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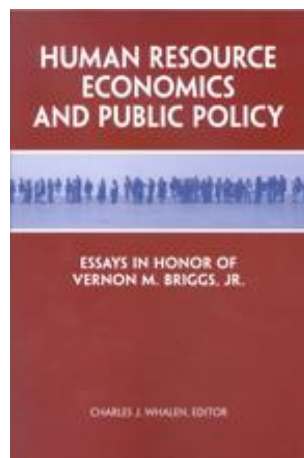
Employment and Wage Prospects of Black, White, and Hispanic Women

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It was fall 1972 in Austin, Texas. Vernon Briggs was assigned to teach principles of economics—the introductory course for freshmen—and the lead author of this chapter was a first-year graduate student in transition from humanities to social science. However, without a single economics course under her belt, auditing the introductory course seemed prudent. What she never expected was positive lifetime returns from that decision.

In one lecture, Briggs dared to assert that immigrants aggravated rural poverty by depressing wages and displacing Chicanos, but he did so on the basis of detailed knowledge of rural labor markets. He had just finished *Chicanos and Rural Poverty* (Briggs 1973) and understood all too well the dynamics of labor-market competition. He also recognized that employment policy requires not only tight coordination with immigration policy but also appropriate human capital investments in domestic workers, preferably via well-functioning educational institutions. This chapter is a testament to Briggs's concerns and influence.

THE ISSUES

Black, Hispanic, and white women differ in the amount of school they complete, in the timing and character of their family formation, and in their labor-force behavior. White women average the highest level of education while Hispanics complete the fewest years of schooling, with blacks somewhere in between. Decisions about educational investments and work experience during the early life course have profound impacts on later career paths and wage prospects. Although returns on education and work experience have been examined in previous research, most studies have focused on men, whose post-school labor-force activity is virtually universal (Ahituv, Tienda, and Hotz 2000; Hotz et al. 2002; Keane and Wolpin 1997). Because their family formation decisions are highly influential in determining their employment behavior, the situation for women is more complex (Ahituv and Tienda 2004).

Understanding how fertility influences employment decisions during the early life course is complicated because the timing of births influences both school continuation and labor-force decisions at a given age. Younger women's labor-force participation has been increasing over the past century, especially since 1950 (Spain and Bianchi 1996). Compared with men, women continue to experience greater and more frequent interruptions in their career trajectories (Alon, Donahoe, and Tienda 2001). In turn, their family formation choices affect both educational attainment and the acquisition of valuable work experience during the early life course. Finally, fertility decisions are thought to be influenced by women's educational and work career opportunities, giving rise to a potentially important source of endogeneity between the fertility, schooling, and employment decisions of women.

Additionally, women are not a homogeneous group. African-American and Hispanic women earn, on average, lower wages than white women and are less likely to find a job when searching for paid work (Browne 1999). Furthermore, not only decisions surrounding investments in education and work experience, but also choices of family formation differ among racial and ethnic groups. Black women are more likely than either white or Hispanic women to bear a child out of wedlock, yet they complete more years of education than Hispanic

women (Ahituv and Tienda 2004; Stier and Tienda 2001). Therefore, it is necessary to consider jointly the interrelationship between fertility, schooling, and employment decisions to appreciate whether minority and nonminority women respond similarly to changing economic opportunities.

From the late 1970s to the present, labor-market conditions became more geographically heterogeneous across the United States, implying changing regional incentives to either enter the workforce or remain in school. Tight, dynamic markets may propel young women into the labor force, thereby allowing them to accumulate work experience. However, if this work experience comes at the expense of pursuing additional schooling, participating in the labor force early in one's career may be deleterious in the long run. Due to the geographic and residential separation of racial and ethnic groups in the United States, as well as the geographic differences in amount of industrial restructuring across the country, local labor-market conditions could lead to differing outcomes for black, white, and Hispanic women (Bound and Dresser 1999; Browne 1999).

This chapter addresses several questions about young women's employment and wage prospects in the context of the school-to-work transition. First, how do young women's human capital investment and family formation decisions vary along racial and ethnic lines? Second, what implications do these differences have for labor-force behavior? Third, how does the acquisition of early work experience differ among black, white, and Hispanic women, and are the returns on early experience significant predictors of adult wage inequality? Finally, how sensitive are young women's labor-force decisions to local market conditions?

The next section describes the National Longitudinal Survey of Youth (NLSY) and defines key variables used in the empirical analysis. Following a statistical portrait of the work and schooling experiences for a cohort of young women from ages 17 through 28, we elaborate an econometric specification to estimate the effects of local labor-market conditions, human capital, and fertility on young women's employment behavior and wages and present empirical results. The conclusion highlights key findings and suggests directions for further research.

DATA

The data for our analysis is drawn from the NLSY, a nationally representative sample of U.S. youth between the ages of 13 and 20 as of January 1, 1978. The original sample consisted of a national probability sample of 6,111 men and women in this age range, plus 5,296 individuals from randomly selected oversamples of black, Hispanic, and economically disadvantaged white youth. Beginning in 1979, in-person interviews were conducted annually, and by 1993, the last year we analyze, just over 10 percent of the original sample had been lost to attrition. The detailed life histories specify dates and type of employment, hours of work, wage rates, dates of school enrollment, and dates of childbirth by age, which permit us to record simultaneous activities at specific ages.

Empirical analyses use data for women drawn from the national probability sample and the black and Hispanic oversamples for the 1979–1993 period. We also restrict our analysis to respondents aged 13–16 in 1978 (28–31 in 1993). Except for youth who participate in informal, remunerated jobs prior to the legal age for work (i.e., 14), this sample selection criterion yields the most complete information possible on the entire process of early employment experiences, school departure, and labor-market entry. With these data restrictions, our analysis sample consists of 2,477 young women, including 1,204 whites, 762 blacks, and 511 Hispanics.

Labor-Market Status

Using the detailed work and school histories, we construct a year-by-year classification of women's primary activity.¹ Starting from age 13, each respondent was coded as participating in one of the following four mutually exclusive activities: 1) enrolled in school, 2) part-time work only, 3) full-time work, and 4) homemaker.

For women who had not worked full time, we examined school attendance and employment during the calendar year to see if their dominant activity was school (state 1) or part-time work (state 2). The homemaker activity state (4) also includes a tiny share of childless women who were not working or attending school. This coding exer-

cise produced a person-year file with 15 observations per respondent. Wage rates are available for jobs associated with the first three states. Because we consider whether school is the dominant state, we do not estimate a wage equation for state 1.

Human Capital Measures

We derive indicators of human capital as measured by educational attainment and work experience, measured from a life cycle perspective. Because youth accumulate educational experience over their early life course (Hotz and Tienda 2002; Tienda and Ahituv 1996), we constructed a measure of the years of school attended at each age. We also chart age-specific educational attainment using the school history module to ascertain whether the highest level is less than high school, high-school graduation (or GED), or a bachelor's degree as of each age. With respect to work experience, we use the detailed work history data to construct measures of the number of weeks worked full time and part time at each age. Finally, we include scores on the Armed Forces Qualification Test (AFQT) in our analyses to control for individual differences in labor-market aptitude.

Family Background, Personal Characteristics, and Fertility

Using 1979 baseline NLSY interviews, we follow Caspi et al. (1998) in constructing several family and personal background variables related to young women's labor-market outcomes. These include the income of respondents' parents in 1978, maternal educational attainment, total number of siblings in 1979, and whether or not the respondent lived in a female-headed household at the age of 14.² Personal characteristics include race/ethnicity, age, husband's income, urban residence, age of menarche, and whether the respondent was born in a foreign country. From the birth histories available in the NLSY, we construct a measure of cumulative fertility by age, which essentially denotes the number of children ever born at each age.

Labor-Market Conditions

To assess the effects of labor-market conditions on the employment prospects and wages of young female workers, we used county-level data on employment and average earnings distributed by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce to construct two time-varying measures of local labor-market conditions: the county average income per worker (expressed in constant 1982 dollars) and the county annual percentage rate of growth in total employment. These time-varying indicators of labor-market conditions were appended to respondents' geo-coded records.

EARLY WORK AND FAMILY EXPERIENCES OF YOUNG WOMEN

Attaining full-time employment represents a successful culmination of the transition from school to work. Ahituv, Tienda, and Hotz (2000) show that there are multiple pathways from school to work that roughly correspond to race and ethnic groups. Table 8.1, which depicts the age-specific allocation of women into the four mutually exclusive activity states, reveals clear racial and ethnic differences in the transition from school to work. At age 17, enrollment in school is the modal activity for all demographic groups, although by that age, almost 30 percent of Hispanic women have left school compared to 21 percent of whites and 16 percent of blacks. Overall, black and white women are more similar to each other in their school-leaving patterns. However, black women are more similar to Hispanic than white women in their full-time age-employment profiles at later ages because, like their male counterparts, they experience delays in the initial entry into the labor market. Thus, by age 24, when most women have finished school, nearly half of Hispanic and black women have become full-time workers, compared with 60 percent of white women. By age 28, 61 percent of white women held a full-time job compared to 53 percent of Hispanic and black women. Although, between the ages of 17 and 28, the share of Hispanic women who were homemakers doubled, while that of black women more than

Table 8.1 Pathways from School to Work: Age-Specific Distribution of Hispanic, Black, and White Women by Four Activity States (%)

| Age | Hispanic (N=5,724) ^a | | | | Black (N=8,679) | | | | White (N=13,723) | | | |
|-----|---------------------------------|----------------|----------------|-------------|-------------------|----------------|----------------|-------------|-------------------|----------------|----------------|-------------|
| | School enrollment | Part-time work | Full-time work | Home-makers | School enrollment | Part-time work | Full-time work | Home-makers | School enrollment | Part-time work | Full-time work | Home-makers |
| 17 | 70.1 | 13.2 | 6.0 | 10.6 | 84.2 | 4.7 | 2.8 | 8.3 | 78.8 | 10.1 | 7.1 | 4.0 |
| 18 | 44.0 | 28.7 | 14.5 | 12.8 | 56.2 | 18.0 | 7.4 | 18.5 | 46.3 | 27.5 | 19.0 | 7.2 |
| 19 | 24.3 | 32.9 | 23.9 | 18.9 | 34.3 | 27.5 | 13.6 | 24.6 | 32.7 | 27.7 | 30.9 | 8.8 |
| 20 | 17.0 | 31.4 | 34.4 | 17.2 | 24.4 | 30.5 | 19.2 | 25.9 | 27.4 | 27.3 | 37.6 | 7.7 |
| 21 | 14.2 | 30.1 | 34.2 | 21.4 | 16.9 | 27.7 | 28.0 | 27.3 | 24.4 | 24.1 | 41.0 | 10.5 |
| 22 | 10.0 | 27.4 | 41.0 | 21.6 | 11.4 | 32.1 | 33.7 | 22.9 | 12.3 | 27.0 | 49.3 | 11.5 |
| 23 | 6.4 | 28.8 | 42.3 | 22.5 | 6.8 | 30.3 | 39.8 | 23.1 | 7.1 | 25.3 | 57.3 | 10.3 |
| 24 | 3.9 | 24.7 | 47.6 | 23.8 | 4.2 | 25.9 | 48.3 | 21.7 | 4.8 | 23.2 | 61.6 | 10.5 |
| 25 | 3.9 | 26.9 | 50.5 | 18.7 | 3.5 | 25.8 | 50.2 | 20.5 | 3.9 | 22.3 | 63.2 | 10.6 |
| 26 | 4.4 | 21.7 | 53.4 | 20.6 | 3.2 | 24.4 | 53.8 | 18.7 | 3.6 | 24.3 | 60.4 | 11.8 |
| 27 | 4.3 | 23.6 | 51.3 | 20.9 | 2.7 | 24.9 | 54.2 | 18.1 | 3.2 | 24.7 | 61.0 | 11.2 |
| 28 | 4.7 | 21.7 | 53.2 | 20.4 | 3.5 | 23.7 | 53.2 | 19.7 | 2.9 | 22.7 | 60.9 | 13.5 |

NOTE: Some segments may not total 100 due to rounding.

^a N's reported are in units of person years. The person year file was created from a sample including 1,204 white, 762 black, and 511 Hispanic women.

SOURCE: NLSY.

doubled, and that of white women almost quadrupled, only 13 percent of white women were full-time homemakers at age 28 compared to about 20 percent of black and Hispanic women.

As has been observed for young men (Ahituv, Tienda, and Hotz 2000), Hispanic women enter the labor force on a part-time basis at younger ages than either white or black women. White and Hispanic women are about equally likely to work full time at age 17. That only about half as many black women work full time at this age reveals their greater difficulty securing employment during adolescence. By age 19, when the majority of young women have left school, about one-third of white women and one-quarter of Hispanic women work full time as compared to only 14 percent of black women. The Hispanic–black gap in full-time employment arises partly because larger shares of black women remain enrolled in school up to age 20, whereas Hispanic women withdraw from school at a significantly faster rate. However, this does not explain the large race gap in the timing of the entry into full-time employment because even larger shares of white women prolong schooling as compared to blacks. The white advantage in full-time employment that emerges at age 17 persists throughout the early life course: it widens through late adolescence and early adulthood, implying acquisition of more labor-market experience. After age 25, the white–minority gap narrows, hovering around 7 percentage points.

At least four reasons can be proffered to account for racial and ethnic differences in the timing of entry to full-time employment. The first is that, similar to young men (Ahituv, Tienda, and Hotz 2000), black, white, and Hispanic women pursue distinct investment profiles in the transition from school to work. In other words, young women's human capital investment decisions in education and early work experience have direct and lasting consequences for their full-time employment prospects and the wages they can command as young adults. Second, racial and ethnic differences in the timing of births and marriage may contribute to the observed differences in full-time employment. A third reason is Hispanics enjoyed more favorable labor-market conditions than either blacks or whites because they disproportionately live in the sunbelt and were relatively shielded from the industrial decline that diminished job opportunities in the rustbelt states during the late 1970s and throughout the 1980s. A fourth explanation for these differences is

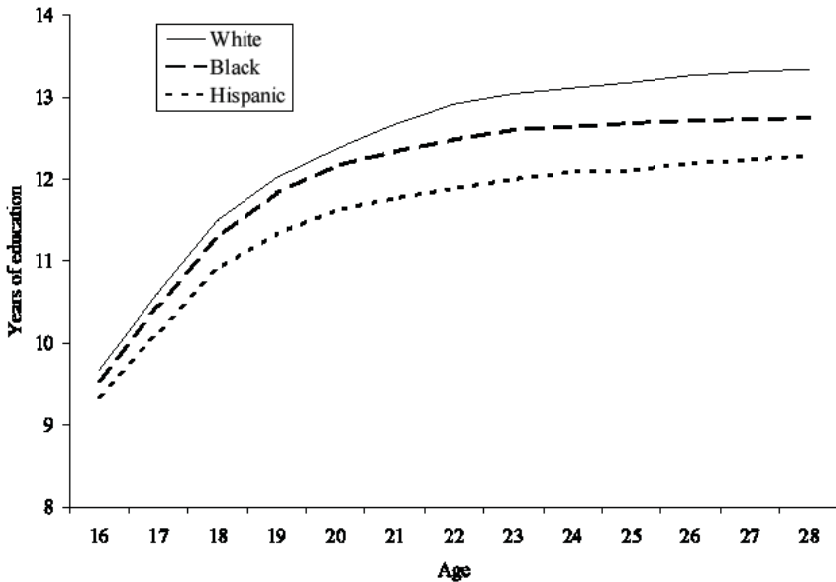
that black women experience more intense labor-market discrimination than Hispanics.

Human Capital Investment

Figure 8.1 addresses the first reason by plotting the age-specific educational attainment of young women. These trends are based on all young women in the sample, regardless of when or if they attained full-time employment prior to age 27. The well-documented differences are clearly evident: namely, whites attain the highest level of education at all ages, Hispanics the lowest level, and blacks an intermediate level. This finding is consistent with the activity state distributions reported in Table 8.1, which show that Hispanics have the fastest rates of school departure while whites exit school at much slower rates.

Educational differentials widen appreciably after age 18 owing to differences in the likelihood of college attendance by minority and

Figure 8.1 Age-Specific Educational Attainment by Race and Hispanic Origin

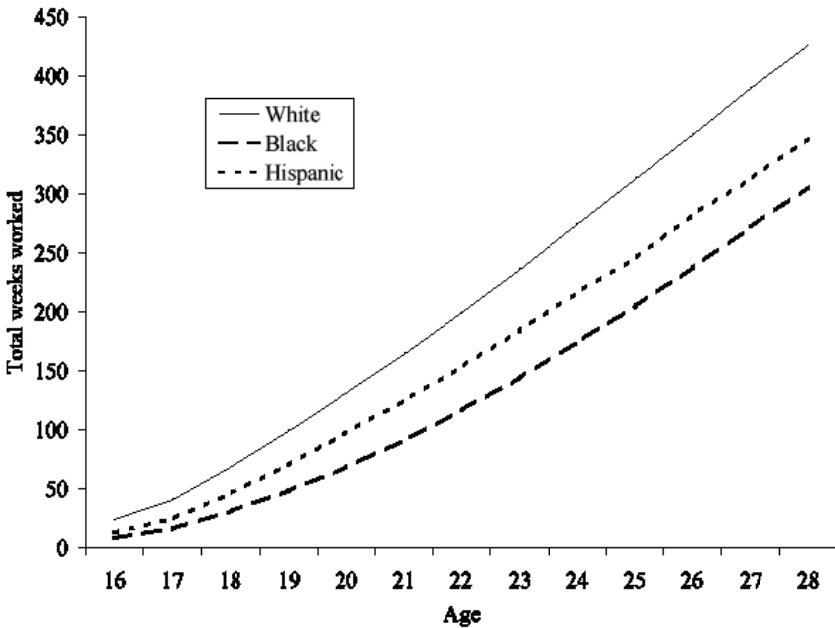


SOURCE: NLYS.

nonminority groups, coupled with low rates of high-school completion among Hispanic women. By the ages of 24–25, white women averaged almost one more year of school than Hispanics and approximately a half year more than blacks. Owing to the greater propensity of white women to pursue post-graduate training, the race gap in education increased slightly by age 27. Group differences in the acquisition of labor-market experience throughout the early life course could also contribute to rising educational inequities by age if this form of human capital acquisition comes at the expense of additional schooling.

As suggested by the data in Table 8.1, black, white, and Hispanic women accumulate unequal amounts of part-time and full-time work experience in their transition from school to work because of differences in the timing of labor-force entry (Hotz and Tienda 2002). Figure 8.2 summarizes racial and ethnic differences in accumulated work experience for young women aged 17–28. In contrast to the trends in

Figure 8.2 Age-Specific Work Experience by Race and Hispanic Origin



SOURCE: NLYS.

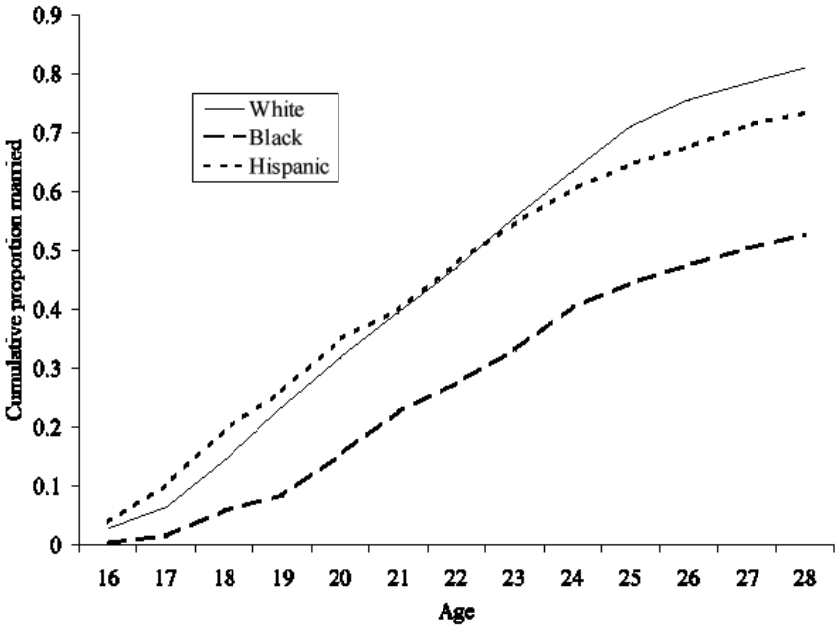
educational attainment, which showed Hispanic women to be most disadvantaged, during the 1980s, Latinas acquired more work experience than their black counterparts but less than whites. In fact, despite their higher levels of education at each age, the work experience curve for blacks is below those of Hispanic and white women throughout the age range considered. Moreover, the ethno-racial experience gaps increased over time. At age 18, white women averaged 0.7 years more work experience than their black age counterparts and 0.4 years more than Hispanics. By age 22, the comparable differentials were 1.6 and 0.9 years for blacks and Hispanics, respectively. And, by the end of the observation period, white women averaged 2.3 years more work experience than blacks and 1.5 years more than Hispanics.

On balance, women's transition from school to work roughly parallels that of young men inasmuch as there appear to be three general profiles (Ahituv, Tienda, and Hotz 2000). The experience of whites is characterized by prolonged schooling and early entry into the workforce, which eventuates in higher stocks of human capital in the form of *both* work experience and schooling. Hispanic women's age-specific full-time labor-force participation rates trail those of whites at every age, but they acquire more labor-force experience than black women. Black women's modal pathway from school to work involves delayed labor-market entry, coupled with prolonged schooling. If the returns on education are greater than the returns on work experience, Hispanic women should be most economically disadvantaged as young adults because they achieve the lowest educational levels. This scenario is likely because returns on education rose appreciably during the 1980s and early 1990s (Danziger and Gottschalk 1993).

Young Women's Family Formation

A second reason for the unequal labor-force experiences of black, white, and Hispanic women is their different patterns of family formation. Group differences in the timing and number of births directly influence women's labor-force behavior, but fertility also is influenced by employment activity and educational attainment (Ahituv and Tienda 2004). Figure 8.3 portrays the cumulative proportions of women married at specific ages for black, white, and Hispanic women, and Figure

Figure 8.3 Age-Specific Cumulative Proportion Ever Married by Race and Ethnicity

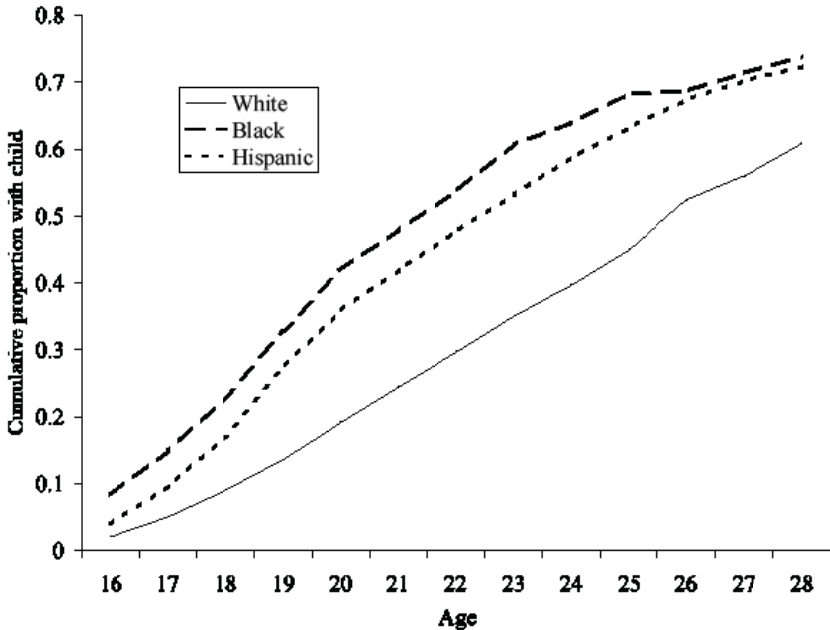


SOURCE: NLYS.

8.4 depicts the cumulative proportions of women from each group with at least one child at specific ages. A striking difference in marriage behavior is that black women are appreciably less likely to marry at any age than either whites or Hispanics. Another noteworthy difference in family formation is that Hispanic women enter marriage at a faster pace than either blacks or whites until about age 22, when the white and Hispanic marriage rates converge. Marriage behavior influences women's labor-force activity in two ways. First, it enables them to remain at home if their spouses' income is sufficient to meet needs and preferences. Second, marriage generally makes childbearing more likely, other things being equal.

Figure 8.4, which displays the cumulative proportion of women with at least one child by age, shows large differences in childbearing patterns. Although childbearing at age 16 is typically uncommon, black

Figure 8.4 Age-Specific Cumulative Proportion with Child, by Race and Ethnicity



SOURCE: NLYS.

girls are twice as likely as Hispanics and four times as likely as whites to have their first child at this age. During the teen years, childbearing among Hispanics rises steeply so that, by age 20, 36 percent of Hispanic women have borne at least one child compared to 40 percent of black women and only 19 percent of white women. The black and Hispanic cumulative fertility curves remain above that of white women throughout the life course, despite the fact that the proportion of black married women remains lower throughout. Thus, white women's high rates of labor-force participation as young adults also reflect their lesser family constraints relative to minority women coupled with higher stocks of work experience they accumulate as a result. By age 27, only 56 percent of white women had given birth to at least one child as compared to 70 percent of black and Hispanic women.

Local Labor Markets and Young Women's Employment

Young women's decisions about whether to prolong or leave school, enter the labor force, or start a family also depend on labor-market opportunities, which evolved rapidly during the 1980s and 1990s. Between 1979 and 1993, there were two recessions, including a rather severe one during the early 1980s and another during the early 1990s. Unemployment reached 21 percent for young women between 1982 and 1983 and nearly 10 percent for young men (Donahoe and Tienda 2000). Throughout the 1980s and early 1990s, when our cohort had largely completed the transition from school to work, female unemployment rates remained in the double digits.

However, the national trends obscure regional variation in local labor markets, which is germane to our hypothesis that local conditions may be partly responsible for the high employment rates of Hispanics, despite their low educational attainment. During the recession of the early 1980s and until around 1985, when our cohorts were between the ages of 20 and 23, on average, Hispanic youth resided in more dynamic labor markets as compared to black and white youth. This reflects the fact that Hispanics disproportionately resided in California, where labor-market conditions between 1975 and 1987 were consistently more favorable as compared with other regions. Young blacks resided in counties with average labor incomes and employment growth rates significantly below those of counties where white and Hispanic youth resided. After 1985, however, white women enjoyed more favorable labor-market conditions, on average, than either black or Hispanic women.

If local labor-market conditions influence young women's timing of full-time employment and their schooling decisions, they also could contribute to unequal levels of experience for whites, blacks, and Hispanics. In the following section, we address whether and by how much the employment and wage returns on education and experience differ, whether young women's labor-force decisions are sensitive to local labor-market conditions, and whether returns on education and work experience are uniform for minority and nonminority women.

ECONOMETRIC SPECIFICATION

To examine the effects of the factors influencing the employment, education, and fertility choices of young adult women over their life cycle and the effects of these decisions on young women's wages, we employ the same econometric framework used in Hotz et al. (2002) and in Ahituv and Tienda (2004).³ In essence, we employ an econometric specification that models the school, work, and homemaking activity choices using a discrete-choice multinomial probit model in which the activity-specific and age-specific utility functions depend upon the years of schooling and work experiences accumulated by a given age, a woman's accumulated fertility, the local labor-market conditions prevailing at that age, and family background characteristics, as well as indicators of race and ethnicity. We also specify a fertility equation as of each age, which also depends on these same factors. Finally, we specify a Mincerian wage equation, in which the (log of) wages of women who work depend on our human capital and labor-market condition variables, as well as race, to estimate the returns on wages of these factors and to determine the remaining differences in wages by race and ethnicity.

A key feature of our econometric analysis is to account for the endogeneity of these various choices when estimating their influences on life cycle employment, schooling, fertility, and wage outcomes of women. To account for this endogeneity, we augment the basic estimating equations with a factor-analytic error structure, in which a common factor, with choice-specific factor loadings, econometrically "links" these various choices together, where the distribution of this common factor is approximated by a discrete distribution function, with finite numbers of points of support.⁴ In what follows, we present estimates for a specification of the model that does not include this factor structure (the "without heterogeneity" specification) and one that includes this factor structure to account for endogeneity (the "with heterogeneity" specification).

EMPIRICAL RESULTS

Table 8.2 presents descriptive statistics for several measures of family background, including family income and mother's years of schooling. Minority women are more likely than whites to come from economically disadvantaged homes. The average family income of Hispanics was about \$13,000 below that of whites and roughly \$3,000 higher than that of blacks. If black women represent the most economically disadvantaged family backgrounds, Hispanic women come from the most educationally disadvantaged backgrounds. Mothers of Hispanic women averaged 7.5 years of graded schooling, compared to 10 and 11.5 for blacks and whites, respectively. Also, black women were three times as likely as whites and about twice as likely as Hispanics to have been reared in a mother-only family. Several studies show that differences in financial resources, parental education, and family stability affect various outcomes of young women, including educational attainment (Kane 1994), the likelihood of working during adolescence (Ahituv, Tienda, and Hotz 2000), and the odds of becoming an adolescent mother (McLanahan and Sandefur 1994).

Table 8.2 also reports young women's educational attainment, mean AFQT scores, and work experience. We include the AFQT score as a control in all statistical models and interpret it as pre-market aptitude for market-relevant skills (Neal and Johnson 1996). As presaged by Figure 8.2, white women acquire considerably more work experience than minority women by age 28 (28 percent more than black women and 19 percent more than Hispanics). Not only are white women more likely than their minority counterparts to be married after age 22 (Figure 8.3), but they also enjoy the benefit of higher spousal earnings. The latter could depress their labor supply, particularly during the prime reproductive years because they can afford to become homemakers.

Finally, there is evidence that Hispanic women lived in more dynamic labor markets than blacks, but not necessarily white women, as indicated by the average annual employment growth rate of their county of residence. However, mean per-worker incomes of labor markets where Hispanic women resided were actually lower, on average, than mean incomes where blacks and whites resided. Therefore, the effect of

Table 8.2 Proportions and Means (Standard Deviations) of Endogenous and Independent Variables at Age 28 by Race and Hispanic Origin

| | Hispanic | Black | White |
|------------------------------------------|--------------------|--------------------|--------------------|
| Endogenous variables | | | |
| Number of births | 1.56 (1.40) | 1.63 (1.41) | 1.10 (1.10) |
| Hourly pay (\$) | 6.85 (4.72) | 5.73 (3.98) | 7.17 (4.91) |
| Independent variables | | | |
| Human capital and scholastic achievement | | | |
| Education (years) | 12.29 (2.32) | 12.75 (2.02) | 13.34 (2.35) |
| Work experience (weeks) | 347.10 (186.95) | 305.71 (174.42) | 426.27 (158.53) |
| AFQT Score | 57.96 (18.89) | 51.34 (17.10) | 75.59 (17.57) |
| Family background (1979) | | | |
| Number of siblings | 4.26 (2.79) | 4.53 (3.01) | 2.97 (1.92) |
| Family income (\$) | 18,532 (13,007) | 15,571 (13,725) | 31,007 (17,734) |
| Mother's education (years) | 7.52 (4.21) | 9.94 (3.69) | 11.40 (3.34) |
| % Mother-only family | 20.0 | 37.4 | 11.0 |
| Personal characteristics | | | |
| Age of menarche | 12.29 (2.40) | 12.70 (2.16) | 12.75 (2.06) |
| Husband's income | 28,671 (38,419) | 23,413 (18,567) | 31,611 (38,623) |
| % Ever birth | 72.34 | 73.84 | 60.92 |
| % Foreign born | 20.21 | 2.60 | 2.70 |
| Labor-market conditions | | | |
| Employment growth | 0.704 (2.849) | 0.444 (2.557) | 1.062 (2.433) |
| Per-worker income (\$) | 13,736 (3,891) | 14,064 (3,323) | 14,264 (3,484) |

SOURCE: NLSY.

labor-market conditions on young women's employment and wages is not obvious and requires empirical evidence, to which we now turn.

Tables 8.3, 8.4, and 8.5 report two sets of estimates for the coefficients—and factor loadings for the models that control for heterogeneity using the factor-analytic error specification—for the utility functions associated with three of the four activity states (the “school only” state serves as a reference category), for the state valuation equation, and for the (log) wage functions. Also presented are estimates for the locations and points of support associated with the person-specific, common random factor. In assessing the appropriateness of the two sets of estimates, one can consider the relative explanatory power of the model with and without controls for unobserved heterogeneity using a likelihood ratio test. Based on this test, the improvement in the fit of the model is highly significant when the common factor structure is added to the model without heterogeneity.

With the exception of full-time work in the wage functions and part-time work in both the state valuation and wage functions, the factor loadings are all significantly different from zero for the model with heterogeneity.⁵ Although we discuss the results from both models below, the data strongly suggest that controlling for person-specific unobserved heterogeneity is necessary to obtain consistent parameter estimates in the fertility and wage equations and the state-specific valuation functions that characterize the employment and family formation behaviors of young women during the 1980s and early 1990s.

Minority Group Status

Coefficients for minority group status are negative for all activity state choices, implying that black and Hispanic women are more likely than whites to remain enrolled in school as compared with working full or part time or becoming full-time homemakers (Table 8.3). This is consistent with results of Ahituv and Tienda (2004), who find that minority women prolong schooling relative to white women with similar background characteristics. These results are unaltered by the inclusion of controls for unobserved heterogeneity, except that the point estimates change slightly. Note that all values of the factor loadings for the various activities are positive and significant for full-time work

activity, negative and significant for homemaking, and not significant for part-time employment.⁶ Although the point estimates on the family background and AFQT scores are similar whether or not unobserved heterogeneity is taken into account, this is not so for endogenous variables (e.g., wages and number of children).

Table 8.3 shows that only one endogenous variable—number of children—behaves as expected once unobserved heterogeneity is taken into account. Specifically, a higher number of children increases the likelihood of homemaking and lowers the likelihood of full-time employment relative to school enrollment. Higher fertility also increases the odds of part-time work relative to exclusive educational activity.

Racial and ethnic effects on family formation reveal a more complex pattern in that black women with children are more likely to remain in school, to work full or part time, or to become full-time homemakers relative to white women with similar characteristics (Table 8.4). These results are consistent with those of other studies (Browne 1999). However, the point estimates for employment activity are greatly attenuated once unobserved heterogeneity is taken into account, suggesting that black mothers who work differ from their nonworking counterparts in unmeasured ways that are systematically correlated with the decision to work. Hispanic women with children are less likely than white mothers to remain enrolled in school, but they are as likely either to join the labor force or become full-time homemakers. Hispanic mothers are slightly more likely than white mothers to work full time, but this result is on the margin of statistical significance, and therefore tentative.

Finally, results show trivial race effects on both full- and part-time wages irrespective of whether unobserved heterogeneity is taken into account (Table 8.5). Hispanic women, however, earn 7 to 12 percent more than their statistically comparable white counterparts. Note that this effect holds with and without controlling for unobserved heterogeneity. We note that this result differs from those of cross-section analyses (Duncan, Hotz, and Trejo 2006), where one finds that Hispanic women either have *lower* or the same wages after controlling for observable factors. Such studies seldom adequately represent the accumulation of human capital and selection into various work activity states over the life course as is possible with the longitudinal data available in the NLSY.

Table 8.3 Estimates of Activity States

| | Without heterogeneity | | | With heterogeneity | | |
|------------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | Part-time work | Full-time work | Homemaker | Part-time work | Full-time work | Homemaker |
| Activity-specific factor loading | | | | 0.0152 (0.0668) | 0.4566*** (0.0584) | -0.2928*** (0.0718) |
| Intercept | 0.0000 (0.4958) | -7.7339*** (0.5026) | -4.7478*** (0.5917) | 0.0000 (0.5110) | -8.3800*** (0.5073) | -4.3343*** (0.6388) |
| Endogenous variables | | | | | | |
| Number children | 0.1881*** (0.0331) | 0.0559* (0.0311) | 0.3422*** (0.0355) | 0.1840*** (0.0435) | -0.1821*** (0.0392) | 0.4215*** (0.0448) |
| Minority status | | | | | | |
| Black | -0.2522*** (0.0295) | -0.1303*** (0.0277) | -0.2727*** (0.0286) | -0.2545*** (0.0290) | -0.1514*** (0.0274) | -0.2681*** (0.0280) |
| Hispanic | -0.1905*** (0.0299) | 0.0844** (0.0270) | -0.2282*** (0.0294) | -0.1911*** (0.0295) | -0.0975*** (0.0266) | -0.2213*** (0.0289) |
| Human capital and scholastic achievement | | | | | | |
| Years of schooling attended | 0.0561*** (0.0097) | 0.0933*** (0.0089) | -0.0500*** (0.0096) | 0.0560*** (0.0094) | 0.0870*** (0.0087) | -0.0443*** (0.0091) |
| Years PT work | 0.5727*** (0.0179) | 0.4740*** (0.0169) | 0.3176*** (0.0168) | 0.5732*** (0.0180) | 0.4713*** (0.0171) | 0.3189*** (0.0170) |
| Exp previous year | | | | | | |
| PT years last year squared | -0.0589*** (0.0023) | -0.0490*** (0.0025) | -0.0452*** (0.0027) | -0.0590*** (0.0023) | -0.0486*** (0.0025) | -0.0453*** (0.0027) |

| | | | | | | |
|----------------------------|------------|------------|------------|------------|------------|------------|
| Years FT work | 0.1841*** | 0.5488*** | -0.0419** | 0.1836*** | 0.5472*** | -0.0420** |
| Exp previous year | (0.0162) | (0.0155) | (0.0027) | (0.0162) | (0.0156) | (0.0166) |
| | -0.0127*** | -0.0351*** | -0.0003 | -0.0130*** | -0.0353*** | -0.0006 |
| FT years last year squared | (0.0023) | (0.0022) | (0.0026) | (0.0023) | (0.0022) | (0.0027) |
| | -0.0121*** | -0.0072*** | -0.0179*** | -0.0120*** | -0.0069*** | -0.0181*** |
| AFQT score | (0.0007) | (0.0007) | (0.0007) | (0.0007) | (0.0007) | (0.0007) |
| Family background (1979) | | | | | | |
| | -0.0028*** | -0.0007 | -0.0050*** | -0.0028*** | -0.0007 | -0.0052*** |
| Family income | (0.0008) | (0.0007) | (0.0007) | (0.0008) | (0.0007) | (0.0007) |
| | -0.0231*** | -0.0207*** | -0.0297*** | -0.0229*** | -0.0215*** | -0.0294*** |
| Mother education | (0.0039) | (0.0037) | (0.0036) | (0.0038) | (0.0037) | (0.0036) |
| | 0.0000 | -0.0623** | 0.0362* | 0.0000 | -0.0195 | 0.0412* |
| Mother-only family | (0.0265) | (0.0294) | (0.0236) | (0.0262) | (0.0245) | (0.0233) |
| Personal characteristics | | | | | | |
| | -0.0037*** | -0.0087*** | 0.0012 | -0.0037*** | -0.0084*** | 0.0012 |
| Husband's income | (0.0007) | (0.0007) | (0.0010) | (0.0007) | (0.0007) | (0.0010) |
| | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Foreign born | (0.0380) | (0.0359) | (0.0371) | (0.0380) | (0.0358) | (0.0369) |
| | 0.0632 | 0.6479*** | 0.5480*** | 0.0616 | 0.6883*** | 0.5234*** |
| Age | (0.0465) | (0.0463) | (0.0543) | (0.0472) | (0.0462) | (0.0569) |
| | -0.0017* | -0.0140*** | -0.0100*** | -0.0016* | -0.0145*** | 0.0097*** |
| AgeSq | (0.0010) | (0.0010) | (0.0012) | (0.0010) | (0.0010) | (0.0012) |
| | 0.0000 | 0.0116 | -0.0147 | 0.0000 | 0.0153 | 0.0207 |
| Age78_13 | (0.0293) | (0.0273) | (0.0281) | (0.0292) | (0.0274) | (0.0286) |

Table 8.3 (continued)

| | Without heterogeneity | | | With heterogeneity | | |
|-------------------------|-----------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|
| | Part-time work | Full-time work | Homemaker | Part-time work | Full-time work | Homemaker |
| Age78_14 | -0.0149 (0.0263) | -0.0170 (0.0255) | 0.0239 (0.0244) | -0.0143 (0.0262) | -0.0174 (0.0254) | 0.0200 (0.0244) |
| Age78_15 | 0.0000 (0.0257) | -0.0397* (0.0235) | 0.0144 (0.0239) | 0.0000 (0.0256) | -0.0343 (0.0233) | 0.0018 (0.0242) |
| Labor-market conditions | | | | | | |
| Emp. growth | 0.0000 (0.3317) | 0.0000 (0.3258) | 0.0000 (0.3440) | 0.0000 (0.3315) | 0.0000 (0.3258) | 0.0000 (0.3433) |
| Per-worker income | 0.0062* (0.0034) | 0.0151*** (0.0030) | -0.0095** (0.0032) | 0.0064* (0.0034) | 0.0156*** (0.0029) | -0.0098** (0.0032) |

NOTE: Standard errors are in parentheses. Included in the estimates (but not reported) are flags indicating missing values for mother's education, family income, and AFQT score. The variable "number of children" is unique to the activity states equation. Age78_13 refers to being age 13 in 1978; Age78_14 to being age 14 in 1978; and Age78_15 to being age 15 in 1978. * $P < 0.10$, ** $P < 0.05$, *** $P < 0.01$.

We find that the number of children depresses women's full-time employment activity (Table 8.3), which is consistent with one's expectation that childbearing reduces women's labor supply, at least when the children are young. Having more children increases the odds that women work part time relative to exclusive scholastic activity, but it raises even more the likelihood that they become full-time homemakers. Interestingly, the expected negative effect of fertility on the odds of full-time employment only emerges after accounting for unobserved, person-specific factors that influence both family formation and employment decisions.

Human Capital Effects

The distinct pathways from school to work pursued by young women have direct implications for their age-specific and ultimate educational attainment and acquired work experience. Human capital results are consistent with prior studies (Hotz et al. 2002) showing that higher levels of education raise the odds of working full time, and to a lesser extent part time, relative to remaining enrolled in school (Table 8.3). Conversely, higher levels of education lower the likelihood that women will become full-time homemakers relative to prolonging their schooling further. These effects are robust to the inclusion of person-specific, unobserved factors. Also, higher levels of educational attainment are associated with lower fertility, but the magnitude of this effect is attenuated substantially for women who work part or full time once controls for unobserved heterogeneity are introduced (Table 8.4). Substantively, this implies that educated mothers who work differ systematically from educated mothers who do not work in ways that are unmeasured by covariates included in the empirical model.

For (log) wages, each year of education completed is associated with a 2.8 to 3.1 percent return (Table 8.5), which is consistent with results of cross-section analyses of female wages (Browne 1999; Duncan, Hotz, and Trejo 2006). Moreover, the point estimates are robust to specifications that include and exclude controls for unobserved heterogeneity. Returns on part-time wages were slightly lower than returns on full-time wages, which is another widely replicated empirical result. Completion of high school or its GED equivalent produced no addi-

Table 8.4 Estimates of Birth Outcomes

| | Without heterogeneity | | | | With heterogeneity | | | |
|------------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | School | Part-time work | Full-time work | Homemaking | School | Part-time work | Full-time work | Homemaking |
| Activity-specific factor loading | | | | | 0.6807*** (0.0140) | 1.971*** (0.0176) | 2.099*** (0.0108) | 2.309*** (0.0232) |
| Intercept | -0.4730** (0.2334) | -3.118*** (0.7042) | -0.3170 (0.5984) | -6.549*** (1.0349) | -1.076*** (0.2153) | -3.777*** (0.3764) | -1.751*** (0.2393) | -8.255*** (0.5319) |
| Minority status | | | | | | | | |
| Black | 0.0829*** (0.0122) | 0.2630*** (0.0224) | 0.3067*** (0.0104) | 0.2696*** (0.0288) | 0.0324** (0.0118) | 0.0686*** (0.0183) | 0.0428*** (0.0093) | 0.2129*** (0.0249) |
| Hispanic | -0.0180 (0.0139) | 0.1000*** (0.0233) | 0.1284*** (0.0115) | 0.1438*** (0.0288) | -0.0343** (0.0118) | -0.0054 (0.0202) | 0.0194* (0.0100) | 0.0061 (0.0269) |
| Human capital and scholastic achievement | | | | | | | | |
| Years of schooling attended | -0.1439*** (0.0030) | -0.1820*** (0.0048) | -0.1324*** (0.0027) | -0.1891*** (0.0057) | -0.1287*** (0.0029) | -0.1106*** (0.0040) | -0.0629*** (0.0022) | -0.1172*** (0.0052) |
| AFQT score | 0.0004 (0.0003) | 0.0019*** (0.0005) | -0.0010*** (0.0003) | 0.0045*** (0.0007) | 0.0014*** (0.0003) | 0.0009** (0.0004) | -0.0004* (0.0002) | 0.0025*** (0.0006) |
| Family background (1979) | | | | | | | | |
| Number siblings | 0.0063*** (0.0016) | 0.0084** (0.0025) | 0.0197*** (0.0016) | 0.0070** (0.0031) | 0.0015 (0.0016) | 0.0000 (0.0021) | 0.0096*** (0.0014) | 0.0012 (0.0030) |
| Family income | -0.0009** (0.0003) | 0.0000 (0.0006) | -0.0016*** (0.0003) | -0.0038*** (0.0010) | -0.0006* (0.0003) | 0.0001 (0.0005) | -0.0013*** (0.0002) | 0.0009 (0.0009) |
| Mother education | -0.0050** (0.0017) | -0.0093** (0.0030) | -0.0004 (0.0015) | -0.0069** (0.0031) | -0.0041** (0.0016) | -0.0085** (0.0026) | -0.0059*** (0.0014) | -0.0094*** (0.0028) |

Table 8.4 (continued)

| | | | | | | | | |
|--------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Mother-only family | -0.0093 (0.0104) | -0.0650*** (0.0176) | -0.0016*** (0.0003) | 0.0169 (0.0214) | -0.0225** (0.0102) | | -0.0006 (0.0083) | -0.0366* (0.0188) |
| Personal characteristics | | | | | | | | |
| Age of menarche | -0.0031 (0.0025) | -0.0172*** (0.0044) | 0.0115*** (0.0024) | -0.0753*** (0.0066) | -0.0067** (0.0025) | -0.0194*** (0.0036) | -0.0055** (0.0020) | -0.0376*** (0.0055) |
| Foreign born | -0.1124*** (0.0186) | -0.2833*** (0.0428) | -0.1945*** (0.0188) | -0.0818** (0.0378) | -0.1213*** (0.0175) | -0.1777*** (0.0302) | -0.1562*** (0.0169) | 0.0268 (0.0333) |
| Age | 0.0907*** (0.0212) | 0.4004*** (0.0600) | 0.1049** (0.0492) | 0.7449*** (0.0891) | 0.1238*** (0.0195) | 0.3357*** (0.0307) | 0.1427*** (0.0199) | 0.6833*** (0.0458) |
| AgeSq | 0.0017*** (0.0005) | -0.0047*** (0.0013) | 0.0003 (0.0010) | 0.0119*** (0.0019) | 0.0007* (0.0004) | -0.0036*** (0.0007) | -0.0008* (0.0004) | -0.0101*** (0.0010) |
| Age78_13 | 0.0453*** (0.0126) | -0.0021 (0.0222) | 0.0056 (0.0117) | 0.1859*** (0.0283) | 0.0473*** (0.0129) | 0.0301* (0.0197) | -0.0122 (0.0101) | 0.2249*** (0.0261) |
| Age78_14 | 0.0180* (0.0110) | 0.0241 (0.0198) | -0.0024 (0.0097) | 0.1694*** (0.0232) | 0.0157* (0.0105) | 0.0136 (0.0161) | -0.0238** (0.0084) | 0.1874*** (0.0212) |
| Age78_15 | 0.0113 (0.0106) | -0.0093 (0.0202) | -0.0010 (0.0097) | 0.0779** (0.0248) | 0.0141 (0.0102) | 0.0591*** (0.0158) | 0.0046 (0.0082) | 0.1998*** (0.0205) |
| Urban | 0.0002 (0.0137) | -0.0334* (0.0206) | -0.0303*** (0.0110) | -0.1153*** (0.0253) | 0.0238** (0.0118) | -0.0028 (0.0164) | -0.0190** (0.0092) | 0.0779*** (0.0214) |
| Labor-market conditions | | | | | | | | |
| Per-worker income | 0.0043** (0.0016) | -0.0215*** (0.0030) | -0.0214*** (0.0014) | 0.0127*** (0.0032) | 0.0040** (0.0015) | -0.0077** (0.0023) | -0.0058*** (0.0011) | 0.0008 (0.0027) |

NOTE: Standard errors are in parentheses. Included in the estimates (but not reported) are flags indicating missing values for mother's education, family income, and AFQT score. The variables "age of menarche," "number of siblings," and "urban" are unique to the birth equation. * $P < 0.10$, ** $P < 0.05$, *** $P < 0.01$.

Table 8.5 Estimates of Hourly Wage Rates

| | Without heterogeneity | | With heterogeneity | |
|------------------------------------------|-----------------------|------------------------|-----------------------|------------------------|
| | Part-time work | Full-time work | Part-time work | Full-time work |
| Activity-specific factor loading | | | -0.0148 (0.0141) | 0.0094 (0.0079) |
| Intercept | 0.6204** (0.2729) | -0.8053*** (0.2104) | 0.6317** (0.2735) | -0.8147*** (0.2139) |
| Minority status | | | | |
| Black | -0.0208* (0.0135) | -0.0021 (0.0059) | -0.0192 (0.0135) | -0.0032 (0.0059) |
| Hispanic | 0.0755*** (0.0134) | 0.1155*** (0.0067) | 0.0762*** (0.0134) | 0.1149*** (0.0067) |
| Human capital and scholastic achievement | | | | |
| Years of schooling attended | 0.0277*** (0.0040) | 0.0304*** (0.0019) | 0.0272*** (0.0040) | 0.0306*** (0.0020) |
| High school or GED | -0.0054 (0.0099) | 0.0052 (0.0056) | -0.0054 (0.0099) | 0.0050 (0.0056) |
| Bachelor's degree or more | 0.2182*** (0.0225) | 0.1348*** (0.0081) | 0.2173*** (0.0225) | 0.1350*** (0.0081) |
| Years PT work exp previous year | -0.0165* (0.0091) | 0.0022 (0.0039) | -0.0161* (0.0091) | 0.0020 (0.0040) |
| PT years last year squared | 0.0018* (0.0011) | -0.0036*** (0.0007) | 0.0017* (0.0011) | -0.0036*** (0.0007) |
| Years FT work exp previous year | 0.0474*** (0.0068) | 0.0510*** (0.0043) | 0.0471*** (0.0069) | 0.0512*** (0.0043) |
| FT years last year squared | -0.0017* (0.0009) | -0.0023*** (0.0005) | -0.0017* (0.0009) | -0.0023*** (0.0005) |
| AFQT score | 0.0019*** (0.0003) | 0.0034** (0.0002) | 0.0013*** (0.0003) | 0.0034*** (0.0002) |
| Family background (1979) | | | | |
| Family income | 0.0013** (0.0004) | 0.0012*** (0.0002) | 0.0013** (0.0004) | 0.0012*** (0.0002) |
| Mother education | 0.0002 (0.0019) | 0.0003 (0.0009) | 0.0002 (0.0020) | 0.0002 (0.0009) |
| Mother-only family | 0.0261** (0.0114) | 0.0088* (0.0057) | 0.0265** (0.0114) | 0.0088* (0.0058) |
| Personal characteristics | | | | |
| Foreign born | 0.0484** (0.0190) | -0.0159* (0.0083) | 0.0477** (0.0189) | -0.0156* (0.0083) |
| Age | -0.0036 (0.0244) | 0.0930*** (0.0180) | -0.0038 (0.0244) | 0.0934*** (0.0183) |

Table 8.5 (continued)

| | Without heterogeneity | | With heterogeneity | |
|-------------------------|-----------------------|------------------------|-----------------------|------------------------|
| | Part-time work | Full-time work | Part-time work | Full-time work |
| Agesq | 0.0002 (0.0005) | -0.0016*** (0.0004) | 0.0002 (0.0005) | -0.0016*** (0.0004) |
| Age78_13 | -0.0428** (0.0137) | -0.0063 (0.0062) | -0.0431** (0.0138) | -0.0063 (0.0063) |
| Age78_14 | -0.0164 (0.0124) | -0.0392*** (0.0054) | -0.0164 (0.0124) | -0.0392*** (0.0054) |
| Age78_15 | -0.0300** (0.0124) | -0.0210*** (0.0053) | -0.0305** (0.0125) | -0.0210*** (0.0054) |
| Labor-market conditions | | | | |
| Emp. growth | -0.2739* (0.1764) | -0.4824*** (0.0988) | -0.2707* (0.1770) | -0.4844*** (0.0996) |
| Per-worker income | 0.0227*** (0.0017) | 0.0322*** (0.0006) | 0.0226*** (0.0017) | 0.0322*** (0.0006) |

NOTE: Standard errors are in parentheses. Included in the estimates (but not reported) are flags indicating missing values for mother's education, family income, and AFQT score. The variables "high school or GED" and "bachelor's degree or more" are unique to the wage equation. * $P < 0.10$, ** $P < 0.05$, *** $P < 0.01$.

tional return on education above and beyond what women reaped from years of school completed, but having achieved a college degree yielded an additional return of 21 percent for part-time employment and 13 percent for full-time work. These "sheepskin" effects were unaltered by consideration of unobserved, person-specific factors.

The work experience effects on employment and wage outcomes are highly differentiated according to whether experience was acquired on a full-time or part-time basis. For example, higher levels of acquired part-time work experience raise the odds of working in a subsequent year, but especially the odds of part-time employment (Table 8.3). Because part-time employment also is associated with school enrollment (the school activity state includes part-time workers who are enrolled full-time), part-time work experience also increases the odds that women will continue in school. Full-time work experience has more pronounced effects on the likelihood of future full-time employment, but it also increases the odds of part-time work relative to remaining enrolled. In sharp contrast to the positive effect of part-time experience

on exclusive homemaking, full-time work experience significantly lowered the odds of remaining out of the labor force altogether.

Experience effects on wages present an altogether different picture (Table 8.5). Essentially work experience acquired from part-time employment yields trivial returns for either full- or part-time employment. However, full-time work experience yields a whopping 4.7 to 5.1 percent return on wages received by part-time and full-time workers, respectively. Because the factor loadings were not statistically significant in the wage equation, these effects remain unchanged across specifications. Finally, the AFQT score yields positive wage returns that are slightly higher for women employed full time as compared to those employed only part time.⁷

Labor-Market Conditions

The final question posed at the outset concerns the sensitivity of young women's labor-force decisions to local labor-market conditions. Point estimates indicate zero effects of annual employment growth on women's labor-force or homemaking activity relative to full-time school attendance, but residence in counties with higher incomes pulls women into the labor market relative to attending school and deters them from full-time homemaking (Table 8.3). These average worker income effects are especially pronounced for full-time work and robust across specifications with and without controls for heterogeneity. Similarly, higher average worker incomes are associated with positive wage returns to employed women, on the order of 2.3 percent for part-time workers and 3.2 percent for full-time workers (Table 8.5).

Labor-market conditions also influence women's employment behavior through their effects on fertility (Table 8.4). That is, more favorable market opportunities, as indexed by average per-worker incomes, lower the odds that women employed full or part time will bear another child, but they increase the odds that women enrolled in school will bear a child. The magnitude and statistical significance of market effects on fertility are highly sensitive to the inclusion of statistical controls for unobserved heterogeneity. That is, in addition to personal, human capital, and labor-market conditions, childbearing decisions are governed by unmeasured circumstances, such as family size prefer-

ences, early socialization experiences, and the proximate determinants of fertility.

Thus, there is suggestive, but not powerful evidence that favorable labor-market conditions influence young women's employment experiences. More important for predicting young women's labor-market status are the human capital investment choices that generate their stocks of education and experience. To the extent that favorable economic conditions "pulled" these groups out of school and into the labor market, the total effects of labor-market conditions on employment outcomes may be stronger than the direct effects shown here.

CONCLUSIONS

Group differences in family background and other characteristics that are associated with school and work choices produce lower stocks of human capital accumulated by minority women, especially less formal schooling. Once these differences are taken into account, black and Hispanic women are more likely than comparable white women to prolong their investments in education relative to working or becoming homemakers. However, racial and ethnic differences in family formation, which decisively influence work behavior during the early life course, also determine how much and what forms of human capital are acquired during the early life course. Although black mothers are more likely than white mothers to remain enrolled in school, Hispanic mothers are more likely to become full-time homemakers or enter the labor force. Race effects on wages were trivial, but Hispanic women earned 7 to 12 percent more than their white counterparts who were similarly endowed. This result, which differs from most cross-section findings, requires further investigation.

We also find consistent positive effects of education on the likelihood that women will work full time, negative effects on fertility, and approximately a 3 percent wage return for each year of education completed, with the caveat that returns are slightly lower for part-time as compared to full-time workers. Furthermore, as suggested by numerous studies about the rising returns on skill during the 1980s, young

women enjoy a substantial wage return on college degrees, but none for completion of high school or its GED equivalent. Finally, we find trivial wage returns on experience acquired through part-time work on subsequent full- or part-time wages but a whopping 5 percent wage return on experience acquired through full-time work to both full- and part-time workers. These results cast doubt on the received wisdom of urging youth to acquire work experience while they are enrolled in school. As shown for young men (Hotz et al. 2002), perhaps the optimal life cycle earnings streams derive from maximizing formal schooling before acquiring work experience either on a full- or part-time basis.

Average county-level per-worker incomes *do* influence the likelihood that young women will be employed either full or part time relative to full-time school enrollment in any given year; moreover, wages received by young workers also depend on the opportunities afforded by the markets in which they reside. However, employment outcomes are insensitive to changes in the annual employment growth rate, which is negatively associated with wage returns on full and part-time employment. This counterintuitive result warrants further investigation and may derive from two sources. One is that employment growth for young workers in recent years has occurred in low-wage industries, particularly services, as relatively well-paying manufacturing and other unionized jobs declined (Danziger and Gottschalk 1993). The other has to do with the level of aggregation at which local market conditions are specified. We have opted to represent local market conditions using counties rather than more conventional units for labor markets, such as Standard Metropolitan Statistical Areas or Primary Metropolitan Statistical Areas, but doing so ignores the fact that women can commute across county lines for work.

Notes

1. Women who were in the military were classified as employed full time if they were not enrolled in school; this group comprises a tiny share of all respondents.
2. Family income and parental education contain large amounts of missing data. Our statistical models include flags for missing values and do not compromise sample sizes or introduce biases in the parameter estimates.
3. Ahituv and Tienda (2004) provide a detailed discussion of this framework and how it applies to modeling the life cycle choices of young women.

4. Hotz et al. (2002) and Ahituv and Tienda (2004) provide details about this specification and the maximum likelihood methods used in estimation.
5. As discussed in Hotz et al. (2002) and Ahituv and Tienda (2004), the products of factor loadings characterize the covariances between the activity-specific utility functions and those in the fertility and wage equations. Thus, the statistical significance of the factor loadings indicates the existence of significant correlations among these disturbances and whether there is statistical evidence consistent with the importance of treating the schooling, work, and homemaking activity and fertility choices and wages as being jointly endogenously determined.
6. The insignificant factor loading for part-time work partly reflects the fact that we did not separate part-time workers who were enrolled in school from those who were not. Hence the contrast with the school-only state may be less sharply defined because many women enrolled in school also work part time.
7. Many cross-section studies show that economic returns to education are lower for part-time workers than for those engaged full time. That the economic returns to skills (AFQT) and years of part-time work experience are lower for part-time than for full-time employment is not totally consistent with a human capital explanation, however, and invokes the possibility that market segmentation may be partly responsible. Our data did not permit a direct exploration of this alternative interpretation.

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