

Basic Skills and the Black-White Earnings Gap

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The disparity between black and white incomes has been a central problem of American public life for decades. Although the gap is smaller than it was a generation ago, progress has been slow and fitful, leading many to doubt whether true parity can be achieved without substantial government intervention in the labor market.<sup>1</sup> No rigorous appraisal of such policies can be undertaken without first knowing the root causes of this economic disparity. In previous work, we have shown that the wage gap between young blacks and whites (the disparity in their hourly pay) can be traced largely to a gap in basic skills that pre-dates entry into the labor market (Neal and Johnson, 1996). Black teenagers' reading and math skills lag well behind those of their white counterparts, and this skill deficit explains most of the racial difference in wage outcomes among young adults.

In this chapter, we extend our previous work by examining the relationship between basic skills and annual earnings (hereafter just "earnings"). We show that black-white differences in premarket skill do account for a significant portion of the black-white earnings gap in the early 1990's. But even when we compare blacks and whites with the same premarket skills, large earnings differences remain. Only black workers at the top of the skill distribution report earnings close to those of their white counterparts.

Since earnings are the product of hourly wages (hereafter just

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<sup>1</sup>For an excellent survey of the literature on black economic progress, see Smith and Welch (1986). For a survey of the economic impacts of Civil Rights legislation, see Heckman and Donahue (1991).

"wages") times hours of paid work, earnings differences can arise from wage differences, employment differences, or both. We document important racial differences in employment that contribute significantly to the black-white earnings gap. Young white workers work significantly more hours than young blacks with similar skills. The main exception is that young black college graduates work almost as many hours as equally-skilled white college graduates. As a result, they earn almost as much per year. Finally, we show that the disparity in hours worked has a cumulative effect. At all skill levels, the black-white wage gap stems partly from black-white differences in past work experience.

We begin this chapter by describing the effect of black-white skill differences on wages. We then examine racial differences in earnings and their relation to skill differences, first among women and then among men. The results for men then lead to an examination of the relationship between past and current employment. We close by discussing possible interpretations of our results.

## I. Wage Rates and Basic Skills

The National Longitudinal Survey of Youth (NLSY) is an annual survey that documents the educational and work experiences of more than 10,000 young people born between 1957 and 1964. The NLSY has collected data from these individuals since 1979. The data set is uniquely suited for our purposes because in 1980 most respondents

were given a common test of basic skills, the Armed Forces Qualification Test (AFQT). The Department of Defense uses this test to screen applicants for military service and, according to Wigdor and Green (1991), it is a racially unbiased predictor of military job performance.

We restrict our analysis to respondents born from 1962 to 1964 because these individuals took the AFQT before they turned nineteen. At the time of the test, they had just begun to make choices about post-secondary schooling or employment. Because their AFQT scores measure their skills at the beginning of their careers, these scores should not be contaminated by discrimination in either the labor market or post-secondary education. The Data Appendix describes the construction of our data set.

Although there is substantial overlap between the normalized AFQT score distributions for blacks and whites, on average blacks score substantially lower than whites. The racial difference in mean scores is roughly one standard deviation for both men and women.

To measure wages, we average a respondent's inflation adjusted wages from 1990 to 1993. By using a four-year average, we come slightly closer to estimating "permanent" differences in wages between blacks and whites and are also able to include respondents who worked at any point in a four year span, but not necessarily in all four years. This is important when studying people with low attachment to the labor force.<sup>2</sup>

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<sup>2</sup> Neal and Johnson ( 1996) used a two-year averaging period.

Table 1 examines some of the determinants of our measure of wage rates. Columns (1) and (3) estimate the racial gap in wages for men and women, controlling only for workers' age. Among men, for example, the mean of the log of wages is  $-.277$  lower for blacks than whites. This difference implies that black men earn 24 percent less per hour than white men. For women, the  $-.183$  log wage gap implies that black women earn 17 percent less per hour than white women of the same age. Controlling for AFQT completely changes these residual wage gaps (see columns (2) and (4)). For men, the wage gap narrows by roughly two thirds, to about 9 percent. For women, the gap is actually reversed. Black women earn five percent more per hour than white women with the same AFQT score.<sup>3</sup>

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The sample here includes more people who do not work very often.

<sup>3</sup>For men, the AFQT-adjusted black-white wage gap is slightly larger in absolute value than the corresponding gap of  $-.072$  reported in our previous paper. A significant portion of the difference reflects the fact that the present sample contains an additional 97 workers with very weak attachment to the labor market. If we use the 1990-93 average wage but restrict the sample to our original sample of workers, the adjusted log wage gap is  $-.084$ . See our original paper for an extended treatment of selection bias in these regressions.

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Table 1 here

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AFQT is not simply a proxy for race in these regressions. Table 2 shows the relationship between AFQT and wages for blacks, whites and Hispanics separately. Columns (2) and (5) of Table 2 show that AFQT has as large an effect on wages within the black population as it has in the whole population. Basic cognitive skills, as measured by AFQT, raise the wages of blacks at least as much as they raise the wages of whites. In short, basic skills do influence wages and a large fraction of the black-white wage gap reflects a skill gap that pre-dates labor market entry.

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Table 2 here

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Of course, earnings depend not only on hourly wages but also on how many hours workers are employed. Even if firms pay workers strictly according to productivity, without regard to race, they might still be less inclined to hire black workers and this may reduce blacks' earnings.<sup>4</sup> Earnings differences may provide a different and more complete picture than wage differences of the economic consequences of both labor market discrimination and black-white differences in premarket skills.

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<sup>4</sup>As we show below, difficulties in finding employment may also translate into less work experience and slower wage growth for black workers, which implies an additional drag on earnings growth.

## II. Basic Skills and Women's Earnings

Table 3 shows how women's age and AFQT scores affect their earnings.<sup>5</sup> The earnings measure is the log of average annual inflation-adjusted earnings from 1990 to 1992 for everyone who reported any earnings during this period.<sup>6</sup> Black women, on average, enjoy a substantial earnings advantage over white women with similar AFQT scores. Although columns (3) and (4) show that the earnings gap is smaller among highly skilled women, predicted earnings for black women remain above predicted earnings for their white counterparts over almost the entire range of black AFQT scores.

At first glance, Tables 1 and 3 suggest that, holding premarket skill constant, black women earn more per year and are paid slightly higher wages than white women. However, these results should be interpreted cautiously for two reasons. First, we do not observe potential wages and potential earnings for every woman in our sample because some women choose not to work or to work part-time. Second, the missing wage and earnings data do not represent a random sample from the overall distribution. This

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<sup>5</sup>Here, we present results from a specification which uses a quadratic function of AFQT. We also tried linear, cubic and quartic specifications. For black women, the linear specification performs poorly. However, the same basic pattern of black-white earnings gaps emerges for men in all four specifications.

<sup>6</sup>The NLSY survey asks questions about current wages and about earnings during the past calendar year. Therefore, while wage data are available through 1993, earnings data are available only through 1992.

raises the possibility that the results in Tables 1 and 3 may misrepresent the relative economic status of black women.

Missing wage and earnings observations create a complex problem in our analyses of women's wages and earnings. Although some researchers are willing to assume that prime age men who are not working have lower potential wages than similar men who are working, few if any are willing to make a similar assumption concerning women. Many women with relatively high potential wages choose not to work for pay, particularly if they have young children or husbands with high incomes.<sup>7</sup>

Further, even if we knew the potential wage of each woman in our sample, we would still have a related problem. Women can often choose whether to work part-time or full-time. For those who choose to work part-time, actual earnings will understate potential earnings.

A complete analysis of female labor supply is beyond the scope of this chapter, but we can show why we are reluctant to take our results for women in Tables 1 and 3 at face value. Table 4 provides wage analyses for samples of women defined by marital status. A "never married" woman is one who said in 1993 that she

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<sup>7</sup>Many less skilled women with children, especially those who are not married, also choose not to work. Some of these women are on public assistance and have decided that, given child care expenses and other fixed costs of work, they are better off at home.



had never been married, while the "ever married" group includes everyone else.

Although ever married black women receive wages over eight percent higher than their white counterparts, never married black women receive wages quite similar to those of never married whites.<sup>8</sup>

If highly skilled, married, black women have less wealth than their white counterparts, it is possible that the correlation between potential wages and the probability of participation is stronger among black wives than among white wives. If this is the case, wage comparisons based only on participants may overstate the relative economic status of black women as a whole.

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Table 4 here

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<sup>8</sup>In similar analyses for men, we cannot reject the hypothesis that the black-white wage gap is the same in both samples. Further, the difference in the estimated gaps is roughly half as large as the difference between the wage gap estimates in columns (2) and (4) of Table 4.

Black-white differences in observed patterns of labor supply are equally striking. Among whites, never married women work on average six weeks more per year than ever married women. Among blacks, the situation is reversed; never married women worked six weeks less than ever married women worked.<sup>9</sup> The relationship between marital status and labor supply clearly differs by race. If we assume that marital status is correlated with unmeasured aspects of skill, we confront the possibility that the relationship between unmeasured skills and labor supply also differs by race.

### III. Basic Skills and Men's Earnings

The rest of this chapter focuses on explaining the black-white earnings gap among men. While the selection biases that plagued

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<sup>9</sup>While 92 percent of the black women in our married category report positive weeks worked during the 1990-92 period, the corresponding figure is only 77 percent for single black women. White women exhibit the reverse pattern; 95 percent of single women report working, while the figure for married women is only 91 percent.

the analysis of women might also influence men, such effects should be smaller because few married men are secondary earners and because our sample includes every respondent who worked at all during 1990, 1991, or 1992.

Column (1) of Table 5, parallel to Table 1's analysis of wages, presents the differences in log earnings between black, white and Hispanic men, controlling only for age. A comparison of Tables 1 and 5 shows that the log earnings gap between black and white men is over twice as large as the wage gap. Black men earn 48% less per year than whites of the same age, even though their wages are only 24% lower.<sup>10</sup> When we control for AFQT in column (2), the earnings gap between black and white men is cut in half. Consequently, while premarket skills explain a significant part of the earnings gap, they account for a smaller fraction of the earnings gap than of the wage gap.

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Table 5 here

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<sup>10</sup> The log earnings gap reported here is roughly twice as large as the black-white gap in log annual earnings based on annual earnings data from the Current Population Surveys, a common resource for research on black-white earnings differences. We report a larger gap for three reasons. First, our three year average includes all persons who report valid earnings in as little as one year. The inclusion of workers with weak attachment to work expands the black-white earnings gap. Second, the CPS definition of white includes some Hispanic workers, while the NLSY does not. Finally, the NLSY data include more black workers who report relatively meager earnings in any given year. This has little effect on the black-white ratio of average annual earnings, but noticeable effects on the gap in average log annual earnings. However, in log earnings regressions that restrict the sample to men who earned over \$1,000 in 1990, the estimated black-white gaps in log earnings taken from the NLSY and CPS are almost identical given appropriate adjustments in the NLSY classification of whites.

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However, columns (3) and (4) of Table 5 show that AFQT has a substantially greater impact on log earnings among blacks than among whites.<sup>11</sup> Despite the large overall earnings gap, among 27 year old men with AFQT scores more than one standard deviation above the sample mean, blacks earn only about 5% less than white men. However, since only five percent of the black sample scored more than one standard deviation above the sample mean on the AFQT, the earnings gap for most black men is much larger.

Why is the black-white earnings gap for men larger than the corresponding wage gap, and why is the earnings gap for men smaller among high-skill workers? Schooling provides at least part of the answer. Table 6 shows earnings, wages, and labor supply by race for workers in different education categories. Among men without a high school diploma, blacks work and earn significantly less than whites. For both hours and weeks worked, the ratio of black labor supply to white labor supply is under .8. Among high school graduates, the racial gap in labor supply is smaller but still substantial. Among college graduates, however, the gap is trivial.

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<sup>11</sup>In pooled specifications that involve different slopes by race, we reject the null hypothesis that the relationships between AFQT and earnings are the same for both black and white men.

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Table 6 here

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Since test scores are correlated with future educational attainment, the results in Table 6 raise the possibility that the strong relationship between AFQT and earnings among blacks operates, at least in part, through post secondary education. Table 7 confirms this hypothesis. The relationship between log earnings and AFQT is much more similar for blacks and whites when we control for educational attainment.

Two forces drive this result. Youth with strong basic skills are more likely to attend college, and in addition, the return to college education is greater for black students than white students. Among students who begin college with roughly the same basic skills, black students who graduate earn much higher returns than white students who graduate. Assuming that workers supply labor inelastically, these higher returns take two forms. The college wage premium is greater for black workers, and as Table 6 indicates, college degrees appear to have a greater effect on the employment opportunities of black workers.<sup>12</sup>

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<sup>12</sup> The appendix to Neal and Johnson (1996) provides separate

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estimates of the college wage premium by race conditional on AFQT. This premium is notably larger for blacks. Similar results hold in our present sample. Further, although Table 6 provides the raw differentials in employment by education category, a similar pattern holds conditional on AFQT.

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Table 7 here

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To see the total impact of these effects, consider two men, one black and one white, both born in 1963, both with college degrees and both with AFQT scores equal to the sample mean. As figure 1 shows, the black man's predicted log earnings are only seven percent lower than those of his white counterpart. In contrast, the same comparison for two men who are high school dropouts reveals an enormous gap in predicted earnings.

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Figure 1 here

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#### IV. Causes and Consequences of Lower Employment Rates Among Less Educated Black Men

Table 6 shows that black men with less than a college education work significantly fewer hours than similarly-educated white men, which clearly contributes to the black-white earnings gap. Although black men earn lower wages than white men in all education categories, observed black-white differences in weeks and hours worked are too large to be explained as a voluntary labor supply response to lower wages. Most estimates of the response of men's labor supply to a permanent increase in wages are small and often negative ( Pencavel 1986 ).

While we do not know what causes less educated black men to work less than their white counterparts, we do know that working less today is likely to reduce wages in the future. If blacks work less than whites at the beginning of their work lives, theories of learning by doing and on-the-job training predict that older blacks will have lower wages as a result. The initial effects of employment discrimination could then compound over the course of a decade into wage differences like those shown in column (2) of Table 1.

Table 8 examines the effect of experience on wages. Columns (1), (3) and (5) show regressions of log wages on race, age, and AFQT. Each regression is restricted to workers with the same amount of education. The coefficients on the black dummy variable in these regressions describe the skill-adjusted wage gap between blacks and whites in a given education category. As one would expect from Table 6, these gaps decline with educational attainment. In fact, black male college graduates in this sample earn higher wages than white male graduates with similar AFQT scores, though the difference is not statistically significant.

However, even holding AFQT constant, black high school dropouts and graduates earn substantially lower wages than their white counterparts.

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Table 8 here

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Can differences in past work experience account for these



gaps? In columns (2), (4) and (6) of Table 8, we add a measure of total weeks employed between the year the respondent turned 18 and 1990, which is the first year used in our measure of average wages.

The bottom panel of Table 8 shows the average weeks worked by each group.

Columns (2), (4) and (6) show that prior work experience is strongly associated with wages for each of the education groups, but especially for the two non-college groups. For dropouts and high school graduates, each additional year of work experience adds roughly 5 percent to the wage rate. For high school graduates, roughly half the unexplained black-white wage gap can be attributed to differences in past work experience (compare the race coefficients in columns (3) and (4)). For dropouts (columns (1) and (2)), experience explains about 30 percent of the remaining black-white gap.<sup>13</sup>

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<sup>13</sup>The specifications in Table 8 force the AFQT effects to be the same for blacks and whites in the same education group. We have used more flexible functional forms to estimate the impact of past work experience on the residual black-white wage gap and have found similar results.

If these racial differences in past work experience result from employment discrimination, then discrimination contributes significantly to observed wage and earnings gaps between black and white men. However, these employment differences may not be caused primarily by employer discrimination. Workers in general, and young people in particular, often learn about job opportunities from informal networks of friends, family, and associates. This may be particularly true for less educated workers.<sup>14</sup> If young black men have less extensive informal job search networks than their white counterparts, racial differences in work experience may reflect a black disadvantage in access to information about employment opportunities. While this information disadvantage may be the result of discrimination against past generations of blacks, it could persist even if employers no longer discriminate.

## V. Conclusions

In this paper, we use AFQT scores for the younger members of the NLSY panel as a measure of the skills young adults bring to the labor market. We measure labor market outcomes when workers are in their late 20s and early 30s. We find that:

1. Skills are important determinants of wages and earnings. Skill differences explain a substantial part of the wage and earnings

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<sup>14</sup>See, for example, Rees and Gray (1982). Employed family and friends may also help employers identify responsible potential employees.

variation among blacks, among whites, and between blacks and whites.

2. For men, the black-white gap in annual earnings is more than twice as large as the gap in hourly wage rates. Further, the racial difference not explained by skills is three times as large for annual earnings as for hourly wages.

3. Black men's low earnings are partly attributable to the fact that less educated black men work significantly fewer hours and weeks than their white counterparts. This phenomenon is probably not attributable to the fact that black men are offered lower wages.

4. Less work experience during their early years in the job market has a notable effect on the wage gap faced by less-educated black men in their late twenties and early thirties.

5. The relationship between basic skills and eventual earnings is stronger among black men than white men. This reflects, in large part, a racial difference in the return to post secondary schooling.

We have identified two important reasons why black men earn less than white men. First, black men enter the labor market with fewer basic skills. Second, black men get less work experience early in life. Discrimination by employers may play a direct role in reducing black men's wages by inhibiting the accumulation of valuable labor market experience. However, the black-white gap in basic skills at the time of labor market entry remains a prominent cause of black-white earnings inequality.

DATA APPENDIX

This paper draws on data taken from the National Longitudinal Survey of Youth. The data include respondents from the national cross-section subsample (Sample ID < 9), and from the Hispanic and black supplemental samples. We do not use data from the poor-white or military supplemental samples. Therefore, although our resulting sample contains a disproportionate share of blacks and Hispanics, the data are nationally representative within each racial category. There are eight variables used extensively in our analyses which are not taken directly from the NLSY data, but created from the information available in the NLSY. These variables are age-adjusted AFQT, high school graduate, college graduate, average wage, average earnings, average hours worked, average weeks worked, and total weeks worked prior to 1990.

The age-adjusted AFQT variable is based on the 1989 scoring formula for the AFQT (See NLS User's Guide). To adjust the scores for age, we regress AFQT on year of birth dummies. We then capture the residuals from this regression and normalize them to have a standard deviation of one. These standardized residuals are the age-adjusted AFQT scores.

The high school and college graduation variables identify individuals who actually graduated from high school or college. Persons who receive GED certificates are not counted as high school graduates. In most cases, a college graduate is a respondent who reports both receiving a college degree and also completing at least fifteen total years of schooling. In cases where degree information is not available, college graduates are defined as persons who have completed at least sixteen years of schooling.

Average wages are defined as the average reported wage over the 1990-93 survey years. The wage observations come from the current or most recent job at the time of the interview. Reported wages less than one dollar per hour or more than 75 dollars per hour are treated as coding errors. If a person does not have a valid wage observation for a given year or years, the average is computed from the balance of the wage observations. Average earnings are defined as the average reported earnings over the 1991-93 surveys. The earnings observations are total labor earnings in the previous calendar year. If a respondent reports zero earnings for one or two years, these observations enter the calculation of average earnings. However, if earnings data are missing or invalid for a given year, the average earnings are computed using data from the remaining years. Earnings data do not include military pay. Therefore, we treat earnings data as invalid if respondents served in the military for any part of the calendar year in question. Persons who report zero earnings in all surveys years containing valid data are given an average of zero and excluded from the regressions involving log earnings.

Average weeks and hours worked are calculated using data from the 1991-93 surveys on weeks and hours worked in all jobs during the past calendar year. For person-years where less than 52 weeks are covered in the data, we impute annual weeks worked using the

"weeks unaccounted for" variables. If imputed total weeks exceed 52, the record is declared invalid. For cases involving imputations, we top code annual hours at 3500. The total weeks worked prior to 1990 variable is also calculated using the weeks worked during the past calendar year variable. Invalid cases are identified using the same rule. If data are missing for a given year, and data are available in both adjacent years, we impute annual weeks as the average of reported annual weeks worked in the two adjacent years. All other imputations are based on the average of all annual weeks worked reported in valid interviews between the eighteenth year following the worker's birth and the 1990 interview.

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Table 1: Effect of AFQT on Wage Rates

Dependent Variable: log wage rate

Independent Variables	Men		Women	
	(1)	(2)	(3)	(4)
Black	-.277 (.024)	-.098 (.025)	-.183 (.028)	.052 (.029)
Hispanic	-.132 (.028)	-.009 (.028)	-.024 (.032)	.160 (.031)
Age	.041 (.013)	.034 (.012)	-.002 (.015)	.010 (.014)
AFQT	---	.175 (.011)	---	.249 (.014)
Constant	5.79 (.356)	5.92 (.332)	6.72 (.407)	6.27 (.373)
N	1689	1689	1546	1546
Adjusted R <sup>2</sup>	.075	.194	.028	.189

Note: The sample includes respondents who report a valid wage observations between 1990 and 1993. We begin with 1881 male and 1805 female respondents who have valid AFQT scores and are born after 1961. We eliminate 59 males and 163 females who report, in all interviews, that they have not worked since the previous interview. We eliminate 133 males and 96 females because their records contain no valid wage/employment information during the 1990-93 period. Standard errors are in parentheses.

Table 2: Effect of AFQT on Wage Rates by Racial Group

Dependent Variable: log wage rate

Independent Variables	Men			Women		
	White	Black	Hispanic	White	Black	Hispanic
	(1)	(2)	(3)	(4)	(5)	(6)
Age	.041 (.016)	.043 (.023)	-.004 (.032)	.018 (.021)	.003 (.022)	.002 (.030)
AFQT	.176 (.014)	.193 (.022)	.148 (.028)	.262 (.021)	.252 (.025)	.215 (.029)
Constant	5.73 (.436)	5.59 (.619)	6.92 (.877)	6.06 (.572)	6.50 (.592)	6.63 (.809)
N	870	500	319	767	459	320
Adjusted R <sup>2</sup>	.156	.136	.074	.166	.185	.146

Note: Wage rate is average real wage rate over 1990-93. See note below Table 1 for data description. Standard errors are in parentheses.



Table 3: Earnings Differences and AFQT: Women

Dependent Variable: log annual earnings

Independent Variables	All Races		White	Black
	(1)	(2)	(3)	(4)
Black	-.271 (.078)	.191 (.084)	---	---
Hispanic	-.095 (.088)	.270 (.089)	---	---
Age	-.049 (.042)	-.028 (.040)	-.042 (.056)	-.017 (.078)
AFQT	---	.506 (.043)	.541 (.075)	.419 (.097)
AFQT <sup>2</sup>	---	-.035 (.038)	-.025 (.061)	-.206 (.100)
Constant	10.56 (1.13)	9.78 (1.08)	10.12 (1.51)	9.75 (2.11)
N	1442	1442	728	421
Adjusted R <sup>2</sup>	.007	.097	.105	.076

Note: The sample includes respondents who report positive earnings in at least one survey year. We begin with a sample of 1805 female respondents who have valid AFQT scores and are born after 1961. We eliminate 96 respondents because their records contain no valid earnings data for any of the years in question. We eliminate an additional 267 respondents who report zero earnings in all valid interview years. Standard errors are in parentheses.

Table 4: Women's Wages by Marital Status

Dependent Variable: log wage rate

Independent Variables	Never Married		Ever Married	
	(1)	(2)	(3)	(4)
Black	-.312 (.050)	-.024 (.054)	-.128 (.035)	.085 (.035)
Hispanic	-.016 (.064)	.184 (.061)	-.035 (.037)	.146 (.036)
Age	-.042 (.027)	-.012 (.025)	.016 (.018)	.019 (.016)
AFQT	---	.242 (.025)	---	.247 (.016)
Constant	7.87 (.736)	6.88 (.668)	6.23 (.485)	6.03 (.447)
N	392	392	1154	1154
Adjusted R <sup>2</sup>	.109	.283	.010	.161

Note: "Never Married" refers to marital status in 1993. Standard errors are in parentheses.

Table 5: Earnings Differences and AFQT: Men

Dependent Variable: log earnings

Independent Variables	All Races		White	Black
	(1)	(2)	(3)	(4)
Black	-.653 (.057)	-.318 (.060)	---	---
Hispanic	-.302 (.066)	-.087 (.066)	---	---
Age	.074 (.031)	.059 (.029)	.098 (.031)	.000 (.070)
AFQT	---	.337 (.027)	.318 (.031)	.447 (.080)
AFQT <sup>2</sup>	---	-.054 (.024)	-.032 (.028)	-.016 (.071)
Constant	7.85 (.828)	8.17 (.791)	7.09 (.852)	9.46 (1.89)
N	1638	1638	850	483
Adjusted R <sup>2</sup>	.077	.159	.133	.080

Note: The sample includes respondents who report positive earnings in at least one survey year. We begin with 1881 male respondents who have valid AFQT scores and are born after 1961. We eliminate 107 respondents because their records contain no valid earnings data for any of the years in question. We eliminate an additional 119 respondents who report zero earnings in all valid interview years. Standard errors are in parentheses.

Table 6: Men's Wages, Earnings, and Labor Supply by Education and Race

	Log of Wage Rate	Log of Earnings	Average annual hours	Average annual weeks
	(1)	(2)	(3)	(4)
Less than High School				
White:	6.73 (.39)	9.42 (.95)	1915 (770)	42.1 (13.2)
Black:	6.49 (.38)	8.60 (1.55)	1441 (780)	33.8 (16.6)
Black/White Ratio:	.787	.440	.752	.803
High School				
White:	6.87 (.36)	9.84 (.73)	2135 (685)	46.6 (10.2)
Black:	6.64 (.40)	9.41 (.92)	1865 (772)	42.1 (13.7)
Black/White Ratio	.795	.651	.874	.903
College				
White:	7.19 (.40)	10.28 (.549)	2274 (633)	48.8 (7.3)
Black:	7.09 (.39)	10.10 (.826)	2248 (564)	48.7 (8.4)
Black/White Ratio	.905	.835	.989	.998

Note: The samples for columns 2 through 4 include 1643 persons. These are the respondents in the sample used for Table 5 minus 12 respondents who have invalid labor supply records. The wage sample eliminates an additional 21 respondents who report invalid wages. Sample standard deviations are in parentheses.

Table 7: Effect of Education and AFQT on Men's Earnings

Dependent Variable: log earnings

	White	Black
<u>Independent Variables</u>	(1)	(2)
High School	.308 (.065)	.726 (.119)
College	.341 (.072)	.521 (.194)
Age	.103 (.031)	.051 (.067)
AFQT	.184 (.036)	.220 (.086)
AFQT <sup>2</sup>	-.057 (.029)	-.038 (.069)
Constant	6.73 (.832)	7.46 (1.83)
N	850	483
Adjusted R <sup>2</sup>	.180	.161

Note: Excludes respondents with zero earnings. See notes below Table 5 for more on the earnings variable. Standard errors are in parentheses.

Table 8: Effect of Experience on Men's Wages

Dependent Variable: log wage rate

	Less than High School		High School		College	
	(1)	(2)	(3)	(4)	(5)	(6)
Age	.030 (.023)	-.021 (.024)	.038 (.016)	-.005 (.017)	.060 (.029)	.035 (.031)
Black	-.144 (.045)	-.100 (.044)	-.133 (.034)	-.066 (.034)	.074 (.071)	.087 (.071)
Hispanic	.052 (.046)	.054 (.045)	-.028 (.038)	-.008 (.017)	-.110 (.076)	-.121 (.077)
AFQT	.150 (.024)	.131 (.024)	.087 (.017)	.088 (.017)	.189 (.038)	.188 (.038)
Total Weeks Employed	—	.0010 (.0001)	—	.0010 (.0001)	—	.0005 (.0002)
Constant	5.955 (.633)	6.991 (.630)	5.800 (.445)	6.607 (.436)	5.341 (.787)	5.836 (.818)
N	480	480	847	847	292	292
Adjusted R <sup>2</sup>	.131	.197	.085	.160	.105	.115
Mean Weeks Worked:						
Whites	320		358		319	
Blacks	267		290		290	

Note: Standard errors in parentheses. This sample includes the 1689 males with valid wage observations (see Table 1) minus 70 respondents who have at least one invalid annual weeks worked record.