period.

There are too few black college graduates in the PSID (38 per year) to make a meaningful prediction.

Table 3.4. Predicted The likelihood of returning to work, Male household heads

	High School Dropout	High School Graduate	Some College	College Graduate
White male Baseline:				
Baseline	68.5	77.2	72.5	88.8
Age 31-40	45.0	59.4	77.6	87.3
1970s	82.9	90.1	85.0	88.9
1980s	79.9	79.0	77.9	85.4
2001-2003	73.8	72.0	68.7	91.0
Minimum unemployment (3.5)	75.1	83.3	83.7	87.9
Maximum unemployment (9.7)	59.5	68.0	54.2	89.8
Black male baseline:				
Baseline	39.6	57.3	65.8	*
Age 31-40	40.1	52.5	59.1	*
1970s	58.2	69.5	80.1	*
1980s	51.3	56.1	56.6	*
2001-2003	42.8	75.4	65.0	*
Minimum unemployment (3.5)	50.5	54.3	71.1	*
Maximum unemployment (9.7)	27.8	60.8	58.8	*

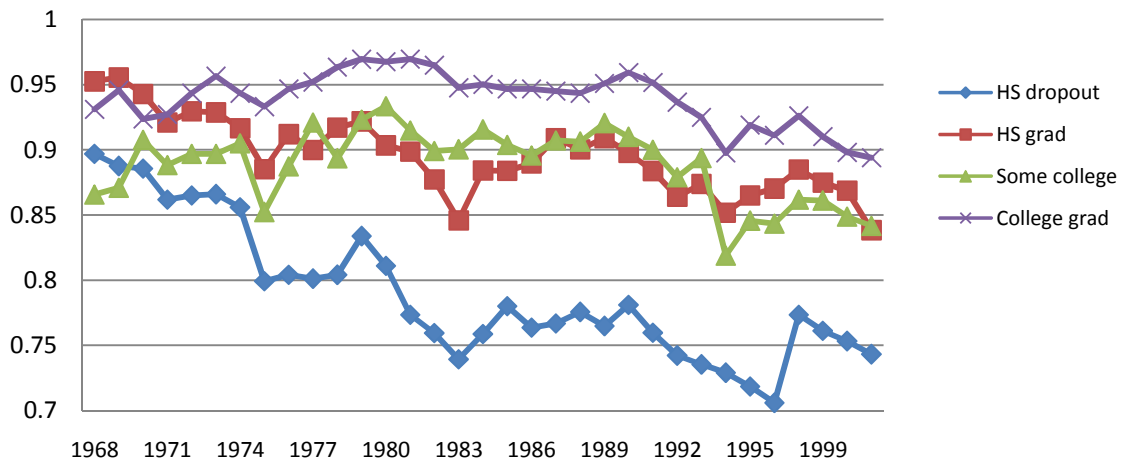
Source: Authors' calculations using PSID, 1970-2003.

These use the specification from columns 2-5 of table 2 (estimated separately for whites and blacks) to predict exits to employment. Sample is restricted to male household heads, age 20-62, who were unemployed in the interview two years prior.

Baseline individual is a male head of household between the ages of 20-30, in the 1990s with the mean unemployment rate over the 1968-2003 period.

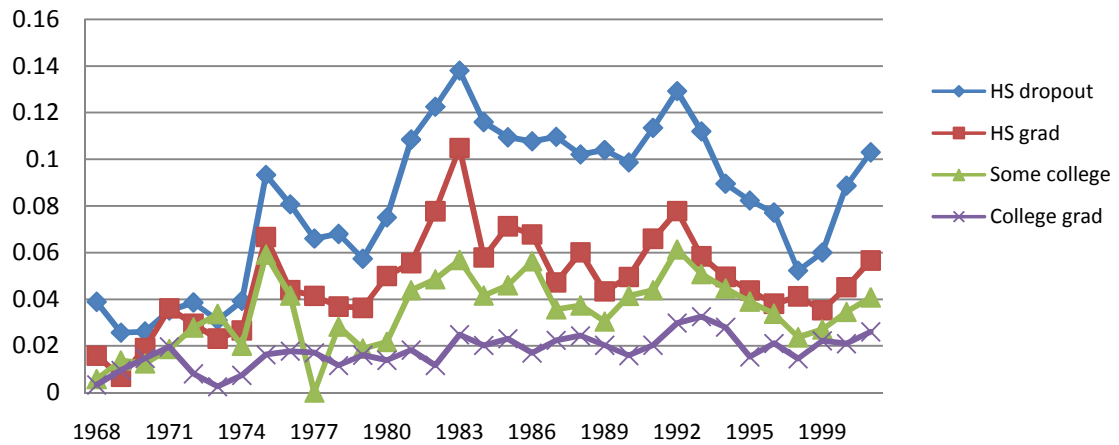
There are too few black college graduates in the PSID (34 over the entire period) to make a meaningful prediction.

Figure 3.1. Employment Rate of Male Household Heads, by Education



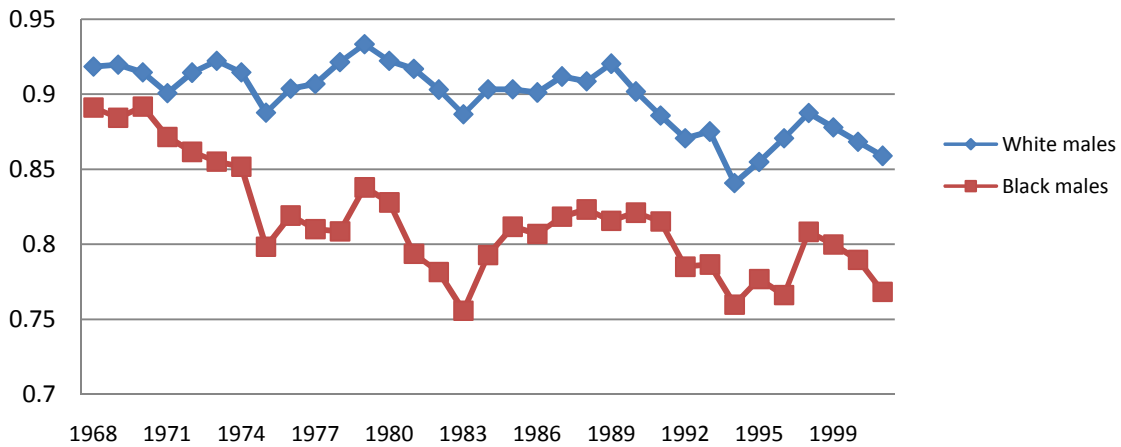
Source: Authors' calculations using the PSID, 1968-2003.

Figure 3.2. Unemployment Rate of Male Household Heads, by Education



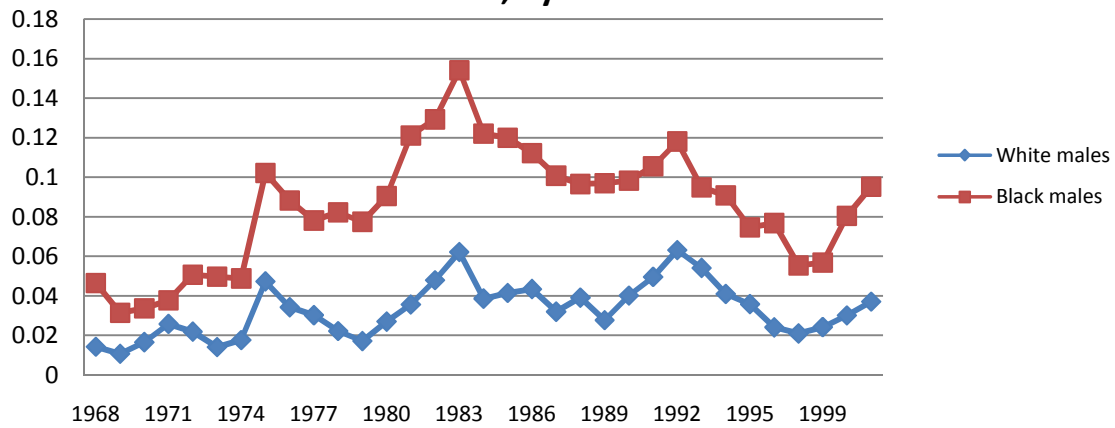
Source: Authors' calculations using the PSID, 1968-2003.

Figure 3.3. Employment Rate of Male Household Heads, by Race



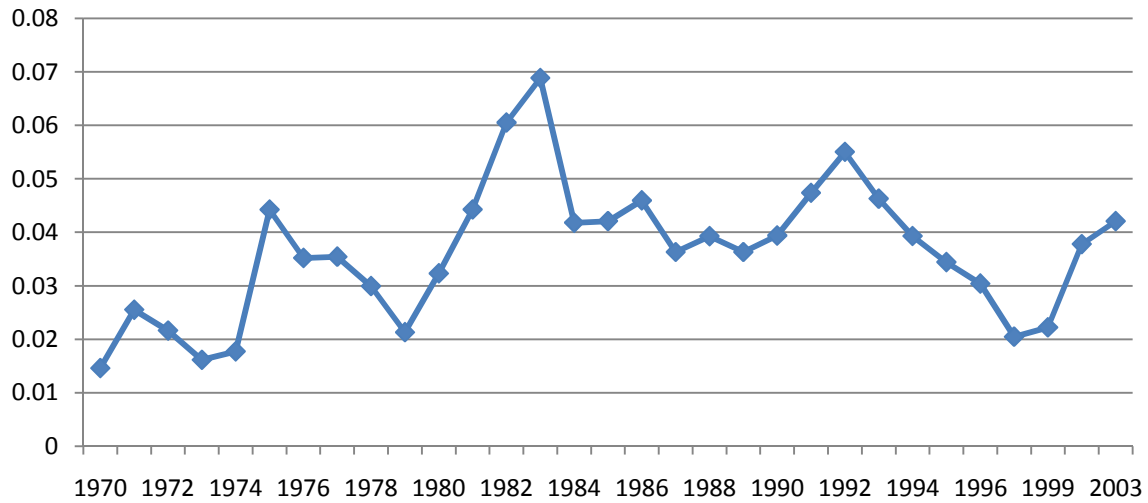
Source: Authors' calculations using the PSID, 1968-2003.

Figure 3.4. Unemployment Rate of Male Household Heads, by Race



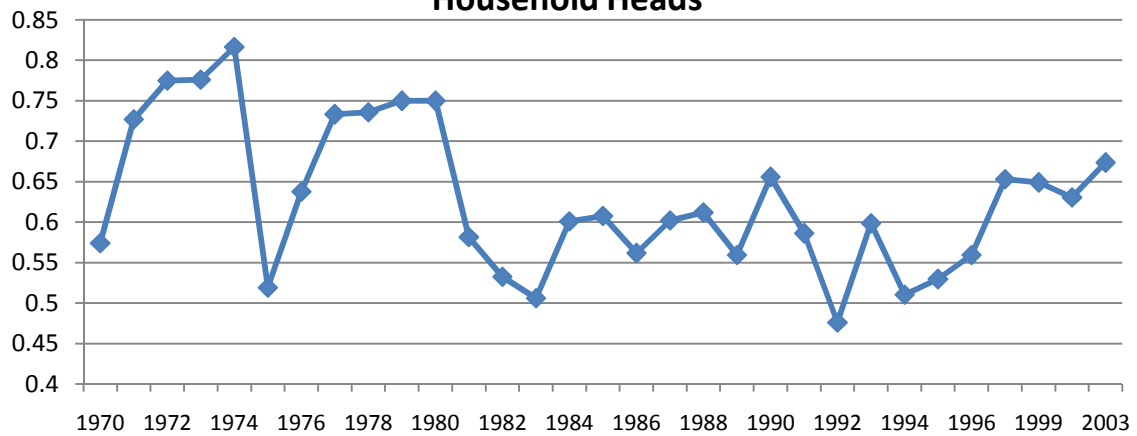
Source: Authors' calculations using the PSID, 1968-2003.

Figure 3.5. The Risk of Unemployment, Male Household Heads



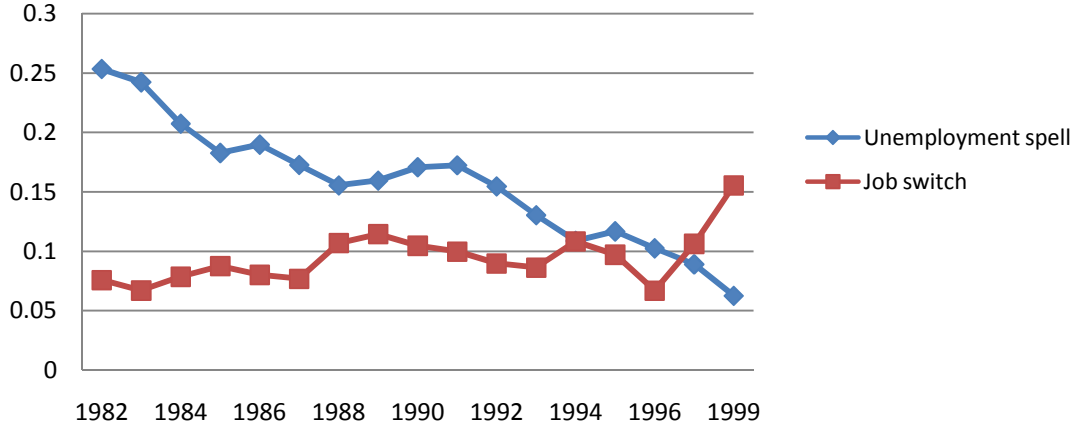
Source: Authors' calculations of the probability that a man employed in year t-2 is unemployed when surveyed in year t, using the PSID, 1968-2003.

Figure 3.6. The Likelihood of Returning to Work, Male Household Heads



Source: Authors' calculations of the probability that a man unemployed in year t-2 is employed when surveyed in year t, using the PSID, 1968-2003.

Figure 3.7. Likelihood of an unemployment spell or job switch among male household heads employed in both year t-2 and year t



Source: Authors' calculations using the PSID, 1968-2003.