

THE GENDER GAP: WAGES AND WAGE DIFFERENTIALS

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## PREFACE

The purpose of this study is to explore factors influencing wages and wage differentials between men and women. A comprehensive model measuring human capital variables, socioeconomic characteristics and structural components of the labor market is developed and utilized with a nationally representative sample. Wage offer equations and wage differentials are analyzed by gender, race and age cohort, after correcting for selection bias.

The format of this doctoral thesis deviates from the standard thesis style utilized at Oklahoma State University. This deviation is intended to provide two manuscripts suitable for publication and still provide necessary thesis requirements. The two manuscripts follow--with some minor alterations for presentation in the thesis--the guidelines for 1) Home Economics Research Journal and 2) The Journal of Human Resources. The cooperation of the Graduate College and Dean Norman Durham in allowing format deviations is greatly appreciated.

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THE EFFECT OF HUMAN CAPITAL, SOCIOECONOMIC AND  
LABOR MARKET FACTORS ON WAGES

Abstract

A comprehensive model is developed to explore factors that influence wages. This study provides uniqueness through availability of work history data, correction for selection bias, and control for interaction by age. Regarding the correction for selection bias, numerous factors significantly influence the likelihood of white women being wage or salary earners. Regarding the wage offer portion of the study, the explained variation in wages for each of the disaggregated race, gender, and age cohorts generally is higher than for the aggregated race and gender groups, indicating a better model fit is achieved when controlling for interaction by age. Differences by age cohorts suggest that social, economic, and political forces alter the effects of human capital variables, socioeconomic characteristics, and structural components of the labor force on wages.

Introduction

Wage and earnings studies have dominated much of the economic and family economics literature during the past two decades. Labor studies have focused on estimating wages or earnings by examining such influences as gender, race, age, education, tenure, work history, part-time versus full-time employment, occupational attainment, occupational segregation, union membership, and public sector employment.

Smith and Ward (1984) report an historical study of women's wages during the 1900s. They conclude that working women's wages, relative to men's, increased rapidly between 1980 and 1983. Prior to that time,

between 1920 and 1980, women's wages did not increase relative to men's because women's education and experience were not increasing as rapidly as men's.

Recent figures indicate that, as of the first quarter of 1987, median weekly earnings of full-time male wage and salary earners 25 years and older are \$477. For comparable women, the earnings are \$315 (U.S. Department of Labor, 1987).

The wage offer study reported here provides several unique contributions to the literature. The comprehensive model consists of human capital, socioeconomic, and structural labor market factors. The nationally representative sample provides work history data generally not available from other major data sources. Actual work history information eliminates the need to proxy work experience with age minus years of schooling--generally a better estimate of men's labor experience or work history than women's. Statistical techniques used here provide correction for sample selection bias, and lastly, disaggregating the sample to control for interaction by age constitutes a major, additional contribution.

The purpose of the study is to explore factors that influence wages, especially those of women. Are wages affected by decisions made about how much education to pursue, whether and how long to stay in or reenter the labor force, whether to work part-time or full-time, or health status? Are wages influenced by characteristics of the occupation or industry of employment, such as public or private sector employment, occupational segregation, or the degree of unionization in an industry? Do factors affecting wages differ--in terms of

significant estimators, direction, and strength--by race, gender, and age cohort? Are human capital variables, socioeconomic characteristics, or structural components of the labor market better estimators of wages?

The plan of this paper is the following. Section one introduces the purpose of the study, while section two identifies the model. Section three contains the analysis, including data source, creation of variables, controlling for interaction, and the empirical model. Section four reports findings and discussion. The summary and conclusions close the paper.

#### The Model

Numerous variables and theoretical relationships have been postulated regarding wages and earnings, such as differences in productivity, socioeconomic characteristics, labor market components, and discrimination in the labor market. Human capital theory--the basis for most labor studies--is based on the premise that wages are affected by differences in worker productivity. It is assumed that measurable worker characteristics that alter work quality, and thus, productivity--education, work experience and labor force attachment, on-the-job training, and health--can proxy as an indirect measure of productivity (Becker, 1975; Mincer, 1970; Schultz, 1961).

There is a large body of research regarding the positive influence of education on wages (Corcoran, 1978; Ferber, Green, & Spaeth, 1986; Salvo & McNeil, 1984). U.S. Department of Labor (1983b) data indicate that greater levels of formal education increase men's and women's median earnings, although men's median incomes exceed women's at each

level of education and men appear to receive higher marginal returns. Stevenson (1975) concludes that higher levels of education, higher occupational levels, and increased wages tend to be exhibited together.

Corcoran (1978) has developed three work history measures with regard to their influence on wages. Years between school and work are significantly and negatively related to wages for white women, but not for black women or white men. The two interruption variables--two or more interruptions in labor force participation and length of most recent interruption--are not significant for any of the race and gender groups. Corcoran (1978) further reports that a high proportion of work years in full-time employment increases wages.

Salvo and McNeil (1984) find work experience to have an important effect on earnings; however, the return to experience is greater for men than women. According to Mincer and Polachek (1974), there exist two reasons why discontinuous work careers result in lower earnings for women: (1) women accumulate lower levels of human capital because they anticipate an interrupted labor force experience and (2) when the worker is out of the labor force, existing market-oriented human capital is not in use, and therefore, depreciates. There is evidence that these effects may be overestimated (Sandel & Shapiro, 1978; Corcoran, 1978). However, Mincer and Ofek (1982) have reconfirmed the depreciation hypothesis, concluding that the amount of depreciation is dependent upon the length of interruption and length of employment after reentry.

Health status has been shown to affect wages. In a classic study, Luft (1975) finds that the negative effect of poor health on wages is

greater for blacks than whites, and greater for women than men. Chirikos and Nestel (1985) provide further evidence, concluding that: a history of poor health decreases current economic status; economic effects of poor health vary by gender and race; and these effects can occur in several ways, including reductions in work and indirect effects on marginal productivity.

Years spent with current employer, tenure, is significantly and positively related to wages (Corcoran, 1978; Ferber, Green, & Spaeth, 1986; Rytina, 1982b). According to Seghal (1984), greater attachment to a job is generally related to increased wages, job security, and pension rights. Women generally have less tenure in their current employment than men (Rytina, 1982b), especially women over 35 years of age (Seghal, 1984). The gap between men's and women's tenure tends to be smaller among younger workers (U.S. Department of Labor, 1984). Further, white men tend to have greater tenure than black men and black women tend to have greater tenure than white women (Seghal, 1984). Van Velsor and O'Rand (1984) report that full-time employment in the most recent job is positively related to wages for women who delay entry into the labor market after marriage or who interrupted their employment since marriage, but not for women employed continuously since marriage. Similarly, an attachment to full-time employment appears to be more valuable than a part-time employment history (Salvo & McNeil, 1984).

Socioeconomic and labor market characteristics also influence wages. For example, while some studies recognize that social and economic conditions facing cohorts vary and can influence investments

in human capital or choice of occupation (Goldin, 1984; Hoffman, 1979; Smith & Ward, 1984; Van Velsor & O'Rand, 1984), few disaggregate by age to control for the effects of interaction on estimated regression slopes for the independent variables.

Women are concentrated in occupations with lower pay and fewer advancement opportunities. Bielby and Baron (1986) find that, even while performing similar tasks, women tend to be in different firms and have different titles within firms. Higher occupational levels tend to be positively related to higher levels of education and increased wages, although white men evidence the highest wages within each occupational level (Stevenson, 1975). Rytina (1982a) also finds that men and women in the professional and managerial occupations evidence the highest earnings, but women's earnings were much lower than those of men's.

Occupational segregation, or the proportion of women in an occupation, also influences wages or earnings (England, 1982; Rytina, 1981). Stevenson (1975) ranked, from high to low, relative wages and concentrations within an occupation. Findings include: white men have the highest wages and are least concentrated in specific occupations; white women rank second in terms of wages and have higher concentrations than white men; and black women have the lowest wages and are most concentrated in specific occupations.

Parsley (1980) has reviewed the literature regarding the relationship between higher wages and union membership. Self-selection into unions has become a methodological concern, and has led to movement away from the dichotomous use of union membership in wage studies

(Asher & Popkin, 1984; Duncan & Stafford, 1980; Robinson & Tomes, 1984). There is also evidence of a wage premium for public sector employment. While controlling for human capital and geographic factors, older white men in federal and state government evidence higher wages than private sector employees (Quinn, 1978). In a study of postal service employees, Asher and Popkin (1984) attribute higher wages for public sector employment to fewer discriminatory wage practices.

### Empirical Analysis

#### The Data

Data are from the nationally representative Survey of Consumer Finances (SCF). The Survey is jointly sponsored by the Board of Governors of the Federal Reserve System and a consortium of other Federal agencies. Interviewing has been conducted by the Survey Research Center, Institute for Social Research, University of Michigan, February through July, 1983 (Avery, Elliehausen, & Canner, 1984).

The SCF sample has been randomly selected and resulting data are weighted to be representative of families in the United States, excluding those living on military installations. A total of 3,824 families completed the interviews. According to Avery et al. (1984), respondents--either the head of the family or, for married couples, the person most knowledgeable about the family's finances--have been encouraged to refer to financial records and to consult with other family members in order to provide complete and accurate information.

The first step in creation of the subsamples from the Survey of Consumer Finances requires disaggregating by gender to allow for

comparisons between men and women. After testing for interaction, subsamples were further disaggregated by race and age.

#### Creation of Variables

Variables used in the analysis are identified and defined in Table 1. The model includes human capital variables, socioeconomic characteristics, and structural components of the labor market.

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Insert Table 1 about here

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To measure the effect of level of education, a series of dummy variables is created. Work history patterns are based on the classification scheme developed and studied by Couchman and Peck (1987) and Peck and Couchman (1987). Remaining human capital variables are health status, tenure with current employer, and part-time or full-time employment.

The occupational classification variable is constructed by combining occupation titles used by the U.S. Bureau of the Census (Schmidt & Strauss, 1975). The remaining socioeconomic variables--gender, race, and age--are incorporated in the model as control variables.

Structural components of the labor market include occupational segregation, percent of wage and salary workers covered by a union or employee association contract for each industry, and whether public or private sector employment.

Data from the U.S. Bureau of Labor Statistics have been utilized in creating the occupational segregation and union contract coverage



variables. Occupational segregation is defined as the percent of an occupation that is female. Detailed 1982 annual average occupational segregation data are used (Department of Labor, 1983a).<sup>2</sup>

Data for the percent by industry of wage and salary workers covered by a union or employee association contract are 1983 annual averages (U.S. Department of Labor, 1985). This variable is used, rather than whether or not the wage or salary earner's contract is actually covered by a union contract, to avoid selection bias that occurs from self-selection into unions.

The natural log of hourly wages is the dependent variable for the wage offer estimations. The wage is calculated based on frequency of pay period and number of hours and weeks worked during that period for wage and salary earners.

#### Controlling for Interaction

It is necessary to determine if significant interaction is present between age or race and the independent variables. If, for example, levels of education influence wages differently by age, the effect of education on wages for the entire sample confounds the true effects, i.e., does not allow for different slopes for different age groups.<sup>3</sup> Chow tests are calculated using restricted and unrestricted models. The restricted model consists of (1) terms measuring interaction between the control variable and each independent variable and (2) the independent variables. The unrestricted model consists of only independent variables, one of which is the potential interaction variable, i.e., age or race.

Interaction effects are statistically significant at the 0.05

level for age--both men and women--and race--women only. The presence of significant interaction requires the female subsample be divided by race--white and nonwhite--and both gender and race subsamples be divided by age--25-34, 35-44, 45-54, 55-64.

Because white men's wages tend to be the commonly accepted reference group, the researchers chose to likewise reference only white men's wages for comparison purposes. Additionally, for comparison purposes, the analysis is reported for white women, nonwhite women and white men without disaggregating into age cohorts, i.e., without controlling for interaction by age.

### The Analysis

This study includes two analytical phases: (1) correction for selection bias and (2) estimation of wage offers, i.e., wage equations.

The first phase, correction for sample selection bias, is required to avoid bias in results due to self-selection into the wage and salary sample. Smith (1980) defines selection bias this way:

If one estimates a wage equation using samples of working women, biases result because the same set of variables that determine wages enter in as a criterion for sample eligibility. The estimated wage function confounds the true behavioral wage function with the rules for sample inclusion. (p. 7)

An adaptation of Heckman's (1980) maximum likelihood technique is used to correct for sample selection bias. Logit coefficients for the likelihood of being a wage or salary earner for each subsample (Equation 1) have been transformed using the standard normal density function to create correction factors used in the wage offers for each

of the race, gender, and age subsamples.

$$\hat{P} = \beta_0 + \beta_1 \text{EDUC8} + \beta_2 \text{HSGRAD} + \beta_3 \text{VOCED} + \beta_4 \text{COLGRAD} \quad (1)$$

$$+ \beta_5 \text{HEALTH} + \beta_6 \text{MARRIED} + \beta_7 \text{CHILD6} + \epsilon$$

The second phase involves estimating wage offers, with the correction for selection bias, for each of the race, gender, and age cohorts (Equation 2). Wage offers are not estimated for nonwhite women in the 55-64 cohort due to too few members in the subsample.

$$\ln \hat{w}_W = \beta_0 + \beta_1 \text{EDUC8} + \beta_2 \text{HSGRAD} + \beta_3 \text{VOCED} + \beta_4 \text{COLGRAD} \quad (2)$$

$$+ \beta_5 \text{FTHIST} + \beta_6 \text{INTHIST} + \beta_7 \text{DIHIST} + \beta_8 \text{DCHIST}$$

$$+ \beta_9 \text{HEALTH} + \beta_{10} \text{TENURE} + \beta_{11} \text{PARTTM}$$

$$+ \beta_{12} \text{PROF} + \beta_{13} \text{WHITE} + \beta_{14} \text{CRAFT} + \beta_{15} \text{BLUE}$$

$$+ \beta_{16} \text{OCCSEG} + \beta_{17} \text{UNION} + \beta_{18} \text{PUBLIC} + \beta_{19} \text{CORRECT} + \epsilon$$

### Findings and Discussion

#### Wage and Salary Earners' Characteristics

The weighted subsamples utilized in estimating the likelihood of being a wage or salary earner comprise 2758 white women, 548 nonwhite women, and 2382 white men. Wage and salary earners number 1338, 269, and 1571, respectively. Table 2 provides descriptive statistics for each race, gender, and age cohort.

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Insert Table 2 about here

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For both white and nonwhite women wage or salary earners, the younger the age cohort, the greater the percentage with a college

degree and the lower the percent who have an 8th grade or less education. For the youngest age cohorts, less than one-third of white women (32.3%) and less than one-fifth of nonwhite women (17.8%) have completed a college degree. For white men, 34.9% in the 25-34 cohort have a college degree. That percentage rises to 36.9% for the 35-44 cohort, then falls to relatively similar levels in the 45-54 and 55-64 cohorts (25.5% and 27.9%, respectively). The two younger age cohorts have smaller proportions who have completed an 8th grade education or less. Although white men in all age cohorts have the highest proportion completing a college degree, the percentages are similar for white women in the 25-34 and 45-54 cohorts.

The most prevalent work history for white female wage and salary earners in all age cohorts but one is the dual-interrupted work history--ranging from 35.5% in the 55-64 cohort to 40.2% in the 45-54 cohort. The exception is the youngest age cohort, where 30.4% have continuous full-time work histories. Nonwhite women are more likely to have continuous full-time work histories (34.7% for the 25-34 cohort and 32.1% for the 55-64 cohort) or interrupted full-time work histories (36.9% for the 35-44 cohort and 48.2% for the 45-54 cohort). Greater percentages of white men in all age cohorts have continuous full-time work histories--ranging from 43.3% for the 25-34 cohort to 54.8% for the 55-64 cohort. More white women than white men have part-time work histories. Nonwhite women evidence no part-time work histories except in the 25-34 and 45-54 cohorts.

White male wage and salary earners exhibit higher levels of tenure with current employer than white women or nonwhite females,

although the average tenure for the 25-34 cohort is similar for all three gender comparisons: 4.33, 4.703 and 4.98 for white women, nonwhite women and white men, respectively. Except in the oldest age cohort, nonwhite women have higher average tenure than white women.

Between one-quarter and one-third of white women are currently working part-time. For nonwhite women, the proportion working part-time ranges from 10.7% (for the 55-64 cohort) to 28.6% (for the 35-44 cohort). White men evidence little part-time employment, with proportions ranging from 3.7% (45-54 cohort) to 7.2% (55-64 cohort).

For white female wage and salary earners, the highest percentage are in the sales and clerical occupation group--ranging from 37% in the 55-64 cohort to 38.7% in the 35-44 cohort. This is also true for nonwhite women in the 25-34 and 35-44 cohorts (40.6% and 28.6%, respectively). However, in the 45-54 cohort, more nonwhite women have professional, technical, administrative and managerial occupations (30.4%). For the 55-64 cohort, the greatest percentage of nonwhite women are in the operative or non-farm laborer occupation group (32.1%). The greatest percentages of white men are in the professional, technical, administrative and managerial occupation group (from 30.7% in the youngest age cohort to 44% in the 35-44 cohort).

As one would expect, women in both racial groups are in occupations with higher levels of occupational segregation (from .65 for the white female 25-34 cohort to .72 for the white female 55-64 cohort and the nonwhite female 25-34 cohort) than white men (from .22 in the 35-44 cohort to .24 in the 25-34 cohort). Degree of union contract coverage is similar for all race and gender cohorts, with slightly lower percen-

tages for white women and slightly higher percentages for white men. Approximately one-fifth of white men in all age cohorts are in public sector employment. For white women, the percentages range from 21% in the youngest cohort to 35.1% in the 45-54 cohort. The highest percentage of public sector employment is reported by nonwhite women in the 55-64 cohort (46.4%).

### Logit Coefficients

Numerous factors appear to statistically significantly increase or decrease the likelihood of white women being in the labor market as a wage or salary earner. When examining the results without controlling for interaction, the "classic" labor force participation model for white women is substantially supported--with higher levels of education, not married status, and no children under 6 in the household increasing labor force participation. However, after controlling for interaction, i.e., allowing for differences in slope for each race, gender, and age cohort, it is clear that statistically significant predictors of the likelihood of being in the labor market for a wage or salary evident in the "classic" model are not consistent across age cohorts. Conversely, only a few factors appear to significantly affect the likelihood of being a wage or salary earner for nonwhite women or white men.

Logit coefficients and marginal effects are presented in Tables 3, 4, and 5. Marginal effects reflect the predicted percentage change in the likelihood of being a wage or salary earner from a change in the independent variable, evaluated at the mean probability of being a wage or salary earner for each race, gender, and age cohort.

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Insert Tables 3-5 about here

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Having a college degree--relative to some high school or less than a high school degree--significantly increases the likelihood of white women being in the labor market for a wage or salary for all but the oldest age cohort. A college degree has no statistically significant effects for nonwhite women or white men.

The effects of poor health are clear. In the 45-54 cohort, poor health decreases the likelihood of being in the labor market for a wage or salary by 41%, 62%, and 54% for white women, nonwhite women, and white men, respectively. The effect for women in the 55-64 cohort is a 60% decrease and a 66% decrease in the likelihood of being a wage or salary earner for white women and nonwhite women, respectively.

Being married decreases the likelihood that white women in all age cohorts are wage or salary earners. However, being married increases the likelihood that nonwhite women in the 35-44 and 45-54 cohorts are in the labor market for a wage or salary (by 18% and 21%, respectively). For white men in the 25-34 and 35-44 cohorts, being married increases their likelihood of being a wage or salary earner by 11% and 16%, respectively. Further, the presence of children under 6 in the family unit decreases significantly the likelihood that white women in the two youngest age cohorts are employed for a wage or salary, but has no statistically significant effect on nonwhite women or white men.

#### Wage Offers

Average wages for each race, gender, and age cohort are presented

in Table 6. Average wages of white women are similar across age cohorts. They reach a peak in the 35-44 cohort (\$7.87). For nonwhite women, average wages peak at the 45-54 cohort (\$8.05). Compared to white women, nonwhite women have lower average wages in the 25-34 and 35-44 cohorts, but higher wages for the 45-54 and 55-64 cohorts.

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Insert Table 6 about here

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Average wages of white men are higher than those of either white or nonwhite women, regardless of age cohort. They are lowest in the 25-34 cohort (\$9.76), gradually increasing to peak for the oldest cohort (\$13.91).

Wage offers for each race, gender, and age cohort are presented in Tables 7-9. Wage offer findings reported in this section are those that are statistically significant, unless otherwise noted.

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Insert Tables 7-9 about here

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For the aggregated groups, the explained variations in wages,  $R^2$ , are 32%, 38%, and 34% for white women, nonwhite women, and white men, respectively. Generally, the explained variation in wages for the disaggregated race, gender, and age cohorts are higher, indicating a better model fit. For example,  $R^2$  values for the 25-34 and 35-44 cohorts of nonwhite women are 47% and 63%, respectively, and for white men in the 55-64 cohort, 48%. The exceptions--where the  $R^2$  values are lower for the disaggregated subsamples--are nonwhite women in the 45-54



cohort (31%) and white men in the 25-34 cohort (25%).

Post high school training--relative to less than a high school degree--is positively related to wages for white women in the 25-34 and 35-44 cohorts, for nonwhite women in the 35-44 cohort, and for white men in all but the 45-54 cohort. Having a college degree is also positively related to wages for white women in all but the oldest cohort, for nonwhite women in the 35-44 cohort, and for white men in all but the 45-54 cohort. Significant negative relationships between education and wages are for 8th grade education or less for white women in the 35-44 cohort and for white men in the 25-34 cohort.

Other human capital variables that evidence statistically significant relationships with wages include: the negative effect of poor health for nonwhite women in the 25-34 cohort, and the positive effect of tenure with current employer for all race, gender, and age cohorts except nonwhite women in the 35-44 and 45-54 cohorts. Part-time employment is negatively related to wages for white women in the 45-54 cohort and white men in the 25-34 cohort, but positively related to wages for white men in the 45-54 cohort.

For white women, the professional, technical, administrative, and managerial occupation group (for all age cohorts) or the sales and clerical occupation group (for all cohorts except 25-34) have a positive effect on wages--relative to the service, farm laborers, and farm foremen occupation group. For nonwhite women, the only significant occupational effect on wages is the positive effect of the professional, technical, administrative, and managerial occupation group for the 35-44 cohort. There were numerous positive occupational

influences on wages for white men. These include being in: the professional, technical, administrative, and managerial occupation group for all age cohorts; the sales and clerical occupation group for the 25-34 and 35-44 cohorts; the craftsmen, foremen, farm managers, and farmers occupation group for the 25-34 and 45-54 cohorts; and the operatives and nonfarm laborers occupation group for the 25-34 cohort.

Only a few of the race, gender, and age cohorts evidence a significant relationship between structural components of the labor market and wages. For nonwhite women in the 25-34 cohort and white men in the 35-44 cohort, occupational segregation decreases wages. The effect of degree of union/employee association coverage in the industry is positive for white and nonwhite women in the 25-34 cohorts and white men in all except the 35-44 cohort. Public sector employment appears to decrease wages for white and nonwhite women in the 25-34 cohort and for white men in the 35-44 and 55-64 cohorts, but increase wages for white women in the 45-54 cohort.

While generally not statistically significant, note that the direction of influence for all of the occupational segregation coefficients is negative. Similarly, coefficients for degree of union or employee association coverage in the industry are consistently positive, while statistically significant only for youngest white and nonwhite women age cohorts and white men in all age cohorts except 35-44. In most subgroups, public sector employment appears to have a negative influence on wages, contrary to indications of previous research. The political environment and fiscal policy in the 1980s, which reduced federal employment opportunities, may have influenced

these findings.

White men in the oldest age cohort evidence the only significant coefficient for the selection bias correction factor. It should be noted that the direction of influence for the correction factor coefficients vary across race, gender, and age cohorts. Correction factors are often used in labor studies to estimate wages for women not in the labor force, based on wage data from women who are in the labor force. A negative correction factor is therefore expected to correct for what would otherwise be an upward bias in estimated wages. Only those employed for a wage or salary are used in estimating wage offers in this study. Thus, one would expect a positive correction factor, since those characteristics that influence the likelihood of being a wage or salary earner would be present.

For the oldest cohort of white men, the significant positive correction factor may be evidence of this, overwhelming the general fact that men in this age cohort are less likely than younger age cohorts to be in the labor market for a wage or salary.

#### Summary and Conclusions

Logistic regression coefficients differ by race, gender, and age cohort. It appears that few factors predict the likelihood that white men or nonwhite women will be in the labor market for a wage or salary. They tend to be wage and salary earners regardless of the human capital and socioeconomic variables studied. For white women, however, these variables do appear to play a role. In general, higher levels of education--especially for younger age cohorts--increase the likelihood of white women being in the labor market for a wage or

salary. Poor health among older age cohorts, being married, and the presence of children under 6 for younger age cohorts, all appear to decrease the likelihood that white women will be wage or salary earners.

Higher levels of education also appear to have positive effects on wages, especially for younger age cohorts of white men and women. This relationship also holds for white men in the 55-64 cohort, and for the nonwhite women in the 35-44 cohort.

Work history patterns do not evidence significant impacts on wages.<sup>4</sup> A possible reason for this finding is the inability of the work history variable to reflect delayed first entry in the labor market.

Tenure with current employer evidences significant positive influences on wages for all white male and female age cohorts. For nonwhite women, only the youngest age cohort experiences this effect.

Being in a professional, technical, administrative, or managerial occupation group--relative to a service occupation--appears to have a positive effect on wages for white men and women, but only for nonwhite women in the 35-44 age cohort. The sales and clerical occupation group exhibits a positive influence on wages for white women in all except the youngest age cohort, and for white men in the two younger age cohorts.

Few structural components of the labor market evidence statistically significant results. However, in further analysis of these data, Jones and Peck (1987) find, when examining the differences between men and women on many of these structural components of the

labor market, that large percentages of the wage gap between men and women can be explained.

Findings from this study and subsequent research by the authors (Jones & Peck, 1987) have numerous implications for decision-making by individuals, service providers and local, state and federal government officials. Public policy provisions need to allow and encourage the acquisition of higher levels of education and training, increased stability and tenure in jobs, and greater access to so-called male occupations and those covered by union and employee association contracts. Individual choices made about pursuit of education, how long to remain with an employer, and occupation appear to affect wages--especially for certain gender, race, and age cohorts. Many of the factors that influence women's labor supply are inherent in their tastes and preferences regarding the work, leisure, and household production time tradeoffs; occupational choices; and size of investment in human capital stock.

Differences by age cohort tend to suggest that social, economic, and political forces influence decisions and alter/mediate effects of differences in human capital, socioeconomic characteristics, and structural components of the labor force. Findings provide support for further research that takes into account possible interaction with age and for studies that examine these varying forces that shape both men's and women's wages.

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## Footnotes

<sup>1</sup> Correlation matrices have been examined to check for multi-collinearity. As a result, the variable tenure squared is not in the model.

<sup>2</sup> The SCF data on current occupation are based on the 1970 Census of Population classifications. However, 1983 occupational segregation data available from the Bureau of Labor Statistics is based on the 1980 Census classifications. If the change between 1980-1982 was more than five percent, or the change between 1981 and 1982 was more than three percent, the data have been examined closely. When a trend between 1980 and 1982 is evident, the 1982 data are used. Where no trend is evident, the average of 1981 and 1982 is used (U.S. Department of Labor, 1981; U.S. Department of Labor, 1982; U.S. Department of Labor, 1983a).

$$F_N = \frac{(SS \text{ Model}_R - SS \text{ Model}_{UR}) / (df_R - df_{UR})}{MSE_R}$$

<sup>4</sup> Two alternative groupings of the work history options have been tested in an attempt to better capture possible wage effects due to work history influences. These include: 1) full-time (continuous or interrupted), dual (part-time and full-time, continuous or interrupted) or part-time and 2) continuous (full-time or dual), interrupted (full-time or dual) or part-time. Neither classification scheme appears to alter the non-significant nature of the work history variables in the wage offers.

Table 1

Summary of Variables


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HUMAN CAPITAL VARIABLES		
<u>Education</u>		
EDUC8	1 = 8th grade education or less	0 = Other
SOMEHS	1 = Some high school	0 = Other
HSGRAD	1 = Completed high school	0 = Other
VOCED	1 = Post high school training or some college	0 = Other
COLGRAD	1 = College graduate	0 = Other
<u>Work History</u>		
PTHIST	1 = Part-time (only part-time work history reported)	0 = Other
FTHIST	1 = Continuous (continuous full-time work, no interruptions of one year or more)	0 = Other
INTHIST	1 = Interrupted (full-time work with interruptions of one year or more)	0 = Other
DIHIST	1 = Dual-interrupted (both part-time and full-time work with interruptions of one year or more)	0 = Other
DCHIST	1 = Dual-continuous (both part-time and full-time work with no interruptions of one year or more)	0 = Other
<u>Other Human Capital Variables</u>		
HEALTH	1 = Health is poor 0 = Health is excellent, good or fair	
TENURE	xx = Years with current employer	
PARTTM	1 = Part-time employment (< 35 hours) 0 = Full-time employment (35 or more hours)	
SOCIOECONOMIC VARIABLES		
<u>Marital Status</u>		
MARRIED	1 = Married 0 = Divorced, widowed, separated or never married	
<u>Occupation</u>		
PROF	1 = Professional, technical and kindred; administrative and managerial, except farm	0 = Other
WHITE	1 = Sales, clerical and kindred	0 = Other
CRAFT	1 = Craftsmen, foremen and kindred; farm managers and farmers	0 = Other
BLUE	1 = Operatives and kindred; laborers, except farm	0 = Other
SERVICE	1 = Service, household and other; farm laborers and foremen	0 = Other
<u>Presence of Child(ren) Under Six</u>		
CHILD6	1 = Child(ren) under 6 in family unit 0 = No child(ren) under 6 in family unit	

Table 1 (Continued)

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STRUCTURAL COMPONENTS OF THE LABOR MARKET	
OCCSEG	xx.x = Percent of occupation that is female
UNION	xx.x = Percent of wage and salary workers in the industry covered by a union or employee association contract
PUBLIC	1 = Public sector employment 0 = Private sector employment
DEPENDENT VARIABLES	
WAGESAL	1 = Wage or salary earner 0 = Not a wage or salary earner
LOGWAGE	x.xx = Natural log of hourly wages
VARIABLES CONTROLLED FOR WITH SUBSAMPLES	
	<u>Gender</u>
GENDER	Male Female
	<u>Race</u>
RACE	Caucasian Black, Hispanic, other
	<u>Age Cohort</u>
AGE2534	25-34 years of age
AGE3544	35-44 years of age
AGE4554	45-54 years of age
AGE5564	55-64 years of age

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Table 2

## Summary of Characteristics of Wage and Salary Earners by Gender, Race and Age Cohort

Characteristics	Women										Men				
	White					Nonwhite					White				
	All %	25-34 %	35-44 %	45-54 %	55-64 %	All %	25-34 %	35-44 %	45-54 %	55-64 %	All %	25-34 %	35-44 %	45-54 %	55-64 %
<b>HUMAN CAPITAL VARIABLES:</b>															
<b>Education</b>															
< 8th grade education	3.1	1.1	2.7	4.6	7.0	6.7	3.0	3.6	10.7	21.4	4.8	1.4	0.8	9.5	15.9
Some high school	8.4	5.3	8.1	9.3	15.5	17.8	12.9	25.0	16.1	17.9	9.8	6.4	9.6	11.7	16.4
Completed high school	42.2	40.3	44.1	44.8	39.0	36.1	36.6	44.1	23.2	35.7	34.7	36.2	36.1	37.9	22.6
Post high school trng. or some college	19.1	21.0	16.9	17.0	21.5	24.9	29.7	13.1	37.5	17.9	18.0	21.0	16.6	15.4	17.3
College graduate	27.2	32.3	28.2	24.3	17.0	14.5	17.8	14.3	12.5	7.1	32.7	34.9	36.9	25.5	27.9
<b>Work History</b>															
Part-time	3.1	2.1	4.4	1.5	5.0	1.9	3.0	0.0	3.6	0.0	0.5	1.4	0.0	0.0	0.0
Continuous	23.1	30.4	19.1	14.7	25.0	29.7	34.7	29.8	19.6	32.1	49.3	43.3	51.4	53.2	54.8
Interrupted	26.5	19.1	28.4	34.0	30.5	33.5	25.7	36.9	48.2	21.4	9.7	9.1	8.4	8.6	15.9
Dual-interrupted	32.3	23.4	36.0	40.2	35.5	18.6	15.8	14.3	25.0	28.6	8.2	9.1	8.2	8.0	5.8
Dual-continuous	15.0	25.1	12.0	9.7	4.0	16.4	20.8	19.1	3.6	17.9	32.3	37.1	32.1	30.2	23.6
In poor health	0.7	0.0	1.0	1.9	0.5	3.0	2.0	7.1	0.0	0.0	0.4	0.2	0.6	0.6	0.0
Tenure	7.14 <sup>a</sup>	4.33 <sup>a</sup>	6.37 <sup>a</sup>	9.28 <sup>a</sup>	12.53 <sup>a</sup>	7.703 <sup>a</sup>	4.703 <sup>a</sup>	8.13 <sup>a</sup>	10.71 <sup>a</sup>	11.21 <sup>a</sup>	9.92 <sup>a</sup>	4.98 <sup>a</sup>	9.63 <sup>a</sup>	14.66 <sup>a</sup>	16.49 <sup>a</sup>
Part-time employment	28.8	25.7	32.8	25.1	32.5	17.8	12.9	28.6	14.3	10.7	5.4	6.6	4.2	3.7	7.2
<b>SOCIOECONOMIC VARIABLES:</b>															
<b>Marital Status</b>															
Married	71.7	71.3	72.3	72.6	70.0	64.3	60.4	67.9	73.2	50.0	85.3	79.7	88.7	88.3	88.0
<b>Occupation</b>															
Prof. & tech.; admin. & mgrl., except farm	33.5	35.9	32.8	33.6	29.0	21.6	18.8	17.9	30.4	25.0	38.3	30.7	44.0	43.1	38.0
Sales & clerical	38.1	38.0	38.7	38.2	37.0	31.6	40.6	28.6	28.6	14.3	10.1	12.3	9.0	7.1	11.5
Craftsmen & foremen; farm mgrs. & farmers	1.4	1.1	1.7	0.8	2.5	2.2	0.0	7.1	0.0	0.0	25.3	26.4	27.0	22.5	22.6
Operatives; laborers, except farm	12.1	13.0	11.3	10.0	14.5	22.7	21.8	21.4	21.4	32.1	19.3	21.2	15.5	20.3	21.2
Service; farm laborers & foremen	14.9	12.1	15.4	17.4	17.0	21.9	18.8	25.0	19.6	28.6	7.1	9.5	4.4	7.1	6.7
Child(ren) under 6 in family unit	15.6	33.3	10.3	1.5	3.0	28.3	40.6	27.4	17.9	7.1	23.8	43.7	22.4	5.5	1.9
Age	40.803 <sup>a</sup>	-	-	-	-	39.88 <sup>a</sup>	-	-	-	-	40.407 <sup>a</sup>	-	-	-	-

Table 2 (Continued)

Characteristics	Women										Men				
	White					Nonwhite					White				
	All %	25-34 %	35-44 %	45-54 %	55-64 %	All %	25-34 %	35-44 %	45-54 %	55-64 %	All %	25-34 %	35-44 %	45-54 %	55-64 %
STRUCTURAL COMPONENTS OF THE LABOR MARKET:															
Occupational segregation	0.67 <sup>a</sup>	0.65 <sup>a</sup>	0.68 <sup>a</sup>	0.67 <sup>a</sup>	0.72 <sup>a</sup>	0.69 <sup>a</sup>	0.72 <sup>a</sup>	0.68 <sup>a</sup>	0.66 <sup>a</sup>	0.68 <sup>a</sup>	0.23 <sup>a</sup>	0.24 <sup>a</sup>	0.22 <sup>a</sup>	0.23 <sup>a</sup>	0.23 <sup>a</sup>
Union/employee association coverage	0.20 <sup>a</sup>	0.19 <sup>a</sup>	0.19	0.20 <sup>a</sup>	0.21 <sup>a</sup>	0.23 <sup>a</sup>	0.26 <sup>a</sup>	0.19 <sup>a</sup>	0.21 <sup>a</sup>	0.25 <sup>a</sup>	0.27 <sup>a</sup>	0.26 <sup>a</sup>	0.27 <sup>a</sup>	0.29 <sup>a</sup>	0.29 <sup>a</sup>
Public sector employment	26.7	21.0	24.5	35.1	33.5	30.9	31.7	22.6	33.9	46.4	19.4	18.5	19.3	20.6	19.7
N	1338	471	408	259	200	269	101	84	56	28	1571	561	477	325	208

<sup>a</sup> Figure given is a mean rather than a percentage.

Table 3

Logistic Regression Coefficients of the Likelihood of Being a Wage  
or Salary Earner, White Women

Independent Variables	White Women									
	All		25-34		35-44		45-54		55-64	
	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>
Intercept	2.13**		0.83*		0.62*		0.51		-0.0071	
HUMAN CAPITAL VARIABLES:										
Education										
≤ 8th grade education	-0.38	-0.092	- <sub>b</sub>	- <sub>b</sub>	- <sub>b</sub>	- <sub>b</sub>	-0.24	-0.057	-0.73	-0.18
Some high school	-	-	- <sub>b</sub>	- <sub>b</sub>	- <sub>b</sub>	- <sub>b</sub>	-	-	-	-
Completed high school	0.59**	0.13	0.99*	0.20	0.66*	0.14	0.54	0.11	-0.08	-0.018
Post high school trng. or some college	0.53**	0.11	0.71*	0.15	0.49	0.109	0.29	0.064	0.55	0.11
College graduate	1.18**	0.22	1.59*	0.27	1.44*	0.26	0.86*	0.17	0.39	0.082
In poor health	- <sub>c</sub>	- <sub>c</sub>	- <sub>c</sub>	- <sub>c</sub>	- <sub>c</sub>	- <sub>c</sub>	-1.78*	-0.408	-3.38*	-0.60
SOCIOECONOMIC VARIABLES:										
Marital Status										
Married	-1.025**	-0.25	-1.18*	-0.29	-1.17*	-0.28	-1.32*	-0.32	-0.67*	-0.16
Child(ren) under 6 in family unit	-1.11**	-0.27	-1.29*	-0.309	-0.84*	-0.207	- <sub>c</sub>	- <sub>c</sub>	- <sub>c</sub>	- <sub>c</sub>
Age	-0.0403**	-0.0095	- <sub>d</sub>	- <sub>d</sub>	- <sub>d</sub>	- <sub>d</sub>	- <sub>d</sub>	- <sub>d</sub>	- <sub>d</sub>	- <sub>d</sub>

Note. Reference group is indicated by a hyphen (-) unless otherwise noted below.

<sup>a</sup>The marginal effect of a change in an independent variable on the likelihood of being a wage or salary earner is:

$$\hat{P}_1 = \frac{e^{\beta_0 + \beta_1 x}}{1 + e^{\beta_0 + \beta_1 x}} - \frac{e^{\beta_0}}{1 + e^{\beta_0}}$$

<sup>b</sup>Because of limited dispersion in the ≤ 8th grade education category, reference group is the combined categories of ≤ 8th grade education and some high school. <sup>c</sup>Dropped from model due to limited dispersion. <sup>d</sup>Not in model when analyses done by age cohorts.

\*p < .05.   \*\*p < .01.



Table 4

Logistic Regression Coefficients of the Likelihood of Being a Wage  
or Salary Earner, Nonwhite Women

Independent Variables	Nonwhite Women									
	All		25-34		35-44		45-54		55-64	
	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>
Intercept	-0.24		-0.14		0.76		-0.69		-0.35	
HUMAN CAPITAL VARIABLES:										
Education										
≤ 8th grade education	-1.27**	-0.306	-1.11	-0.27	-2.64*	-0.501	-1.22	-0.30	-0.25	-0.058
Some high school										
Completed high school	0.28	0.063	0.25	0.056	-0.66	-0.16	-0.102	-0.024	1.88*	0.27
Post high school trng. or some college	0.62	0.13	0.405	0.089	0.40	0.092	1.24	0.23	2.14*	0.28
College graduate	0.44	0.096	0.83	0.17	-0.34	-0.084	0.11	0.026	0.27	0.058
In poor health	-1.42**	-0.34	-1.24	-0.30	-0.33	-0.081	-8.56*	-0.62	-8.62*	-0.66
SOCIOECONOMIC VARIABLES:										
Marital Status										
Married	0.304	0.068	0.14	0.032	0.85*	0.18	1.13*	0.21	-0.88	-0.21
Child(ren) under 6 in family unit	-0.36	-0.087	-0.46	-0.11	-0.65	-0.16	0.92	0.18	-0.75	-0.18
Age	0.0043	0.001	_b	_b	_b	_b	_b	_b	_b	_b

Note. Reference group is indicated by a hyphen (-) unless otherwise noted below.

<sup>a</sup>The marginal effect of a change in an independent variable on the likelihood of being a wage or salary earner is:

$$\hat{P}_1 = \frac{e^{\beta_0 + \beta_1 x}}{1 + e^{\beta_0 + \beta_1 x}} - \frac{e^{\beta_0}}{1 + e^{\beta_0}}$$

<sup>b</sup>Not in model when analyses done by age cohorts.

\*p < .05. \*\*p < .01.

Table 5

Logistic Regression Coefficients of the Likelihood of Being a Wage  
or Salary Earner, White Men

Independent Variables	White Men									
	All		25-34		35-44		45-54		55-64	
	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>
Intercept	2.38**		0.61		0.0308		0.98*		0.26	
HUMAN CAPITAL VARIABLES:										
Education										
≤ 8th grade education	-0.73**	-0.18	- <sup>b</sup>	- <sup>b</sup>	- <sup>b</sup>	- <sup>b</sup>	-0.78*	-0.19	-0.22	-0.052
Some high school	-	-	- <sup>b</sup>	- <sup>b</sup>	- <sup>b</sup>	- <sup>b</sup>	-	-	-	-
Completed high school	-0.068	-0.017	0.2006	0.049	0.57	0.13	0.26	0.061	-0.64	-0.16
Post high school trng. or some college	-0.25	-0.062	-0.11	-0.027	0.15	0.036	0.31	0.073	-0.505	-0.12
College graduate	0.11	0.027	0.606	0.14	0.56	0.13	-0.14	-0.034	-0.40	-0.097
In poor health	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>	-3.45*	-0.54	-10.2003	-0.64
SOCIOECONOMIC VARIABLES:										
Marital Status										
Married	0.43**	0.099	-0.47*	0.11	0.72*	0.16	-0.17	-0.042	0.11	0.025
Child(ren) under 6 in family unit	-0.30	-0.074	-0.28	-0.07	-0.21	-0.052	0.053	0.013	- <sup>c</sup>	- <sup>c</sup>
Age	-0.044**	-0.0107	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>

Note. Reference group is indicated by a hyphen (-) unless otherwise noted below.

<sup>a</sup>The marginal effect of a change in an independent variable on the likelihood of being a wage or salary earner is:

$$\hat{P}_1 = \frac{e^{\beta_0 + \beta_1 x}}{1 + e^{\beta_0 + \beta_1 x}} - \frac{e^{\beta_0}}{1 + e^{\beta_0}}$$

<sup>b</sup>Because of limited dispersion in the ≤ 8th grade education category, reference group is the combined categories of ≤ 8th grade education and some high school. <sup>c</sup>Dropped from model due to limited dispersion. <sup>d</sup>Not in model when analyses done by age cohorts.

\*p < .05. \*\*p < .01.

Table 6

Average Hourly Wage by Race, Gender and Age

Control Group	Average Hourly Wage	
	Actual Wage	ln(Wage)
White Women		
All	\$7.60	1.88
25-34 Cohort	7.52	1.89
35-44 Cohort	7.87	1.91
45-54 Cohort	7.63	1.86
55-64 Cohort	7.18	1.86
Nonwhite Women		
All	\$6.96	1.806
25-34 Cohort	6.37	1.77
35-44 Cohort	6.83	1.81
45-54 Cohort	8.05	1.907
55-64 Cohort	7.27	1.72
White Men		
All	\$12.18	2.34
25-34 Cohort	9.76	2.18
35-44 Cohort	13.26	2.45
45-54 Cohort	13.68	2.39
55-64 Cohort	13.91	2.41

Table 7

## Nonstandardized and Standardized Wage Offer Regression Coefficients, White Women

Independent Variables	White Women									
	All		25-34		35-44		45-54		55-64	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
Intercept	1.56** (0.11)	0.00**	1.36* (0.18)	0.00*	1.46* (0.16)	0.00*	1.58* (0.27)	0.00*	1.45* (0.22)	0.00*
HUMAN CAPITAL VARIABLES:										
Education										
≤ 8th grade education	-0.17 (0.077)	-0.058	-0.04 (0.208)	-0.0084	-0.32* (0.15)	-0.097*	-0.16 (0.16)	-0.063	-0.206 (0.15)	-0.11
Some high school	-	-	-	-	-	-	-	-	-	-
Completed high school	0.086 (0.047)	0.084	0.18 (0.095)	0.18	0.0704 (0.092)	0.066	0.108 (0.108)	0.101	-0.109 (0.094)	-0.11
Post high school trng. or some college	0.19** (0.053)	0.15**	0.28* (0.101)	0.23*	0.25* (0.105)	0.18*	0.20 (0.12)	0.14	0.013 (0.12)	0.012
College graduate	0.29** (0.059)	0.26**	0.39* (0.109)	0.37*	0.25* (0.12)	0.21*	0.38* (0.12)	0.304*	0.079 (0.14)	0.064
Work History										
Part-time	-	-	-	-	-	-	-	-	-	-
Continuous (full-time)	0.00077 (0.072)	0.00064	0.015 (0.14)	0.014	0.044 (0.12)	0.033	-0.17 (0.24)	-0.11	0.13 (0.15)	0.12
Interrupted (full-time)	-0.0018 (0.0709)	-0.0016	0.053 (0.14)	0.043	-0.093 (0.12)	-0.079	-0.12 (0.23)	-0.11	0.13 (0.15)	0.13
Dual-interrupted	-0.029 (0.069)	-0.027	-0.035 (0.14)	-0.0301	-0.11 (0.12)	-0.100001	-0.15 (0.23)	-0.14	0.201 (0.15)	0.206
Dual-continuous	0.12 (0.074)	0.082	0.16 (0.14)	0.15	0.036 (0.13)	0.022	-0.032 (0.24)	-0.018	0.073 (0.20)	0.0305
Other Human Capital Variables										
In poor health	_a	_a	_a	_a	_a	_a	-0.35 (0.209)	-0.092	-0.55 (0.42)	-0.083
Tenure (current employer)	0.019** (0.002)	0.26**	0.027* (0.0055)	0.20*	0.022* (0.0044)	0.23*	0.018* (0.0042)	0.26*	0.014* (0.0032)	0.28*
Part-time employment	-0.0506 (0.028)	-0.045	-0.056 (0.047)	-0.0501	0.045 (0.052)	0.0402	-0.15* (0.072)	-0.12*	-0.12 (0.0703)	-0.12

Table 7 (Continued)

Independent Variables	White Women									
	All		25-34		35-44		45-54		55-64	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
SOCIOECONOMIC VARIABLES:										
Occupation										
Prof. & tech.; admin. & mgrl., except farm	0.34** (0.043)	0.32**	0.25* (0.069)	0.25*	0.43* (0.0806)	0.38*	0.207* (0.104)	0.18*	0.43* (0.11)	0.42*
Sales & clerical	0.16** (0.038)	0.15**	0.024 (0.063)	0.023	0.18* (0.071)	0.16*	0.18* (0.09)	0.16*	0.28* (0.095)	0.29*
Craftsmen & foremen; farm mgrs. & farmers	0.076 (0.104)	0.018	0.054 (0.19)	0.011	0.072 (0.18)	0.018	0.043 (0.33)	0.00707	0.18 (0.209)	0.0608
Operatives; laborers, except farm	-0.033 (0.049)	-0.021	-0.19* (0.0809)	-0.13*	0.077 (0.093)	0.046	0.089 (0.13)	0.0503	-0.069 (0.12)	-0.052
Service; farm laborers & foremen	-	-	-	-	-	-	-	-	-	-
Age	-0.0026 (0.0014)	-0.056	_b	_b	_b	_b	_b	_b	_b	_b
STRUCTURAL COMPONENTS OF THE LABOR MARKET:										
Occupational segregation	-0.13** (0.049)	-0.07**	-0.13 (0.077)	-0.073	-0.15 (0.096)	-0.079	-0.11 (0.12)	-0.059	-0.063 (0.13)	-0.035
Union/employee association coverage	0.39** (0.093)	0.11**	0.63* (0.15)	0.19*	0.33 (0.19)	0.087	0.23 (0.209)	0.068	0.30 (0.26)	0.097
Public sector employment	-0.011 (0.032)	-0.0099	-0.15* (0.054)	-0.13*	0.047 (0.061)	0.039	0.14* (0.0709)	0.13*	-0.065 (0.084)	-0.065
CORRECTION FACTOR	0.0028 (0.0607)	0.0014	0.055 (0.08)	0.032	0.033 (0.13)	0.014	-0.075 (0.15)	-0.03	-0.13 (0.25)	-0.044
R <sup>2</sup>	0.32		0.34		0.35		0.37		0.38	

Notes. Standard errors are indicated in parentheses below the nonstandardized estimates. Reference group is indicated by a hyphen (-) unless otherwise noted above.

<sup>a</sup>Dropped from model because dropped from logit model (creation of correction factor) due to limited dispersion. <sup>b</sup>Not in model when analyses done by age cohorts.

\*p < .05. \*\*p < .01.

Table 8

## Nonstandardized and Standardized Wage Offer Regression Coefficients, Nonwhite Women

Independent Variables	Nonwhite Women							
	All		25-34		35-44		45-54	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
Intercept	1.14** (0.27)	0.00**	1.57* (0.38)	0.00*	1.49* (0.30)	0.00*	1.096 (0.82)	0.00
HUMAN CAPITAL VARIABLES:								
Education								
≤ 8th grade education	-0.16 (0.203)	-0.077	-0.13 (0.29)	-0.0503	0.068 (0.29)	0.029	-0.33 (0.505)	-0.17
Some high school	-	-	-	-	-	-	-	-
Completed high school	0.0107 (0.087)	0.0101	-0.11 (0.12)	-0.12	0.17 (0.106)	0.19	0.014 (0.40)	0.0097
Post high school trng. or some college	0.13 (0.12)	0.108	0.0000608 (0.15)	0.000065	0.35* (0.14)	0.27*	0.36 (0.38)	0.29
College graduate	0.35** (0.13)	0.24**	0.34 (0.23)	0.302	0.50* (0.16)	0.40*	0.27 (0.42)	0.15
Work History								
Part-time	-	-	-	-	.a	.a	-	-
Continuous (full-time)	0.24 (0.209)	0.21	-0.00503 (0.28)	-0.0056	0.16 (0.099)	0.17	0.401 (0.64)	0.27
Interrupted (full-time)	0.34 (0.21)	0.31	-0.045 (0.29)	-0.046	0.16 (0.089)	0.17	0.50 (0.62)	0.42
Dual-Interrupted	0.37 (0.209)	0.28	0.011 (0.28)	0.0098	-a	-a	0.28 (0.64)	0.206
Dual-continuous	0.22 (0.21)	0.16	0.024 (0.28)	0.023	-a	-a	0.69 (0.93)	0.21
Other Human Capital Variables								
In poor health	0.085 (0.23)	0.028	-0.69* (0.33)	-0.23*	0.073 (0.17)	0.043	-b	-b
Tenure (current employer)	0.02** (0.0052)	0.23**	0.0302* (0.011)	0.26*	-0.0042 (0.0086)	-0.051	0.026 (0.016)	0.33
Part-time employment	-0.072 (0.077)	-0.054	-0.18 (0.11)	-0.14	-0.076 (0.097)	-0.078	0.092 (0.36)	0.054

Table 8 (Continued)

Independent Variables	Nonwhite Women							
	All		25-34		35-44		45-54	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
SOCIOECONOMIC VARIABLES:								
Occupation								
Prof. & tech.; admin. & mgrl., except farm	0.36** (0.098)	0.29**	0.043 (0.16)	0.039	0.67* (0.12)	0.58*	0.19 (0.37)	0.15
Sales & clerical	0.23** (0.084)	0.206**	0.14 (0.12)	0.16	0.11 (0.11)	0.12	0.11 (0.43)	0.087
Craftsmen & foremen; farm mgrs. & farmers	-0.034 (0.19)	-0.010004	- <sup>b</sup>	- <sup>b</sup>	-0.1006 (0.17)	-0.059	- <sup>b</sup>	- <sup>b</sup>
Operatives; laborers, except farm	0.14 (0.096)	0.11	0.07 (0.15)	0.067	-0.10 (0.13)	-0.094	0.24 (0.46)	0.16
Service; farm laborers & foremen	-	-	-	-	-	-	-	-
Age	-0.0029 (0.0033)	-0.055	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>
STRUCTURAL COMPONENTS OF THE LABOR MARKET:								
Occupational segregation	-0.307** (0.11)	-0.15**	-0.37* (0.18)	-0.203*	-0.083 (0.16)	-0.047	-0.12 (0.37)	-0.055
Union/employee association coverage	0.36 (0.24)	0.108	0.62* (0.32)	0.23*	0.21 (0.42)	0.064	0.098 (0.97)	0.025
Public sector employment	-0.208** (0.076)	-0.19**	-0.3006* (0.11)	-0.33*	-0.205 (0.12)	-0.20	-0.093 (0.26)	-0.074
CORRECTION FACTOR	0.50 (0.38)	0.18	0.39 (0.50)	0.15	0.023 (0.33)	0.0096	-0.13 (0.79)	-0.049
R <sup>2</sup>	0.38		0.47		0.63		0.31	

Notes. Standard errors are indicated in parentheses below the nonstandardized estimates. Reference group is indicated by a hyphen (-) unless otherwise noted above.

<sup>a</sup>Reference group is the combined categories of part-time, dual-interrupted and dual-continuous work histories. <sup>b</sup>Dropped from model because no one in subsample has this characteristic. <sup>c</sup>Not in model when analyses done by age cohorts.

\*p < .05. \*\*p < .01.

Table 9

## Nonstandardized and Standardized Wage Offer Regression Coefficients, White Men

Independent Variables	White Men									
	All		25-34		35-44		45-54		55-64	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
Intercept	-0.201 (0.33)	0.00	1.15* (0.41)	0.00*	1.808* (0.26)	0.00*	1.85 (1.54)	0.00	-2.75 (1.66)	0.00
HUMAN CAPITAL VARIABLES:										
Education										
≤ 8th grade education	0.068 (0.091)	0.027	-0.50* (0.16)	-0.13*	-0.40 (0.23)	-0.07	-0.25 (0.53)	-0.12	0.38 (0.26)	0.22
Some high school	-	-	-	-	-	-	-	-	-	-
Completed high school	0.19** (0.043)	0.16**	0.12 (0.077)	0.13	0.23* (0.083)	0.21*	0.15 (0.15)	0.12	1.76* (0.66)	1.15*
Post high school trng. or some college	0.34** (0.0509)	0.24**	0.25* (0.085)	0.22*	0.36* (0.083)	0.26*	0.24 (0.18)	0.14	1.48* (0.56)	0.87*
College graduate	0.42** (0.049)	0.35**	0.27* (0.097)	0.28*	0.61* (0.0904)	0.57*	0.26 (0.14)	0.19	1.52* (0.43)	1.067*
Work History										
Part-time	-	-	-	-	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>
Continuous (full-time)	0.28 (0.17)	0.26	0.108 (0.16)	0.12	0.017 (0.043)	0.017	0.044 (0.064)	0.036	0.073 (0.082)	0.057
Interrupted (full-time)	0.17 (0.17)	0.092	0.00204 (0.17)	0.0013	-0.11 (0.077)	-0.06	-0.092 (0.11)	-0.043	-0.014 (0.109)	-0.0079
Dual-interrupted	0.13 (0.17)	0.064	0.037 (0.17)	0.023	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>
Dual-continuous	0.26 (0.17)	0.22	0.109 (0.16)	0.11	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>	_ <a href="#">a</a>
Other Human Capital Variables										
In poor health	_ <a href="#">b</a>	_ <a href="#">b</a>	_ <a href="#">b</a>	_ <a href="#">b</a>	_ <a href="#">b</a>	_ <a href="#">b</a>	-0.44 (1.65)	-0.056	_ <a href="#">c</a>	_ <a href="#">c</a>
Tenure (current employer)	0.012** (0.0016)	0.19**	0.014* (0.0048)	0.12*	0.0204* (0.0031)	0.25*	0.0094* (0.0029)	0.15*	0.0079* (0.0029)	0.16*
Part-time employment	0.07 (0.053)	0.029	-0.16* (0.076)	-0.088*	0.18 (0.099)	0.0702	0.70* (0.15)	0.22*	-0.035 (0.14)	-0.014



Table 9 (Continued)

Independent Variables	White Men									
	All		25-34		35-44		45-54		55-64	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
SOCIOECONOMIC VARIABLES:										
Occupation										
Prof. & tech.; admin. & mgrs., except farm	0.42** (0.052)	0.37**	0.41* (0.0705)	0.41*	0.22* (0.11)	0.22*	0.59* (0.13)	0.48*	0.42* (0.19)	0.32*
Sales & clerical	0.32** (0.0603)	0.18**	0.37* (0.081)	0.27*	0.25* (0.12)	0.14*	0.25 (0.16)	0.106	0.2008 (0.19)	0.1003
Craftsmen & foremen; farm mgrs. & farmers	0.19** (0.053)	0.15**	0.23* (0.074)	0.22*	0.096 (0.107)	0.083	0.27* (0.14)	0.19*	0.018 (0.17)	0.012
Operatives; laborers, except farm	0.14** (0.053)	0.1006**	0.26* (0.077)	0.23*	0.012 (0.11)	0.0086	0.15 (0.13)	0.102	-0.095 (0.17)	-0.0606
Service; farm laborers & foremen	-	-	-	-	-	-	-	-	-	-
Age	0.017** (0.0029)	0.33**	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>	- <sup>d</sup>
STRUCTURAL COMPONENTS OF THE LABOR MARKET:										
Occupational segregation	-0.30** (0.069)	-0.11**	-0.18 (0.098)	-0.084	-0.48* (0.12)	-0.18*	-0.072 (0.18)	-0.024	-0.35 (0.23)	-0.103
Union/employee association coverage	0.76** (0.091)	0.2006**	0.84* (0.14)	0.26*	0.27 (0.15)	0.076	1.11* (0.24)	0.26*	0.93* (0.27)	0.207*
Public sector employment	-0.15** (0.033)	-0.109**	-0.035 (0.53)	-0.029	-0.203* (0.057)	-0.15*	-0.097 (0.079)	-0.064	-0.31* (0.1006)	-0.19*
CORRECTION FACTOR	1.089** (0.23)	0.307**	0.28 (0.46)	0.044	-0.002 (0.32)	-0.00031	-0.53 (1.89)	-0.102	7.26* (2.602)	0.97*
R <sup>2</sup>	0.34		0.25		0.36		0.37		0.48	

Notes. Standard errors are indicated in parentheses below the nonstandardized estimates. Reference group is indicated by a hyphen (-) unless otherwise noted above.

<sup>a</sup>Reference group is the combined categories of part-time, dual-interrupted and dual-continuous work histories. <sup>b</sup>Dropped from model because dropped from logit model (creation of correction factor) due to limited dispersion. <sup>c</sup>Dropped from model because no one in subsample has this characteristics. <sup>d</sup>Not in model when analyses done by age cohorts.

\*p < .05. \*\*p < .01.

WAGE DIFFERENTIALS: HUMAN CAPITAL, SOCIOECONOMIC  
AND LABOR MARKET FACTORS

ABSTRACT

A comprehensive model is developed to explain the gender wage differential. Uniqueness is provided through availability of work history data, correction for selection bias and control for interaction by age. Men's wages exceed women's for all age cohorts. Consistent advantages evidenced for men are a college degree, tenure, occupational segregation, union coverage and public sector employment. The consistent advantage evidenced for women, in the absence of discrimination, is the sales and clerical occupational group. Investment in human capital increases wages, but explains little of the differential. Few labor market variables affect wages, yet they explain large percentages of the differential.

INTRODUCTION

Historically, women's wages have averaged three-fifths to two-thirds of men's wages. Despite women's increasing investment in human capital, some movement toward non-traditional occupations and industries and legislative mandates including the Equal Pay Act and Title VII of the Civil Rights Act, the "wage gap" still persists. Data on median weekly earnings of full-time wage and salary workers, 25 years and over, indicate that as of the first quarter 1987, women's earnings are 66 percent of men's [50].

Numerous variables and theoretical relationships have been postulated regarding wages, earnings and the wage differential. Attempts to explain or account for the gender differential have met with only

partial success. Lloyd and Niemi [24], reviewing studies published during 1964-1979, find that generally less than 50 percent of the differential can be accounted for. Higher percentages of explained differentials tend to be reported in studies using comprehensive models and variables associated with detailed occupational information, hours worked, type of employer and work experience [24, 45].

The study reported here provides unique insight into factors affecting gender wage differentials. It is hypothesized that significant portions of the wage differential can be identified and explained by differences in men's and women's human capital stock, socioeconomic characteristics and labor market structural variables. Contributing to the uniqueness of the study is the nationally representative sample which provides work history data typically not available from other major data sources. While age minus years of schooling must often be used as a proxy for work experience--and may be valid for most men in the labor force--it is not a good estimate of women's labor force experience. Additionally, this study incorporates statistical techniques designed to correct for sample selection bias. Lastly, the study controls for interaction by age. Some studies recognize the importance of age, but fail to control for the interaction of age with the explanatory variables.

The purpose of the study is to identify variables that explain the gender wage differential and quantify their relative influence, while focusing primarily on differences across race and age cohorts. Specifically: Do differences in human capital stock, socioeconomic characteristics and labor market structural variables explain

significant portions of the wage differential? Do percentages of the explained gender wage differential attributable to these variables vary by race and age cohorts?

Organization of this paper is as follows. The first section presents the model, with related research to support model identification and inclusion of variables of choice. The second section describes the empirical analysis: data, variable creation, interaction tests and data analysis techniques. Section three provides results and discussion of findings. Lastly, the summary and conclusions are in section four.

#### THE MODEL

Wages are affected by differences in worker productivity. Human capital theory identifies an indirect method of estimating productivity, assuming that education, work experience, labor force attachment, on-the-job training, health and other individual characteristics that can be measured alter work quality and thus productivity [3, 25, 40]. Treiman and Hartmann [45], while examining human capital research, find these characteristics typically account for 44 percent or less of the wage or earnings differential between men and women.

Characteristics of human capital that may reduce worker productivity and depress wages may be more representative of women than men. These include somewhat lower educational levels [9], discontinuous, interrupted or shortened work careers [26, 27, 32], fewer years with current employer [8, 9, 16, 41] and less full-time employment [8, 9, 37].

Salvo and McNeil [37] find that work experience has an important effect on earnings, but returns to experience are greater for men than for women. Mincer and Polachek [27] identify two reasons discontinuous work careers result in lower earnings for women: 1) lower levels of human capital are accumulated by women in anticipation of interrupted work experience, and 2) existing market-oriented human capital depreciates when not in use, i.e., when the worker is out of the labor force. Sandel and Shapiro [38] and Corcoran [8] question the depreciation effect, and conclude that Mincer and Polachek [27] overestimate this effect. More recently, Mincer and Ofek [26] have confirmed their depreciation hypothesis, but conclude the amount of depreciation is dependent upon the length of interruption and time in the labor force after reentry. Research by Salvo and McNeil [37], Cox [12] and Corcoran, Duncan and Ponza [11] support the existence of a limited depreciation effect.

Tenure--years spent with current employer--has been reported as significantly related to increased earnings. Typically, women have less tenure than men in their current employment [36, 41]. According to Sehgal [41], although young men and women have similar work attachments, tenure for women becomes significantly shorter after age 35.

In addition to human capital, differences between men's and women's socioeconomic and labor market characteristics have measurable effects on the gender wage differential. Some studies recognize that social and economic conditions facing cohorts vary and influence

investments in human capital and choice of occupation [19, 22, 44, 51]. When estimating wages few studies have disaggregated by age cohort to control for the confounding effects of interaction on the slopes of estimated regression lines for independent variables of choice.

Women have historically been concentrated in occupations with lower pay and fewer opportunities for advancement. Ofek and Santos [29] find that 80 percent of employed women hold jobs such as clerical, service, or light factory jobs which offer lower wages. Brown, Moon and Zoloth [6] simulate occupational distributions for women that result if women face the same employment possibilities as men. They conclude that a significant amount of occupational segregation can be accounted for by occupational discrimination.

The proportion of women to men in different occupations, i.e., occupational segregation, plays an important role in explaining the male-female wage or earnings differential [15, 35]. Gunderson [20] found a statistically significant relationship between a female-to-male earnings ratio and the ratio of female-to-male composition of occupations.

The relationship between higher wages and union membership is well-documented [30]. The concern regarding self-selection into unions has led to methodological changes in wage studies away from the dichotomous use of union membership [1, 14, 34].

There is evidence that a wage premium exists for public sector employment. After controlling for human capital and geographic factors, Quinn [33] finds older white men in the federal and state government sector enjoy a wage advantage. Asher and Popkin [1]

attribute higher wages for postal service employees to fewer discriminatory wage practices. Additionally, there may be a relationship between union membership and public employment. Robinson and Tomes [34] find that public/private wage differentials are reduced when union status is controlled for.

Another major explanation for the earnings differential between women and men involves discrimination in the labor market. Researchers often attribute the unexplained or residual earnings differential to discrimination [13, 42]. Corcoran and Duncan [10] conclude:

...Less than half of the earnings gap can be explained by the kinds of differences in job commitment or work qualifications that could affect the earnings potential of any worker, male or female. Most of the gap remains unexplainable and may indeed reflect some institutionalized discrimination against women in the working world (p. 4).

Corcoran and Duncan [10] continue by saying that "... institutionalized sex discrimination in the labor market may obstruct women's access to the 'better jobs' through hiring or promotion, or may simply pay women less than men in any job" (p. 5).

The variables and theoretical relationships postulated here as affecting the wage differential are categorized according to gender differences in accumulation of human capital, socioeconomic characteristics and structural components of the labor market. Uniqueness is provided by the comprehensive model design, availability of work history data, correction for selection bias and control for interaction through disaggregation by age cohort.

## EMPIRICAL ANALYSIS

### The Data

Data are from the nationally representative Survey of Consumer Finances (SCF). The Survey is jointly sponsored by the Board of Governors of the Federal Reserve System and a consortium of other Federal agencies. Interviewing has been conducted by the Survey Research Center, Institute for Social Research, University of Michigan, February through July, 1983 [2].

The SCF sample has been randomly selected and resulting data are weighted to be representative of families in the United States, excluding those living on military installations. A total of 3,824 families completed the interviews. According to Avery et al. [2], respondents--either the head of the family or, for married couples, the person most knowledgeable about the family's finances--have been encouraged to refer to financial records and to consult with other family members in order to provide complete and accurate information.

The first step in creation of the subsamples from the Survey of Consumer Finances requires disaggregating by gender to allow for comparisons between men and women. After testing for interaction, subsamples were further disaggregated by race and age.

### Creation of Variables

Variables used in the analysis are identified and defined in Table 1. To measure the effect of level of education, a series of dummy variables is created.

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Insert Table 1 about here

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Work history patterns are based on the classification scheme developed and studied by Peck and Couchman [31]. Remaining human capital variables are health status, tenure with current employer<sup>1</sup> and part-time or full-time employment.

The occupational classification variable is constructed by combining occupation titles used by the U.S. Bureau of the Census [39]. The remaining socioeconomic variables--gender, race and age--are incorporated in the model as control variables.

Structural components of the labor market include occupational segregation, percent of wage and salary workers covered by a union or employee association contract for each industry and whether the worker is in public or private sector employment.

Data from the U.S. Bureau of Labor Statistics have been utilized in creating the occupational segregation and union contract coverage variables. Occupational segregation is defined as the percent of an occupation that is female. Detailed 1982 annual average occupational segregation data are used<sup>2</sup> [48].

Data for the percent by industry of wage and salary workers covered by a union or employee association contract are 1983 annual averages [49]. This variable is used, rather than whether or not the wage or salary earner's contract is actually covered by a union contract, to avoid selection bias that occurs from self-selection into unions.

The natural log of hourly wages is the dependent variable for the wage offer estimations. The wage is calculated based on frequency of pay period and number of hours and weeks worked during that period for

wage and salary earners.

#### Controlling for Interaction

It is necessary to determine if significant interaction is present between age or race and the independent variables. If, for example, levels of education influence wages differently by age, the effect of education on wages for the entire sample confounds the true effects, i.e., does not allow for different slopes for different age groups. <sup>3</sup> Chow tests are calculated using restricted and unrestricted models. The restricted model consists of 1) terms measuring interaction between the control variable and each independent variable and 2) the independent variables. The unrestricted model consists of only independent variables, one of which is the potential interaction variable, i.e., age or race.

Interaction effects are statistically significant at the 0.05 level for age--both men and women--and race--women only. The presence of significant interaction requires the female subsample be divided by race--white and nonwhite--and both gender and race subsamples be divided by age--25-34, 35-44, 45-54, 55-64. The authors know of no studies that examine wage differentials by age cohorts.

Because white men's wages tend to be the commonly accepted reference group, the researchers chose to likewise reference only white men's wages for comparison purposes. Additionally, for comparison purposes, the analysis is reported for white women, nonwhite women and white men without disaggregating into age cohorts, i.e., without controlling for interaction by age.

## The Analysis

This study has progressed through three analytical phases: 1) correction for selection bias, 2) estimation of wage offers, i.e., wage equations, and 3) calculation of wage differentials.

The first phase of correcting for sample selection bias is required to avoid bias in results due to self-selection into the wage and salary sample. Smith [43] defines selection bias this way:

If one estimates a wage equation using samples of working women, biases result because the same set of variables that determine wages enter in as a criterion for sample eligibility. The estimated wage function confounds the true behavioral wage function with the rules for sample inclusion. (p. 7)

An adaptation of Heckman's [21] maximum likelihood technique is used to correct for sample selection bias.<sup>4</sup> Logit coefficients for the likelihood of being a wage or salary earner have been transformed using the standard normal density function to create correction factors used in each of the wage offers.<sup>5</sup>

Wage offers--with correction for selection bias--are estimated for each of the race, gender and age subsamples, with one exception. Wage offers are not estimated for the nonwhite women in the 55-64 cohort due to small subsample size. Resulting wage offer coefficients are used to estimate wages (Equation 1) and decompose the wage differential.

$$\begin{aligned}
 (1) \quad \ln \hat{w}_W = & \beta_0 + \beta_1 \text{EDUC8} + \beta_2 \text{HSGRAD} + \beta_3 \text{VOCED} + \beta_4 \text{COLGRAD} \\
 & + \beta_5 \text{FTHIST} + \beta_6 \text{INTHIST} + \beta_7 \text{DIHIST} + \beta_8 \text{DCHIST} \\
 & + \beta_9 \text{TENURE} + \beta_{10} \text{PARTTM} + \beta_{11} \text{PROF} + \beta_{12} \text{WHITE} \\
 & + \beta_{13} \text{CRAFT} + \beta_{14} \text{BLUE} + \beta_{15} \text{OCCSEG} + \beta_{16} \text{UNION} \\
 & + \beta_{17} \text{PUBLIC} + \beta_{18} \text{CORRECT} + \epsilon
 \end{aligned}$$

The final phase decomposes wage differentials between white men and white women and between white men and nonwhite women. Age cohorts are maintained while examining the effect of 1) each independent variable, *ceterus paribus*, and 2) the variables grouped into human capital attributes, socioeconomic characteristics and structural components of the labor market.

Previous researchers have used several techniques to decompose the wage differential [4, 5, 7, 17, 18, 28]. The classic economic studies by Oaxaca [28] and Blinder [4] address a basic model:

$$(2) \quad E = \sum \beta_j^m (\bar{X}_j^m - \bar{X}_j^f)$$

where m = male; f = female; and j = independent variables.

$$(3) \quad C = \sum \bar{X}_j^f (\beta_j^m - \beta_j^f)$$

$$(4) \quad U = \beta_0^m - \beta_0^f$$

$$(5) \quad \ln \hat{n}_W^m - \ln \hat{n}_W^f \equiv E + C + U$$

Oaxaca [28] decomposes the wage gap into that portion explained by differences in endowments (E) and the residual, discrimination (D). Many researchers studying the wage differential go no further. Blinder [4] attempts to decompose the residual portion (D) into differences in coefficients (C), i.e., the differential treatment of men and women in the marketplace, and unexplained (U), i.e., differences in intercepts. However, Jones [23] has demonstrated that due to "... arbitrary measurement decisions ... the Blinder decomposition is inappropriate,

and the values derived for his terms C and U are inherently arbitrary." (p. 130)

The study reported here uses an adaptation of both the Oaxaca [28] and Blinder [4] techniques, taking into consideration the Jones [23] rejoinder. That is, the wage differential is decomposed into that portion attributable to differences in endowments (E)--including human capital, socioeconomic and structural labor market characteristics--and unexplained (D). No attempt is made to further decompose (D) into (C) and (U).

This modeling technique is based on several assumptions. It is assumed that, in the absence of discrimination, the low wage group would be offered wages similar to the high wage group, given the same human capital stock, socioeconomic characteristics and structural components of the labor market. It is further assumed that the high wage group faces no advantages or disadvantages as a result of discrimination.

Additionally, several limitations exist with this modeling technique. As summarized by Jones [23], the index number problem occurs because one group must be the reference standard. Endowments or characteristics of all other groups are then valued at the rate of return of this reference standard. A related limitation results from the compounding or mediating effects of mean levels of characteristics and rates of return to these characteristics, based on the reference standard. The differences in the means can have one directional effect, i.e., can be plus or minus, depending upon who dominates that effect. The coefficient has a directional effect which measures the

returns to that reference standard for the variable of interest. When both effects work in the same direction, e.g., men dominate the mean effect and have a positive return to the characteristic, it may overestimate the advantage. In the mediating case, when the two effects have opposite signs, the advantage is determined by which effect dominates. Lastly, the contribution to explained differential of the omitted variable within a series of dummy variables cannot be identified. The effect of the omitted variable is within the intercept. By not being able to further decompose the unexplained portion of the differential into differences in returns to characteristics (C) and differences in intercepts (U), this contribution becomes part of the unexplained differential, thus understating the explained portion of the differential.

The last portion of the analysis is partitioning the explained portion of the gender wage differential. The percentage of the wage differential that can be attributed to differences between men's and women's endowments or characteristics--human capital stock, socio-economic characteristics, structural components of the labor market and the correction factor--are calculated by: 1) taking the difference between the means of the independent variables for the subgroups being compared, 2) multiplying them by the slope of the high wage group, i.e., white males, then 3) dividing by the difference between estimated wages of the two groups (see Equation 6).

$$(6) \quad \frac{\sum \beta_j^m (\bar{x}_j^m - \bar{x}_j^f)}{\ln \hat{n}_W^m - \ln \hat{n}_W^f}$$

## FINDINGS AND DISCUSSION

The weighted subsamples utilized in estimating the likelihood of being a wage or salary earner are comprised of 2758 white women, 548 nonwhite women, and 2382 white men. Wage and salary earners number 1338, 269, and 1571, respectively. A description of the wage and salary earner subsamples can be found in the Appendix.

### Wages, Wage Offers and Estimated Wages

Average wages for each race, gender and age cohort are presented in Table 2. Mean actual wages of white women are similar across age cohorts. They reach a peak in the 35-44 cohort (\$7.87). For nonwhite women, average actual wages peak for the 45-54 cohort (\$8.05).

Compared to white women, nonwhite women have lower average actual wages in the 25-34 and 35-44 cohort, but higher wages for the 45-54 and 55-64 cohorts. Average actual wages of white men are higher than those of either white or nonwhite women for all cohorts. Wages for white men are lowest for the 25-34 cohort (\$9.76) and gradually increase, reaching a peak for the oldest cohort (\$13.91).

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Insert Table 2 about here

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For each cohort, the mean natural log of wages for each cohort is almost identical to the mean estimated natural log of wages which have been corrected for selection bias. However, the average wages calculated from the antilogs of estimated wages and the average actual wages evidence greater differences. For all race, gender and age cohorts, average estimated wages were lower than the average actual

wages.

Results reported in this section are highlights of statistically significant wage offer coefficients only. Wage offers can be found in the Appendix.

1) For the aggregated groups, the explained variations in wages,  $R^2$ , are 32 percent, 38 percent and 34 percent for white women, nonwhite women and white men, respectively. Generally, the explained variation in wages for the disaggregated race, gender and age cohorts are higher, indicating a better model fit. For example,  $R^2$  values for the 25-34 and 35-44 cohorts of nonwhite women are 42 percent and 63 percent, respectively, and for white men in the 55-64 cohort, 48 percent. The exceptions--where the  $R^2$  values are lower for the disaggregated subsamples--are nonwhite women in the 45-54 cohort (30%) and white men in the 25-34 cohort (25%).

2) Having a college degree increases wages: for white women in all except the oldest cohort; for nonwhite women in the 35-44 cohort; and for white men in all age cohorts.

3) Tenure with current employer is positively related to wages for all age cohorts of white men and women, but only for the youngest age cohort of nonwhite women.

4) For white women, the professional, technical, administrative and managerial occupation group for all age cohorts, or the sales and clerical occupation group for the 35-44 and 55-64 cohorts, have a positive effect on wages. For nonwhite women, the only significant occupational influence on wages is the effect of the professional, technical, administrative and managerial occupation group for the 35-44



cohort.

There are numerous positive occupational influences on wages for white men, including being in the: professional, technical, administrative and managerial occupation group for all age cohorts; sales and clerical occupation group for the 25-34 and 35-44 cohorts; and the combined occupation group of craftsmen, foremen, farm managers, farmers, operatives and nonfarm laborers for the 25-34 cohorts.

5) Only a few of the race, gender and age cohorts evidence a significant relationship between structural components of the labor market and wages. These include the negative wage effect of occupational segregation for white men in the 35-44 cohort; the positive wage effect of union coverage in the industry for white women in the 25-34 cohort and white men in all except the 35-44 cohort; and the negative wage effect of public sector employment for white and nonwhite women in the 25-34 cohort and for white men in the 35-44 and 55-64 cohorts.

6) White men in the oldest age cohort evidence the only significant coefficient for the correction for selection bias.

#### Wage Differentials

The percentage of the wage differential explained by differences in characteristics or endowments of the subgroups are summarized in Table 3. With one exception, the greater percentages of the wage differential can be explained for the younger age cohorts: the 25-34 white female cohort (70.4%), the 35-44 nonwhite female cohort (69.6%), and the 25-34 nonwhite female cohort (63%). The exception is for white women in the 55-64 cohort, where 192 percent of the wage differential is explained.

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Insert Table 3 about here

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Typically, correction factors are used in labor studies that estimate wages for women not in the labor force, based on wage data from women who are in the labor force. Therefore, one would expect a negative correction factor to correct for what would otherwise be an upward bias in estimated wages. In this study, only those employed for a wage or salary are used in estimating wage offers. This leads one to expect a positive correction factor might result, since those characteristics that influence the likelihood of being in the labor market for a wage or salary would be present--the sample is of wage or salary earners only.

The significant positive correction factor for the oldest cohort of white men may be evidence of this. Fewer men in the 55-64 age cohort are wage or salary earners--relative to the younger age cohorts--especially since, with the current economic and political climate, many are being encouraged to retire early. However, since these are wage or salary earners, it is speculated that this circumstance, combined with the greater likelihood for white men in the 55-64 cohort than white women in the same age cohort to be in the labor force for a wage or salary, overwhelms the wage differential percentages for the 55-64 cohort (the model explained 192% of the wage differential).

For nonwhite women, the percentage of the wage differential explained by the model variables are similar for the two youngest age cohorts (63% for the 25-34 cohort and 69.6% for the 35-44 cohort).

Fifty-two percent of the wage differential is explained for the 45-54 cohort. Interaction effects may be reflected in the percentage of the wage differential explained for the aggregate group of nonwhite women.

The percentage of the wage differential attributable to the major groupings of independent variables--human capital, socioeconomic and structural components of the labor market--vary somewhat across the aggregate groups of white and nonwhite women (see Table 4). However, when examining the disaggregated data, i.e., by age cohort, differences become evident. While this provides more accurate results, it also makes interpretation more difficult.

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Insert Table 4 about here

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To interpret Tables 3 and 4, it should be noted that a positive sign indicates an advantage for white men while a negative sign indicates an advantage for the white or nonwhite female cohort being compared to the reference standard of white males. These relative advantages or disadvantages are assumed to be in the absence of discrimination, i.e., based upon wage offer coefficients for white men.

For the human capital variables, white men evidence a consistent advantage, in terms of characteristics or endowments, over white and nonwhite women college graduates for all age cohorts. Percentages of the wage differential explained by a college education ranging from 1.1 percent (white women in the 45-54 cohort) to 30.4 percent (white women in the 55-64 cohort). Women evidence an advantage over white men in almost all age cohorts for having completed high school. This is

especially evident for white women in the 55-64 age cohort (-51.2% of the wage differential is explained) since a greater number of white women in that age cohort completed high school and the beta coefficient for white men is significant and positive.

Individual work history variables explain relatively little of the wage differential. However, the sum of the percentages of explained wage differential for all the work history variables show a consistent advantage for white men. These summed percentages range from 5.6 percent to 6.9 percent for the youngest age cohorts of nonwhite women and white women, respectively, relative to part-time work histories. For white women in the 55-64 cohort and nonwhite women in the 45-54 cohort, the summed percentages are 4.4 percent and 11.1 percent, respectively, relative to the combined reference group of part-time and dual work histories.

White men evidence a consistent advantage with regard to tenure with current employer, although the explained percentage of the wage differential is low for the youngest age cohorts (3% for white women and 1% for nonwhite women). Greater percentages of the wage differential are explained--and the difference between average tenure for men and women broadens--for older age cohorts, although a clear pattern is not evident.

Wage differentials explained by part-time employment vary. Although it is quite clear that women, especially white women, are more likely than men to be employed part-time, the returns to part-time employment vary. Based on white male wage offer coefficients, part-time employment has a negative effect on wages for the youngest and

oldest age cohorts, but a positive effect on wages for 35-44 and 45-54 cohorts (see beta coefficients in the Appendix). This results in an apparent advantage for men in the youngest age cohort (for white women, 10.3% of the wage differential is explained and for nonwhite women, 2.5% of the wage differential is explained) and in the oldest age cohort (1.6% of the differential is explained for white women). It also leads to an advantage for women in the 35-44 and 45-54 cohorts, especially for white women in the 45-54 cohort (-26.9% of the wage differential is explained).

Occupational explanations of the wage differential indicate an advantage for white women in the youngest age cohort and an advantage for white men in all other age and race cohorts for the professional, technical, administrative and managerial occupation group. Large percentages of the wage differential are also explained (ranging from -7.8% to -25.8% for nonwhite women and -9.1% to -32.1% for white women) by the high concentration of women in sales or clerical occupations--relative to service occupations--where women appear to have a clear advantage in the absence of discrimination. Generally, being in the craftsmen, foremen, farm manager or farming occupational group, or being in a combined occupational group of craftsmen, foremen, farm managers, farmers, operatives and nonfarm laborers--both relative to service occupations--provides an advantage for white men.

Perhaps the most striking findings are those dealing with the percentage of the wage differential explained by differences between men and women regarding variables measuring structural components of the labor market. These range from 32.3 percent to 52.6 percent for

white women (45-54 cohort and 55-64 cohort, respectively) and 21.1 percent to 39.2 percent for nonwhite women (25-34 cohort and 35-44 cohort, respectively).

The percentage of the wage differential explained by differences in occupational segregation between white men and white women range from 10.8 percent (45-54 cohort) to 40.9 percent (35-44 cohort). For nonwhite women, the range is from 11.5 percent (45-54 cohort) to 34.5 percent (35-44 cohort). This is in large part due to differences between men and women in the degree of occupational segregation within an occupation. Men consistently show a advantage, regardless of age cohort.

Degree of union or employee association contract coverage in the industry explains over 18 percent of the wage differential for white and nonwhite women in the 45-54 cohort and from 4.0 percent to 19.6 percent of the wage differential for white women--35-44 cohort and 25-34 cohort, respectively. Men also have a consistent advantage over women in terms of public sector employment, although relatively small percentages of the wage differential are explained.

For the youngest cohort, white men are more likely than white or nonwhite women to be in the labor market for a wage or salary. The correction for selection bias explains 18.7 percent of the wage difference between white men and white women and 24.2 percent of the wage difference between white men and nonwhite women. For the 55-64 cohort, the correction factor literally overwhelms the remaining variables in the model, making interpretation difficult.

Unexplained percentages of the wage differential range from 29.6

percent to 73.4 percent, with the exception of the 55-64 cohort (white women), mentioned previously. Even while holding constant a comprehensive set of variables measuring human capital, socioeconomic characteristics and structural components of the labor market, differences between men's and women's wages cannot be fully explained.

As with other surveys, data are subject to various types of errors: sampling error, since data were collected from a sample rather than the entire population, and nonsampling errors resulting from such things as a respondent's inability or unwillingness to provide complete and accurate information for themselves and other family members, variations in interviewer skills, and data handling and processing errors.

Model misspecification and unmeasured variables such as quality of education and work experience, on-the-job training, region of the country, individual job characteristics or working conditions, and individual personalities, tastes and preferences may have influenced the percentage of unexplained wage differential. Many of the factors that influence women's labor supply are masked in their tastes and preferences regarding the work, leisure and household production time tradeoffs; choices regarding occupation; and timing and amount of human capital accumulation.

Another explanation for portions of the unexplained wage differential is discrimination. Discrimination is almost certainly a component of some of the measured variables, also. For example, choice of occupation and industry (and thus occupational segregation and union coverage), work history patterns and other variables may be influenced

by discriminatory practices--both subtle and overt--such as barriers to entry into certain types of jobs and limited educational opportunities.

#### SUMMARY AND CONCLUSIONS

In their own right, the wage offers provide some interesting results, in addition to their use in calculating wage differentials. In general, human capital accumulation does appear to increase wages. This is especially true for those with a college degree and greater tenure with current employer. Human capital variables do not explain a large portion of the wage differential, however. Findings differ by race, gender and age cohort, with women having an advantage over men for a few variables and in some age cohorts, based on white male returns to human capital.

Work history patterns do not evidence significant effects on wages and explain a limited amount of the wage differential.<sup>6</sup> One possibility for these findings is the inability of the work history variable to reflect delayed first entry in the labor market.

Being in a professional, technical, administrative or managerial occupation group--relative to service occupations--appears to have a positive effect on wages for all white male and female cohorts, but only for nonwhite women in the 35-44 age cohort. However, except for the youngest cohort of white women, men appear to have an advantage when explaining the wage differential.

Being in the sales and clerical occupation group has a positive effect on wages for white women in the 35-44 and 55-64 cohorts and for white men in the two younger age cohorts. However, because of the greater proportion of women in the sales and clerical occupation group,



both white and nonwhite women appear to have an advantage with regard to wage differentials.

Few structural components of the labor market significantly affect wages. However, these labor market variables explain large percentages of the gender wage differential. Other than the correction factor for white women in the 55-64 cohort and nonwhite women in the 25-34 cohort, this group of variables explains by far the largest portion of the differential. Further, the dominant factor within this group of independent variables appears to be occupational segregation--with the exception of the 45-54 cohort (white and nonwhite women), where degree of union coverage explains a greater percentage of the wage differential.

Differences in men's and women's correction factors also explain portions of the wage differential, especially for the youngest age cohort (18.7% for white women and 24.2% for nonwhite women). For the oldest cohort of white women, the correction factor overwhelms the rest of the model variables.

For the aggregated groups, the explained variations in wages,  $R^2$ , are 32 percent, 38 percent and 34 percent for white women, nonwhite women and white men, respectively. Generally, the explained variation in wages for the disaggregated race, gender and age cohorts are higher, indicating a better model fit.

The need for further research is clear. A wage differential technique that identifies differences in how men and women are treated in the marketplace is needed. However, the technique must correct for the limitations of the current modeling technique. Further, findings

provide support for additional research that takes into account possible interaction with age and for studies that examine historical factors which may influence human capital accumulation, socioeconomic characteristics and structural components of the labor market.

FOOTNOTES

1

Correlation matrices have been examined to check for multicollinearity. As a result, the variable tenure squared is not in the model.

2

The SCF data on current occupation are based on the 1970 Census of population classifications. However, 1983 occupational segregation data available from the Bureau of Labor Statistics is based on the 1980 Census classifications. If the change between 1980-1982 was more than five percent, or the change between 1981 and 1982 was more than three percent, the data have been examined closely. When a trend between 1980 and 1982 is evident, the 1982 data are used. Where no trend is evident, the average of 1981 and 1982 is used [46, 47, 48].

3

$$F_N = \frac{(SS Model_R - SS Model_{UR}) / (df_R - df_{UR})}{MSE_R}$$

4

$$\hat{P}_1 = \beta_0 + \beta_1 EDUC8 + \beta_2 HSGRAD + \beta_3 VOCED + \beta_4 COLGRAD \\ + \beta_5 HEALTH + \beta_6 MARRIED + \beta_7 CHILD6 + \epsilon$$

5

Logistic regression results are available from the authors.

6

Two alternative groupings of the work history options have been tested in an attempt to better capture possible wage effects due to work history influences. These include: 1) full-time (continuous or interrupted), dual (part-time and full-time, continuous or interrupted) or part-time and 2) continuous (full-time or dual), interrupted (full-time or dual) or part-time. Neither classification scheme appears to alter the non-significant nature of the work history variables in the wage offer.

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TABLE 1  
SUMMARY OF VARIABLES

HUMAN CAPITAL VARIABLES

Education

EDUC8	1 = 8th grade education or less	0 = Other
SOMEHS	1 = Some high school	0 = Other
HSGRAD	1 = Completed high school	0 = Other
VOCED	1 = Post high school training or some college	0 = Other
COLGRAD	1 = College graduate	0 = Other

Work History

PTHIST	1 = Part-time (only part-time work history reported)	0 = Other
FTHIST	1 = Continuous (continuous full-time work, no interruptions of one year or more)	0 = Other
INTHIST	1 = Interrupted (full-time work with interruptions of one year or more)	0 = Other
DIHIST	1 = Dual-interrupted (both part-time and full-time work with interruptions of one year or more)	0 = Other
DCHIST	1 = Dual-continuous (both part-time and full-time work with no interruptions of one year or more)	0 = Other

Other Human Capital Variables

HEALTH	1 = Health is poor 0 = Health is excellent, good or fair
TENURE	xx = Years with current employer
PARTTM	1 = Part-time employment (< 35 hours) 0 = Full-time employment (35 or more hours)

SOCIOECONOMIC VARIABLES

Marital Status

MARRIED	1 = Married 0 = Divorced, widowed, separated or never married
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Occupation

PROF	1 = Professional, technical and kindred; administrative and managerial, except farm	0 = Other
WHITE	1 = Sales, clerical and kindred	0 = Other
CRAFT	1 = Craftsmen, foremen and kindred; farm managers and farmers	0 = Other
BLUE	1 = Operatives and kindred; laborers, except farm	0 = Other
SERVICE	1 = Service, household and other; farm laborers and foremen	0 = Other

Presence of Child(ren) Under Six

CHILD6	1 = Child(ren) under 6 in family unit 0 = No child(ren) under 6 in family unit
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TABLE 1 (Continued)

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STRUCTURAL COMPONENTS OF THE LABOR MARKET	
OCCSEG	xx.x = Percent of occupation that is female
UNION	xx.x = Percent of wage and salary workers in the industry covered by a union or employee association contract
PUBLIC	1 = Public sector employment 0 = Private sector employment
DEPENDENT VARIABLES	
WAGESAL	1 = Wage or salary earner 0 = Not a wage or salary earner
LOGWAGE	x.xx = Natural log of hourly wages
VARIABLES CONTROLLED FOR WITH SUBSAMPLES	
	<u>Gender</u>
GENDER	Male Female
	<u>Race</u>
RACE	Caucasian Black, Hispanic, other
	<u>Age Cohort</u>
AGE2534	25-34 years of age
AGE3544	35-44 years of age
AGE4554	45-54 years of age
AGE5564	55-64 years of age

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TABLE 2  
AVERAGE HOURLY WAGE BY RACE, GENDER AND AGE

Control Group	Average Hourly Wage			
	Actual Wage	ln(Wage)	Estimated Wage <sup>a</sup>	Estimated ln(Wage) <sup>a</sup>
<b>White Women</b>				
All	\$7.60	1.88	\$6.89	1.89
25-34 Cohort	7.52	1.89	6.85	1.88
35-44 Cohort	7.87	1.91	7.10	1.91
45-54 Cohort	7.63	1.86	6.76	1.86
55-64 Cohort	7.18	1.86	6.65	1.86
<b>Nonwhite Women</b>				
All	\$6.96	1.806	\$6.39	1.807
25-34 Cohort	6.37	1.77	6.08	1.77
35-44 Cohort	6.83	1.81	6.54	1.81
45-54 Cohort	8.05	1.907	7.06	1.904
55-64 Cohort	7.27	1.72	-b	-b
<b>White Men</b>				
All	\$12.18	2.34	\$10.96	2.34
25-34 Cohort	9.76	2.18	9.03	2.18
35-44 Cohort	13.26	2.45	12.11	2.45
45-54 Cohort	13.68	2.39	11.65	2.39
55-64 Cohort	13.91	2.41	12.34	2.41

a Corrected for selection bias.

b Analyses not completed due to small subsample size.

TABLE 3  
SUMMARY TABLE OF WAGE DIFFERENTIALS  
BY RACE, GENDER AND AGE COHORT

Control Group	Total Differential <sup>a</sup>	Percent Explained By Independent Variables <sup>a</sup>	Percent Unexplained By Independent Variables <sup>a</sup>
White Women			
All	0.45	106.1	-6.1
25-34	0.30	70.4	29.6
35-44	0.54	58.1	41.9
45-54	0.53	26.6	73.4
55-64	0.55	192.0	-92.0
Nonwhite Women			
All	0.53	104.9	-4.9
25-34	0.41	63.0	37.0
35-44	0.64	69.6	30.4
45-54	0.49	52.0	48.0

a The log of estimated hourly wages, compared to White Men.

TABLE 4  
WAGE DIFFERENTIALS BY RACE, GENDER AND AGE COHORT

	Percentage of Wage Differential Explained by Independent Variables <sup>a</sup>									
	White Women					Nonwhite Women				
	All	25-34	35-44	45-54	55-64	All	25-34	35-44	45-54	
<b>HUMAN CAPITAL VARIABLES:</b>	(18.4)	(20.7)	(15.9)	(-12.2)	(-16.4)	(20.9)	(16.6)	(26.3)	(6.5)	
Education										
< 8th grade education	0.3	-0.6	1.4	-1.2	6.2	-0.2	2.0	1.7	0.3	
Some high school	-	-	-	-	-	-	-	-	-	
Completed high school	-3.0	-1.7	-3.4	-1.6	-51.2	-0.4	-0.3	-2.9	3.7	
Post high school trng. or some college	-0.8	0.0	0.0	-0.8	-13.5	-4.5	-5.3	2.3	-9.7	
College graduate	5.6	2.7	10.2	1.1	30.4	15.0	11.2	21.9	7.5	
Work History										
Part-time	-	-	-	-	-	-	-	-	-	
Continuous (full-time)	16.2	4.6	1.0	2.4	4.0	10.0	2.2	0.6	2.2	
Interrupted (full-time)	-6.5	-0.2	4.0	5.3	0.4	-7.4	-0.2	4.9	8.9	
Dual-interrupted	-6.9	-1.9	-	-	-	-2.7	-0.7	-	-	
Dual-continuous	9.8	4.4	-	-	-	7.8	4.3	-	-	
Other Human Capital Variables										
Tenure (current employer)	7.4	3.0	12.3	9.6	5.7	5.0	1.0	4.8	7.7	
Part-time employment	-3.7	10.3	-9.6	-26.9	1.6	-1.7	2.5	-7.0	-14.2	
<b>SOCIOECONOMIC VARIABLES:</b>	(-4.5)	(-12.1)	(-4.8)	(7.4)	(-2.6)	(8.2)	(1.1)	(4.2)	(12.9)	
Occupation										
Prof. & tech.; admin. & mgrl., except farm	4.7	-7.2	4.5	10.0	6.9	12.6	11.7	8.9	15.3	
Sales & clerical	-19.8	-32.1	-13.9	-15.2	-9.1	-13.2	-25.8	-7.8	-11.7	
Craftsmen & foremen; farm mgrs. & farmers	10.0		4.5		0.7	8.1		3.0		
Operatives; laborers, except farm	2.2	[27.2	0.1	[12.5	-1.0	-1.1	[15.2	0.1	[9.3	
Service; farm laborers & foremen	-	-	-	-	-	-	-	-	-	
Age	-1.5	-	-	-	-	1.7	-	-	-	

TABLE 4 (Continued)

	Percentage of Wage Differential Explained by Independent Variables <sup>a</sup>								
	White Women					Nonwhite Women			
	All	25-34	35-44	45-54	55-64	All	25-34	35-44	45-54
STRUCTURAL COMPONENTS OF THE LABOR MARKET:	(43.8)	(43.1)	(47.2)	(32.3)	(52.6)	(35.0)	(21.1)	(39.2)	(32.9)
Occupational segregation	29.3	23.2	40.9	10.8	31.2	25.9	19.9	34.5	11.5
Union/employee association coverage	11.8	19.6	4.0	18.6	13.5	5.7	0.0	3.4	18.4
Public sector employment	2.7	0.3	2.3	2.9	7.9	3.4	1.2	1.3	3.0
CORRECTION FACTOR	(48.4)	(18.7)	(-0.1)	(-0.9)	(158.4)	(40.9)	(24.2)	(-0.04)	(-0.4)
EXPLAINED BY INDEPENDENT VARIABLES	106.1	70.4	58.1	26.6	192.0	104.9	63.0	69.6	52.0
UNEXPLAINED BY INDEPENDENT VARIABLES	-6.1	29.6	41.9	73.4	-92.0	-4.9	37.0	30.4	48.0

<sup>a</sup> Estimated log of hourly wages, compared to White Men.

Notes: A positive sign (+) indicates an advantage for White Men. A negative sign (-) indicates an advantage for the White or Nonwhite female cohort being compared. Figures in parentheses represent subtotals for the group of variables identified. A bracket indicates the collapsed categories of craftsmen & foremen; farm managers & farmers; operatives; and laborers, except farm. Totals may not sum due to rounding.

## APPENDIXES

TABLE A-1  
SUMMARY OF CHARACTERISTICS OF WAGE AND SALARY EARNERS BY GENDER, RACE AND AGE COHORT

Characteristics	Women										Men				
	White					Nonwhite					White				
	All %	25-34 %	35-44 %	45-54 %	55-64 %	All %	25-34 %	35-44 %	45-54 %	55-64 %	All %	25-34 %	35-44 %	45-54 %	55-64 %
<b>HUMAN CAPITAL VARIABLES:</b>															
<b>Education</b>															
< 8th grade education	3.1	1.1	2.7	4.6	7.0	6.7	3.0	3.6	10.7	21.4	4.8	1.4	0.8	9.5	15.9
Some high school	8.4	5.3	8.1	9.3	15.5	17.8	12.9	25.0	16.1	17.9	9.8	6.4	9.6	11.7	16.4
Completed high school	42.2	40.3	44.1	44.8	39.0	36.1	36.6	44.1	23.2	35.7	34.7	36.2	36.1	37.9	22.6
Post high school trng. or some college	19.1	21.0	16.9	17.0	21.5	24.9	29.7	13.1	37.5	17.9	18.0	21.0	16.6	15.4	17.3
College graduate	27.2	32.3	28.2	24.3	17.0	14.5	17.8	14.3	12.5	7.1	32.7	34.9	36.9	25.5	27.9
<b>Work History</b>															
Part-time	3.1	2.1	4.4	1.5	5.0	1.9	3.0	0.0	3.6	0.0	0.5	1.4	0.0	0.0	0.0
Continuous	23.1	30.4	19.1	14.7	25.0	29.7	34.7	29.8	19.6	32.1	49.3	43.3	51.4	53.2	54.8
Interrupted	26.5	19.1	28.4	34.0	30.5	33.5	25.7	36.9	48.2	21.4	9.7	9.1	8.4	8.6	15.9
Dual-interrupted	32.3	23.4	36.0	40.2	35.5	18.6	15.8	14.3	25.0	28.6	8.2	9.1	8.2	8.0	5.8
Dual-continuous	15.0	25.1	12.0	9.7	4.0	16.4	20.8	19.1	3.6	17.9	32.3	37.1	32.1	30.2	23.6
In poor health	0.7	0.0	1.0	1.9	0.5	3.0	2.0	7.1	0.0	0.0	0.4	0.2	0.6	0.6	0.0
Tenure	7.14 <sup>a</sup>	4.33 <sup>a</sup>	6.37 <sup>a</sup>	9.28 <sup>a</sup>	12.53 <sup>a</sup>	7.703 <sup>a</sup>	4.703 <sup>a</sup>	8.13 <sup>a</sup>	10.71 <sup>a</sup>	11.21 <sup>a</sup>	9.92 <sup>a</sup>	4.98 <sup>a</sup>	9.63 <sup>a</sup>	14.66 <sup>a</sup>	16.49 <sup>a</sup>
Part-time employment	28.8	25.7	32.8	25.1	32.5	17.8	12.9	28.6	14.3	10.7	5.4	6.6	4.2	3.7	7.2
<b>SOCIOECONOMIC VARIABLES:</b>															
<b>Marital Status</b>															
Married	71.7	71.3	72.3	72.6	70.0	64.3	60.4	67.9	73.2	50.0	85.3	79.7	88.7	88.3	88.0
<b>Occupation</b>															
Prof. & tech.; admin. & mgrl., except farm	33.5	35.9	32.8	33.6	29.0	21.6	18.8	17.9	30.4	25.0	38.3	30.7	44.0	43.1	38.0
Sales & clerical	38.1	38.0	38.7	38.2	37.0	31.6	40.6	28.6	28.6	14.3	10.1	12.3	9.0	7.1	11.5
Craftsmen & foremen; farm mgrs. & farmers	1.4	1.1	1.7	0.8	2.5	2.2	0.0	7.1	0.0	0.0	25.3	26.4	27.0	22.5	22.6
Operatives; laborers, except farm	12.1	13.0	11.3	10.0	14.5	22.7	21.8	21.4	21.4	32.1	19.3	21.2	15.5	20.3	21.2
Service; farm laborers & foremen	14.9	12.1	15.4	17.4	17.0	21.9	18.8	25.0	19.6	28.6	7.1	9.5	4.4	7.1	6.7
Child(ren) under 6 in family unit	15.6	33.3	10.3	1.5	3.0	28.3	40.6	27.4	17.9	7.1	23.8	43.7	22.4	5.5	1.9
Age	40.803 <sup>a</sup>	-	-	-	-	39.88 <sup>a</sup>	-	-	-	-	40.407 <sup>a</sup>	-	-	-	-

TABLE A-1 (Continued)

Characteristics	Women										Men				
	White					Nonwhite					White				
	All %	25-34 %	35-44 %	45-54 %	55-64 %	All %	25-34 %	35-44 %	45-54 %	55-64 %	All %	25-34 %	35-44 %	45-54 %	55-64 %
STRUCTURAL COMPONENTS OF THE LABOR MARKET:															
Occupational segregation	0.67 <sup>a</sup>	0.65 <sup>a</sup>	0.68 <sup>a</sup>	0.67 <sup>a</sup>	0.72 <sup>a</sup>	0.69 <sup>a</sup>	0.72 <sup>a</sup>	0.68 <sup>a</sup>	0.66 <sup>a</sup>	0.68 <sup>a</sup>	0.23 <sup>a</sup>	0.24 <sup>a</sup>	0.22 <sup>a</sup>	0.23 <sup>a</sup>	0.23 <sup>a</sup>
Union/employee association coverage	0.20 <sup>a</sup>	0.19 <sup>a</sup>	0.19	0.20 <sup>a</sup>	0.21 <sup>a</sup>	0.23 <sup>a</sup>	0.26 <sup>a</sup>	0.19 <sup>a</sup>	0.21 <sup>a</sup>	0.25 <sup>a</sup>	0.27 <sup>a</sup>	0.26 <sup>a</sup>	0.27 <sup>a</sup>	0.29 <sup>a</sup>	0.29 <sup>a</sup>
Public sector employment	26.7	21.0	24.5	35.1	33.5	30.9	31.7	22.6	33.9	46.4	19.4	18.5	19.3	20.6	19.7
N	1338	471	408	259	200	269	101	84	56	28	1571	561	477	325	208

<sup>a</sup> Figure given is a mean rather than a percentage.



TABLE A-2  
NONSTANDARDIZED AND STANDARDIZED WAGE OFFER REGRESSION COEFFICIENTS, WHITE WOMEN

Independent Variables	White Women									
	All		25-34		35-44		45-54		55-64	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
Intercept	1.56** (0.11)	0.00**	1.36* (0.18)	0.00*	1.409* (0.14)	0.00*	1.39* (0.16)	0.00*	1.608* (0.17)	0.00*
HUMAN CAPITAL VARIABLES:										
Education										
≤ 8th grade education	-0.17 (0.077)	-0.058	-0.0508 (0.208)	-0.0107	-0.30 (0.15)	-0.091	-0.13 (0.16)	-0.051	-0.17 (0.15)	-0.093
Some high school	-	-	-	-	-	-	-	-	-	-
Completed high school	0.086 (0.047)	0.084	0.19* (0.094)	0.19*	0.054 (0.092)	0.0508	0.11 (0.107)	0.103	-0.093 (0.094)	-0.097
Post high school trng. or some college	0.19** (0.053)	0.15**	0.28* (0.101)	0.23*	0.25* (0.105)	0.18*	0.206 (0.12)	0.15	0.014 (0.12)	0.013
College graduate	0.29** (0.059)	0.26**	0.39* (0.109)	0.38*	0.24* (0.12)	0.206*	0.37* (0.12)	0.30*	0.072 (0.14)	0.058
Work History										
Part-time	-	-	-	-	-.a	-.a	-.a	-.a	-.a	-.a
Continuous (full-time)	0.00077 (0.072)	0.00064	0.018 (0.14)	0.017	0.105 (0.062)	0.078	-0.043 (0.087)	-0.028	-0.055 (0.076)	-0.051
Interrupted (full-time)	-0.0018 (0.0709)	-0.0016	0.053 (0.14)	0.043	-0.028 (0.053)	-0.024	-0.0024 (0.064)	-0.0022	-0.044 (0.072)	-0.043
Dual-interrupted	-0.029 (0.069)	-0.027	-0.026 (0.14)	-0.022	-.a	-.a	-.a	-.a	-.a	-.a
Dual-continuous	0.12 (0.074)	0.082	0.17 (0.14)	0.15	-.a	-.a	-.a	-.a	-.a	-.a
Other Human Capital Variables										
In poor health	-.b	-.b	-.b	-.b	-.b	-.b	-.c	-.c	-.c	-.c
Tenure (current employer)	0.019** (0.002)	0.26**	0.027* (0.0055)	0.20*	0.024* (0.0043)	0.25*	0.019* (0.0041)	0.28*	0.013* (0.0031)	0.27*
Part-time employment	-0.0506 (0.028)	-0.045	-0.052 (0.047)	-0.046	0.04 (0.052)	0.035	-0.13 (0.0706)	-0.106	-0.13 (0.07)	-0.13

TABLE A-2 (Continued)

Independent Variables	White Women									
	All		25-34		35-44		45-54		55-64	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
<b>SOCIOECONOMIC VARIABLES:</b>										
Occupation										
Prof. & tech.; admin. & mgrl., except farm	0.34** (0.043)	0.32**	0.25* (0.069)	0.25*	0.43* (0.0806)	0.38*	0.22* (0.104)	0.20*	0.47* (0.11)	0.46*
Sales & clerical	0.16** (0.038)	0.15**	0.024 (0.064)	0.024	0.17* (0.071)	0.16*	0.16 (0.09)	0.15	0.309* (0.093)	0.32*
Craftsmen & foremen; farm mgrs. & farmers	0.076 (0.104)	0.018			0.076 (0.18)	0.019			0.22 (0.209)	0.073
Operatives; laborers, except farm	-0.033 (0.049)	-0.021	[-0.17* (0.079)]	[-0.12*]	0.053 (0.092)	0.031	[0.082 (0.12)]	[0.048]	-0.0107 (0.12)	-0.00805
Service; farm laborers & foremen	-	-	-	-	-	-	-	-	-	-
Age	-0.0026 (0.0014)	-0.056	_d	_d	_d	_d	_d	_d	_d	_d
<b>STRUCTURAL COMPONENTS OF THE LABOR MARKET:</b>										
Occupational segregation	-0.13** (0.049)	-0.07**	-0.13 (0.076)	-0.077	-0.16 (0.095)	-0.085	-0.096 (0.12)	-0.05	-0.097 (0.13)	-0.054
Union/employee association coverage	0.39** (0.093)	0.11**	0.61* (0.15)	0.19*	0.35 (0.19)	0.093	0.24 (0.208)	0.069	0.19 (0.25)	0.061
Public sector employment	-0.011 (0.032)	-0.0099	-0.15* (0.054)	-0.13*	0.04 (0.061)	0.032	0.13 (0.0709)	0.12	-0.033 (0.082)	-0.034
CORRECTION FACTOR	0.0028 (0.0067)	0.0014	0.045 (0.079)	0.026	0.025 (0.13)	0.0103	-0.019 (0.15)	-0.0075	-0.073 (0.25)	-0.025
R <sup>2</sup>	0.32		0.34		0.34		0.36		0.37	

a Reference group is the combined categories of part-time, dual-interrupted and dual-continuous work histories.

b Dropped from model because dropped from logit model (creation of correction factor) due to limited dispersion.

c Dropped from model due to limited dispersion in another race or gender subsample.

d Not in model when analyses done by age cohorts.

Notes: Standard errors are indicated in parentheses below the nonstandardized estimates. Reference group is indicated by a hyphen (-) unless otherwise noted above. \*Statistically significant at the 0.05 level. \*\*Statistically significant at the 0.01 level. A bracket indicates the collapsed categories of craftsmen & foremen; farm managers & farmers; operatives; and laborers, except farm.

TABLE A-3  
NONSTANDARDIZED AND STANDARDIZED WAGE OFFER REGRESSION COEFFICIENTS, NONWHITE WOMEN

Independent Variables	Nonwhite Women							
	All		25-34		35-44		45-54	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
Intercept	1.13** (0.26)	0.00**	1.24* (0.32)	0.00*	1.52* (0.24)	0.00*	1.016 (0.69)	0.00
HUMAN CAPITAL VARIABLES:								
Education								
≤ 8th grade education	-0.18 (0.19)	-0.089	-0.204 (0.26)	-0.0809	0.055 (0.23)	0.023	-0.28 (0.55)	-0.14
Some high school	-	-	-	-	-	-	-	-
Completed high school	0.0034 (0.093)	0.0032	-0.102 (0.16)	-0.11	0.16 (0.10)	0.18	0.059 (0.40)	0.041
Post high school trng. or some college	0.12 (0.14)	0.1002	0.0403 (0.201)	0.043	0.34 (0.17)	0.26	0.28 (0.39)	0.23
College graduate	0.34 (0.14)	0.24	0.35 (0.30)	0.31	0.49* (0.16)	0.39*	0.28 (0.41)	0.16
Work History								
Part-time	-	-	-	-	-.a	-.a	-.a	-.a
Continuous (full-time)	0.27 (0.206)	0.24	0.305 (0.26)	0.34	0.16 (0.097)	0.16	0.25 (0.34)	0.17
Interrupted (full-time)	0.37 (0.208)	0.34	0.304 (0.27)	0.31	0.15 (0.088)	0.17	0.21 (0.26)	0.18
Dual-interrupted	0.4009 (0.206)	0.306	0.36 (0.26)	0.309	-.a	-.a	-.a	-.a
Dual-continuous	0.25 (0.21)	0.18	0.37 (0.26)	0.35	-.a	-.a	-.a	-.a
Other Human Capital Variables								
In poor health	-.b	-.b	-.b	-.b	-.b	-.b	-.c	-.c
Tenure (current employer)	0.0204** (0.0052)	0.24**	0.035* (0.012)	0.3003*	-0.0055 (0.0079)	-0.067	0.028 (0.015)	0.35
Part-time employment	-0.0808 (0.077)	-0.0608	-0.202 (0.12)	-0.16	-0.073 (0.095)	-0.075	0.033 (0.35)	0.02

TABLE A-3 (Continued)

Independent Variables	Nonwhite Women							
	All		25-34		35-44		45-54	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
SOCIOECONOMIC VARIABLES:								
Occupation								
Prof. & tech.; admin. & mgrs., except farm	0.36** (0.099)	0.29**	0.18 (0.16)	0.16	0.67* (0.12)	0.59*	0.18 (0.35)	0.14
Sales & clerical	0.21** (0.083)	0.20**	0.22 (0.12)	0.26	0.12 (0.105)	0.13	0.26 (0.37)	0.20
Craftsmen & foremen; farm mgrs. & farmers	-0.027 (0.19)	-0.0077			-0.107 (0.17)	-0.063		
Operatives; laborers, except farm	0.12 (0.094)	0.097	[ 0.15 (0.15)	[ 0.14	-0.076 (0.12)	-0.071	[ 0.305 (0.44)	[ 0.209
Service; farm laborers & foremen	-	-	-	-	-	-	-	-
Age	-0.0025 (0.0032)	-0.047	_d	_d	_d	_d	_d	_d
STRUCTURAL COMPONENTS OF THE LABOR MARKET:								
Occupational segregation	-0.30** (0.11)	-0.15**	-0.37 (0.19)	-0.2005	-0.0807 (0.16)	-0.046	-0.13 (0.36)	-0.058
Union/employee association coverage	0.41 (0.23)	0.12	0.57 (0.33)	0.209	0.14 (0.36)	0.042	-0.28 (0.84)	-0.072
Public sector employment	-0.22** (0.076)	-0.20**	-0.32* (0.11)	-0.35*	-0.19 (0.11)	-0.19	-0.13 (0.25)	-0.103
CORRECTION FACTOR	0.45 (0.38)	0.16	0.21 (0.47)	0.09	0.0097 (0.34)	0.00305	0.45 (0.90)	0.17
R <sup>2</sup>	0.38		0.42		0.63		0.30	

a Reference group is the combined categories of part-time, dual-interrupted and dual-continuous work histories.

b Dropped from model because dropped from logit model (creation of correction factor) due to limited dispersion in another race or gender subsample.

c Dropped from model because no one in subsample has this characteristic.

d Not in model when analyses done by age cohorts.

Notes: Standard errors are indicated in parentheses below the nonstandardized estimates. Reference group is indicated by a hyphen (-) unless otherwise noted above. \*Statistically significant at the 0.05 level. \*\*Statistically significant at the 0.01 level. A bracket indicates the collapsed categories of craftsmen & foremen; farm managers & farmers; operatives; and laborers, except farm.

TABLE A-4  
NONSTANDARDIZED AND STANDARDIZED WAGE OFFER REGRESSION COEFFICIENTS, WHITE MEN

Independent Variables	White Men									
	All		25-34		35-44		45-54		55-64	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
Intercept	-0.201 (0.33)	0.00	1.15* (0.41)	0.00*	1.808* (0.26)	0.00*	1.46* (0.37)	0.00*	-2.75 (1.66)	0.00
HUMAN CAPITAL VARIABLES:										
Education										
≤ 8th grade education	0.068 (0.091)	0.027	-0.5009* (0.16)	-0.13*	-0.40 (0.23)	-0.07	-0.13 (0.17)	-0.0607	0.38 (0.26)	0.22
Some high school	-	-	-	-	-	-	-	-	-	-
Completed high school	0.19** (0.043)	0.16**	0.12 (0.077)	0.13	0.23* (0.083)	0.21*	0.12 (0.10)	0.10	1.76* (0.66)	1.15*
Post high school trng. or some college	0.34** (0.0509)	0.24**	0.24* (0.085)	0.21*	0.36* (0.083)	0.26*	0.204 (0.12)	0.12	1.48* (0.56)	0.87*
College graduate	0.42** (0.049)	0.35**	0.27* (0.096)	0.27*	0.61* (0.0904)	0.57*	0.28* (0.12)	0.20*	1.52* (0.43)	1.067*
Work History										
Part-time	-	-	-	-	_a	_a	_a	_a	_a	_a
Continuous (full-time)	0.28 (0.17)	0.26	0.11 (0.16)	0.12	0.017 (0.043)	0.017	0.033 (0.063)	0.027	0.073 (0.082)	0.057
Interrupted (full-time)	0.17 (0.17)	0.092	0.0049 (0.17)	0.00305	-0.11 (0.077)	-0.06	-0.11 (0.11)	-0.0508	-0.014 (0.109)	-0.0079
Dual-interrupted	0.13 (0.17)	0.064	0.0409 (0.17)	0.025	_a	_a	_a	_a	_a	_a
Dual-continuous	0.26 (0.17)	0.22	0.11 (0.16)	0.12	_a	_a	_a	_a	_a	_a
Other Human Capital Variables										
In poor health	_b	_b	_b	_b	_b	_b	_c	_c	_d	_d
Tenure (current employer)	0.012** (0.0016)	0.19**	0.014* (0.0047)	0.12*	0.0204* (0.0031)	0.25*	0.0095* (0.0029)	0.16*	0.0079* (0.0029)	0.16*
Part-time employment	0.07 (0.023)	0.029	-0.16* (0.076)	-0.086*	0.18 (0.099)	0.0702	0.67* (0.15)	0.209*	-0.035 (0.14)	-0.014

TABLE A-4 (Continued)

Independent Variables	White Men									
	All		25-34		35-44		45-54		55-64	
	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.	Nonstd.	Std.
SOCIOECONOMIC VARIABLES:										
Occupation										
Prof. & tech.; admin. & mgri., except farm	0.42** (0.052)	0.37**	0.41* (0.0704)	0.41*	0.22* (0.11)	0.22*	0.59* (0.13)	0.48*	0.42* (0.19)	0.32*
Sales & clerical	0.32** (0.0603)	0.18**	0.37* (0.0808)	0.26*	0.25* (0.12)	0.14*	0.26 (0.16)	0.108	0.2008 (0.19)	0.1003
Craftsmen & foremen; farm mgrs. & farmers	0.19** (0.053)	0.15**			0.096 (0.107)	0.083			0.018 (0.17)	0.012
Operatives; laborers, except farm	0.14** (0.053)	0.1006**	0.24* (0.0704)	0.26*	0.012 (0.11)	0.0086	0.206 (0.12)	0.17	-0.095 (0.17)	-0.0606
Service; farm laborers & foremen	-	-	-	-	-	-	-	-	-	-
Age	0.017** (0.0029)	0.33**	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>
STRUCTURAL COMPONENTS OF THE LABOR MARKET:										
Occupational segregation	-0.30** (0.069)	-0.11**	-0.17 (0.096)	-0.08	-0.48* (0.12)	-0.18*	-0.13 (0.18)	-0.042	-0.35 (0.23)	-0.103
Union/employee association coverage	0.76** (0.091)	0.2006**	0.84* (0.14)	0.26*	0.27 (0.15)	0.076	1.12* (0.23)	0.26*	0.93* (0.27)	0.207*
Public sector employment	-0.15** (0.033)	-0.109**	-0.037 (0.053)	-0.031	-0.203* (0.057)	-0.15*	-0.108 (0.079)	-0.072	-0.31* (0.1006)	-0.19*
CORRECTION FACTOR	1.089** (0.23)	0.307**	0.28 (0.46)	0.043	-0.002 (0.32)	-0.00031	-0.016 (0.409)	-0.003	7.26* (2.602)	0.97*
R <sup>2</sup>	0.34		0.25		0.36		0.37		0.48	

a Reference group is the combined categories of part-time, dual-interrupted and dual-continuous work histories.

b Dropped from model because dropped from logit model (creation of correction factor) due to limited dispersion.

c Dropped from model due to limited dispersion.

d Dropped from model because no one in subsample has this characteristic.

e Not in model when analyses done by age cohorts.

Notes: Standard errors are indicated in parentheses below the nonstandardized estimates. Reference group is indicated by a hyphen (-) unless otherwise noted above. \*Statistically significant at the 0.05 level. \*\*Statistically significant at the 0.01 level. A bracket indicates the collapsed categories of craftsmen & foremen; farm managers & farmers; operatives; and laborers, except farm.

TABLE A-5  
MEANS AND STANDARD DEVIATIONS FOR WAGE OFFER VARIABLES, WHITE WOMEN

	White Women									
	All		25-34		35-44		45-54		55-64	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<b>HUMAN CAPITAL VARIABLES:</b>										
<b>Education</b>										
≤ 8th grade education	0.031	0.17	0.0106	0.103	0.027	0.16	0.046	0.21	0.07	0.26
Some high school	0.084	0.28	0.053	0.22	0.0809	0.27	0.093	0.29	0.16	0.36
Completed high school	0.42	0.49	0.403	0.49	0.44	0.50	0.45	0.50	0.39	0.49
Post high school trng. or some college	0.19	0.39	0.21	0.408	0.17	0.38	0.17	0.38	0.22	0.41
College graduate	0.27	0.45	0.32	0.47	0.28	0.45	0.24	0.43	0.17	0.38
<b>Work History</b>										
Part-time	0.031	0.17	0.021	0.14	0.52 <sup>a</sup>	0.50001 <sup>a</sup>	0.51 <sup>a</sup>	0.5008 <sup>a</sup>	0.45 <sup>a</sup>	0.50 <sup>a</sup>
Continuous (full-time)	0.23	0.42	0.304	0.46	0.19	0.39	0.15	0.35	0.25	0.43
Interrupted (full-time)	0.27	0.44	0.19	0.39	0.28	0.45	0.34	0.47	0.305	0.46
Dual-Interrupted	0.32	0.47	0.23	0.42	-a	-a	-a	-a	-a	-a
Dual-continuous	0.15	0.36	0.25	0.43	-a	-a	-a	-a	-a	-a
<b>Other Human Capital Variables</b>										
In poor health	-	-	-	-	-	-	-	-	-	-
Tenure (current employer)	7.14	6.901	4.33	3.62	6.37	5.48	9.28	7.78	12.53	9.7005
Part-time employment	0.29	0.45	0.26	0.44	0.33	0.47	0.25	0.43	0.33	0.47
<b>SOCIOECONOMIC VARIABLES:</b>										
<b>Occupation</b>										
Prof. & tech.; admin. & mgrl., except farm	0.33	0.47	0.36	0.48	0.33	0.47	0.34	0.47	0.29	0.45
Sales & clerical	0.38	0.49	0.38	0.49	0.39	0.49	0.38	0.49	0.37	0.48
Craftsmen & foremen; farm mgrs. & farmers	0.014	0.12	[ 0.14	[ 0.35	0.017	0.13	[ 0.108	[ 0.31	0.025	0.16
Operatives; laborers, except farm	0.12	0.33			0.11	0.32			0.15	0.35
Service; farm laborers & foremen	0.15	0.36	0.12	0.33	0.15	0.36	0.17	0.38	0.17	0.38
Age	40.803	10.78	-	-	-	-	-	-	-	-
<b>STRUCTURAL COMPONENTS OF THE LABOR MARKET:</b>										
Occupational segregation	0.67	0.28	0.65	0.28	0.68	0.28	0.67	0.28	0.72	0.26
Union/employee association coverage	0.20	0.15	0.19	0.15	0.19	0.14	0.202	0.15	0.21	0.15
Public sector employment	0.27	0.44	0.21	0.408	0.25	0.43	0.35	0.48	0.34	0.47
CORRECTION FACTOR	0.57	0.26	0.66	0.28	0.64	0.22	0.49	0.21	0.37	0.16
LOGWAGE	1.88	0.506	1.89	0.49	1.91	0.53	1.86	0.53	1.86	0.47

<sup>a</sup> Figure given is for a combined category of part-time, dual-interrupted and dual-continuous work histories.  
Note: A bracket indicates the collapsed categories of craftsmen & foremen; farm managers & farmers; operatives; and laborers, except farm.

TABLE A-6  
MEANS AND STANDARD DEVIATIONS FOR WAGE OFFER VARIABLES, NONWHITE WOMEN

	Nonwhite Women							
	All		25-34		35-44		45-54	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<b>HUMAN CAPITAL VARIABLES:</b>								
<b>Education</b>								
< 8th grade education	0.067	0.25	0.03	0.17	0.036	0.19	0.107	0.31
Some high school	0.18	0.38	0.13	0.34	0.25	0.44	0.16	0.37
Completed high school	0.36	0.48	0.37	0.48	0.44	0.50	0.23	0.43
Post high school trng. or some college	0.25	0.43	0.30	0.46	0.13	0.34	0.38	0.49
College graduate	0.14	0.35	0.18	0.38	0.14	0.35	0.13	0.33
<b>Work History</b>								
Part-time	0.019	0.14	0.03	0.17	0.33 <sup>a</sup>	0.47 <sup>a</sup>	0.32 <sup>a</sup>	0.47 <sup>a</sup>
Continuous (full-time)	0.30	0.46	0.35	0.48	0.30	0.46	0.20	0.4009
Interrupted (full-time)	0.33	0.47	0.26	0.44	0.37	0.49	0.48	0.504
Dual-interrupted	0.19	0.39	0.16	0.37	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>
Dual-continuous	0.16	0.37	0.208	0.408	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>
<b>Other Human Capital Variables</b>								
In poor health	-	-	-	-	-	-	-	-
Tenure (current employer)	7.703	5.95	4.703	3.68	8.13	5.40	10.71	7.55
Part-time employment	0.18	0.38	0.13	0.34	0.29	0.45	0.14	0.35
<b>SOCIOECONOMIC VARIABLES:</b>								
<b>Occupation</b>								
Prof. & tech.; admin. & mgrl., except farm	0.22	0.41	0.19	0.39	0.18	0.39	0.304	0.46
Sales & clerical	0.32	0.47	0.406	0.49	0.29	0.45	0.29	0.46
Craftsmen & foremen; farm mgrs. & farmers	0.022	0.15	[ 0.22	[ 0.41	0.071	0.26	[ 0.21	[ 0.41
Operatives; laborers, except farm	0.23	0.42			0.21	0.41		
Service; farm laborers & foremen	0.22	0.41	0.19	0.39	0.25	0.44	0.20	0.4009
Age	39.88	9.75	-	-	-	-	-	-
<b>STRUCTURAL COMPONENTS OF THE LABOR MARKET:</b>								
Occupational segregation	0.69	0.26	0.72	0.23	0.68	0.25	0.66	0.28
Union/employee association coverage	0.23	0.15	0.26	0.16	0.19	0.13	0.21	0.15
Public sector employment	0.309	0.46	0.32	0.47	0.23	0.42	0.34	0.48
CORRECTION FACTOR	0.57	0.18	0.506	0.18	0.70	0.14	0.68	0.23
LOGWAGE	1.806	0.51	1.77	0.43	1.81	0.44	1.907	0.604

<sup>a</sup> Figure given is for a combined category of part-time, dual-interrupted and dual-continuous work histories.  
Note: A bracket indicates the collapsed categories of craftsmen & foremen; farm managers & farmers; operatives; and laborers, except farm.



TABLE A-7  
MEANS AND STANDARD DEVIATIONS FOR WAGE OFFER VARIABLES, WHITE MEN

	White Men									
	All		25-34		35-44		45-54		55-64	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<b>HUMAN CAPITAL VARIABLES:</b>										
Education										
< 8th grade education	0.048	0.21	0.014	0.12	0.0084	0.091	0.095	0.29	0.16	0.37
Some high school	0.098	0.30	0.064	0.25	0.096	0.30	0.12	0.32	0.16	0.37
Completed high school	0.35	0.48	0.36	0.48	0.36	0.48	0.38	0.49	0.23	0.42
Post high school trng. or some college	0.18	0.38	0.21	0.408	0.17	0.37	0.15	0.36	0.17	0.38
College graduate	0.33	0.47	0.35	0.48	0.37	0.48	0.26	0.44	0.28	0.45
Work History										
Part-time	0.00509	0.071	0.014	0.12	0.403 <sup>a</sup>	0.49 <sup>a</sup>	0.38 <sup>a</sup>	0.49 <sup>a</sup>	0.29 <sup>a</sup>	0.46 <sup>a</sup>
Continuous (full-time)	0.49	0.5001	0.43	0.50	0.51	0.5003	0.53	0.50	0.55	0.50
Interrupted (full-time)	0.097	0.30	0.0909	0.29	0.084	0.28	0.086	0.28	0.16	0.37
Dual-interrupted	0.081	0.27	0.0909	0.29	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>
Dual-continuous	0.32	0.47	0.37	0.48	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>
Other Human Capital Variables										
In poor health	-	-	-	-	-	-	-	-	-	-
Tenure (current employer)	9.92	8.88	4.98	3.89	9.63	6.42	14.66	9.97	16.49	12.74
Part-time employment	0.053	0.23	0.066	0.25	0.042	0.2006	0.037	0.19	0.072	0.26
<b>SOCIOECONOMIC VARIABLES:</b>										
Occupation										
Prof. & tech.; admin. & mgrl., except farm	0.38	0.49	0.307	0.46	0.44	0.50	0.43	0.50	0.38	0.49
Sales & clerical	0.101	0.302	0.12	0.33	0.0901	0.29	0.0708	0.26	0.12	0.32
Craftsmen & foremen; farm mgrs. & farmers	0.25	0.43	[ 0.48	[ 0.50	0.27	0.44	[ 0.43	[ 0.50	0.23	0.42
Operatives; laborers, except farm	0.19	0.39			0.16	0.36			0.21	0.409
Service; farm laborers & foremen	0.0707	0.26	0.094	0.29	0.044	0.205	0.0708	0.26	0.067	0.25
Age	40.407	10.67	-	-	-	-	-	-	-	-
<b>STRUCTURAL COMPONENTS OF THE LABOR MARKET:</b>										
Occupational segregation	0.23	0.205	0.24	0.22	0.22	0.20	0.23	0.2006	0.23	0.19
Union/employee association coverage	0.27	0.14	0.26	0.14	0.27	0.15	0.29	0.14	0.29	0.14
Public sector employment	0.19	0.40	0.19	0.39	0.19	0.39	0.206	0.405	0.20	0.40
CORRECTION FACTOR	0.77	0.16	0.86	0.073	0.84	0.082	0.79	0.12	0.49	0.086
LOGWAGE	2.34	0.55	2.18	0.46	2.45	0.52	2.39	0.609	2.41	0.64

a Figure given is for a combined category of part-time, dual-interrupted and dual-continuous work histories.  
Note: A bracket indicates the collapsed categories of craftsmen & foremen; farm managers & farmers; operatives; and laborers, except farm.

APPENDIXES  
SUPPORTIVE DATA

**APPENDIX B**  
**METHODOLOGY**

TABLE B-1  
 SAMPLE LOSS RESULTING FROM CREATION OF  
 SUBSAMPLES AND VARIABLES

	Women	Men
Original Sample Size	3342	2825
Net Loss Resulting From:		
Subsamples/Control Variables Creation		
Race (missing values)	59	46
Age > 25 and < 64	859	638
Military	6	21
Creation of Logit Variables (missing values and coding errors)		
Education	11	19
Health	2	1
Marital status	1	1
Wage/salary earner	2	2
Creation of Regression Variables (missing values and coding errors)		
Work histories	60	60
Tenure	2	3
Part-time employment	3	14
Occupation/occupational segregation	3	10
Industry of employment (union/employee association coverage)	18	19
Public sector employment	8	6
Wage	112	144
Unweighted Subsample Total	2196	1841
Weighted Subsample Total	3306	2797
White	2758	2382
Nonwhite	548	415
Wage/Salary Earners	1607	1844
White	1338	1571
Nonwhite	269	273

TABLE B-2  
 OCCUPATIONAL SEGREGATION BY OCCUPATION<sup>a</sup>

Occupation	Women as Percent of Total Employed in Occupation
Total, 16 years and over	43.5 <sup>b</sup>
White-collar workers	53.8 <sup>b</sup>
Professional & technical	45.1 <sup>b</sup>
Accountants	38.6
Architects	6.5 <sup>c</sup>
Computer specialists	28.5
Computer programmers	32.0
Computer systems analysts	26.4
Engineers	5.7
Aeronautical & astronautical engineers	4.2
Civil engineers	2.5
Electrical & electronic engineers	4.0
Industrial engineers	14.2
Mechanical engineers	2.9 <sup>c</sup>
Foresters & conservationists	9.5 <sup>c</sup>
Lawyers & judges	15.4
Lawyers	15.5
Librarians, archivists, & curators	80.7
Librarians	83.4
Life & physical scientists	20.6
Biological scientists	46.0
Chemists	20.3
Operations & systems researchers & analysts	31.7
Personnel & labor relations workers	49.6
Physicians, dentists, & related practitioners	14.6
Dentists	3.3
Pharmacists	23.8
Physicians, medical & osteopathic	14.8
Nurses, dietitians, & therapists	91.8
Registered nurses	95.6
Therapists	70.6
Health technologists & technicians	72.9
Clinical laboratory technologists & technicians	76.7
Radiologic technologists & technicians	69.9 <sup>c</sup>
Religious workers	13.8
Clergy	5.3

TABLE B-2 (Continued)

Occupation	Women as Percent of Total Employed in Occupation
Social scientists	36.0 <sup>c</sup>
Economists	26.4 <sup>c</sup>
Psychologists	51.9 <sup>c</sup>
Social & recreation workers	65.5 <sup>b</sup>
Social workers	66.4
Recreation workers	61.9
Teachers, college & university	35.4
Teachers, except college & university	70.7 <sup>b</sup>
Adult education teachers	40.5
Elementary school teachers	82.4
Prekindergarten & kindergarten teachers	98.5
Secondary school teachers	51.9
Teachers except college & university, n.e.c.	76.0 <sup>d</sup>
Engineering & science technicians	18.3
Chemical technicians	24.7
Drafters	18.1
Electrical & electronic engineering technicians	12.4
Surveyors	1.5
Technicians, except health, engineering, & science	22.9
Airplane pilots	3.6
Radio operators	55.4
Vocational & educational counselors	51.8
Writers, artists, & entertainers	42.9
Athletes & kindred workers	50.7
Designers	32.6
Editors & reporters	51.0
Musicians & composers	28.9
Painters & sculptors	51.9
Photographers	22.9
Public relations specialists & publicity writers	50.0
Research workers, not specified	35.6
All other professional & technical workers	47.2
Managers & administrators, except farm	28.0 <sup>b</sup>
Bank officials & financial managers	37.1
Buyers & purchasing agents	35.7
Buyers, wholesale & retail trade	43.1
Credit & collection managers	48.4
Health administrators	50.9
Inspectors, except construction & public administration	12.6 <sup>c</sup>

TABLE B-2 (Continued)

Occupation	Women as Percent of Total Employed in Occupation
Managers & superintendents, building	52.5 <sup>d</sup>
Office managers, n.e.c.	72.6 <sup>d</sup>
Officials & administrators; public administrators, n.e.c.	29.3 <sup>d</sup>
Officials of lodges, societies, & unions	28.6
Restaurant, cafeteria, & bar managers	40.6
Sales managers & department heads, retail trade	39.7
Sales managers, except retail trade	12.9
School administrators, college	36.2
School administrators, elementary & secondary	36.2
All other managers & administrators	19.9
Sales workers	45.4
Advertising agents & sales workers	46.9
Demonstrators	94.0
Hucksters & peddlers	78.2
Insurance agents, brokers, & underwriters	26.2
Newspaper carriers & vendors	29.3
Real estate agents & brokers	50.2
Stock & bond sales agents	19.8
Sales workers & sales clerks, n.e.c.	46.4 <sup>d</sup>
Sales representatives, manufacturing industries	21.4
Sales representatives, wholesale trade	13.9
Sales clerks, retail trade	70.0
Sales workers, except clerks, retail trade	19.2
Sales workers, services & construction	42.5
Clerical workers	80.7 <sup>b</sup>
Bank tellers	92.0
Billing clerks	87.7
Bookkeepers	91.8
Cashiers	86.8 <sup>d</sup>
Clerical supervisors, n.e.c.	72.2 <sup>d</sup>
Collectors, bill & account	63.3 <sup>c</sup>
Counter clerks, except food	76.4
Dispatchers & starters, vehicle	38.2
Enumerators & interviewers	79.2 <sup>c</sup>
Estimators & investigators, n.e.c.	56.4 <sup>c,d</sup>
Expeditors & production controllers	42.4
File clerks	84.5
Insurance adjusters, examiners, & investigators	56.5
Library attendants & assistants	81.3

TABLE B-2 (Continued)

Occupation	Women as Percent of Total Employed in Occupation
Mail carriers, post office	17.0
Mail handlers, except post office	47.3
Messengers & office helpers	23.5
Office machine operators	74.6
Bookkeeping & billing machine operators	85.7
Computer & peripheral equipment operators	63.3
Key punch operators	94.5
Payroll & timekeeping clerks	82.1
Postal clerks	36.6 <sup>c</sup>
Receptionists	97.5
Secretaries	99.2 <sup>b</sup>
Secretaries, legal	99.4
Secretaries, medical	100.0 <sup>d</sup>
Secretaries, n.e.c.	99.2 <sup>d</sup>
Shipping & receiving clerks	24.8
Statistical clerks	81.6
Stenographers	84.8
Stock clerks & storekeepers	36.8
Teachers' aides, except school monitors	92.5
Telephone operators	91.9
Ticket, station, & express agents	47.4
Typists	96.6
All other clerical workers	77.9
Blue-collar workers	18.7 <sup>b</sup>
Craft & kindred workers	7.0 <sup>b</sup>
Brickmasons & stonemasons	0.7
Carpenters	1.7
Cement & concrete finishers	- <sup>e</sup>
Electricians	1.6
Excavating, grading, & road machinery operators	1.3
Painters, construction & maintenance	5.5
Plumbers & pipefitters	0.8
Structural metal craft workers	- <sup>e</sup>
Roofers & slaters	0.8
Blue-collar worker supervisors, n.e.c.	12.1 <sup>b,d</sup>
Machinists & job setters	3.1 <sup>b</sup>
Job & die setters, metal	2.7
Machinists	3.1



TABLE B-2 (Continued)

Occupation	Women as Percent of Total Employed in Occupation
Metal craft workers, excluding mechanics, machinists, & job setters	3.8 <sup>b</sup> - <sub>e</sub>
Millwrights	19.0
Molders, metal	3.4
Sheet-metal workers & tinsmiths	2.5 <sup>b</sup>
Tool & die makers	1.0 <sup>b</sup>
Mechanics, automobiles	1.5
Automobile body repairers	0.9
Automobile mechanics	2.6
Mechanics, except automobiles	- <sub>e</sub>
Air-conditioning, heating, & refrigeration mechanics	3.8
Aircraft mechanics	7.1 - <sub>e</sub>
Data processing machine repairers	1.5
Farm implement mechanics	3.3
Heavy equipment mechanics, including diesel	6.4
Household appliance & accessory installers & mechanics	5.4
Office machine repairers	2.2
Radio & television repairers	28.2 <sup>b</sup>
Railroad & car shop mechanics	38.0
Printing craft workers	12.6 <sup>c</sup>
Compositors & typesetters	44.8 <sup>c</sup>
Printing press operators	4.5 <sup>c</sup>
Bakers	1.2
Cabinetmakers	0.8
Carpet installers	73.2
Crane, derrick, & hoist operators	0.9
Decorators & window dressers	10.9 <sup>c,d</sup>
Electric power line & cable installers & repairers	2.7
Inspectors, n.e.c.	2.1
Locomotive engineers	43.5
Stationary engineers	10.9
Tailors	4.8
Telephone installers & repairers	23.0
Telephone line installers & repairers	16.9
Upholsterers	
All other craft workers	

TABLE B-2 (Continued)

Occupation	Women as Percent of Total Employed in Occupation
Operatives, except transport	40.7 <sup>b</sup>
Assemblers	53.8
Bottling & canning operatives	46.5
Checkers, examiners, & inspectors; manufacturing	53.9 <sup>c</sup>
Clothing ironers & pressers	78.6 <sup>d</sup>
Cutting operatives, n.e.c.	35.4
Dressmakers, except factory	96.4 <sup>e</sup>
Drillers, earth	-
Dry wall installers & lathers	1.1
Filers, polishers, sanders, & buffers	30.1 <sup>b,c</sup>
Furnace tenders, smelters, & pourers; metal	5.5
Garage workers & gas station attendants	5.3 <sup>d</sup>
Laundry & dry cleaning operatives, n.e.c.	66.5
Meat cutters & butchers, except manufacturing	6.6
Meat cutters & butchers, manufacturing	32.4 <sup>c</sup>
Mine operatives, n.e.c.	1.4 <sup>d</sup>
Mixing operatives	5.1
Packers & wrappers, excluding meat & produce	60.8
Painters, manufactured articles	15.8
Photographic process workers	48.3
Precision machine operatives	12.4
Drill press operatives	26.8
Grinding machine operatives	8.8
Lathe & milling machine operatives	7.8 <sup>c</sup>
Punch & stamping press operatives	35.3 <sup>c</sup>
Sawyers	12.5
Sewers & stitchers	95.4
Shoemaking machine operatives	73.6 <sup>b</sup>
Furnace tenders & stokers, except metal	3.0
Textile operatives	63.0
Spinners, twisters, & winders	69.1
Welders & flame cutters	4.8 <sup>d</sup>
Winding operatives, n.e.c.	48.0
All other operatives, except transport	32.1 <sup>b</sup>
Transport equipment operatives	8.9
Busdrivers	46.6
Delivery & route workers	9.6
Forklift & tow motor operatives	8.0 <sup>e</sup>
Railroad switch operators	-
Taxicab drivers & chauffeurs	9.9
Truckdrivers	2.1
All other transport equipment operatives	2.2

TABLE B-2 (Continued)

Occupation	Women as Percent of Total Employed in Occupation
Nonfarm laborers	11.7 <sup>b</sup>
Animal caretakers	56.2 <sup>c</sup>
Construction laborers including carpenters' helpers	3.2
Freight & material handlers	9.8
Garbage collectors	2.7
Gardeners & grounds keepers, except farm	5.0
Timber cutting & logging workers	1.1
Stockhandlers	24.5
Vehicle washers & equipment cleaners	13.7 <sup>d</sup>
Warehouse laborers, n.e.c.	6.8 <sup>d</sup>
All other nonfarm laborers	9.4
Service workers	61.9 <sup>b</sup>
Private households	96.9
Child care workers	97.4
Cleaners & servants	95.9
Housekeepers	98.2 <sup>b</sup>
Service workers, except private households	59.0 <sup>b</sup>
Cleaning workers	38.3 <sup>b</sup>
Lodging quarters cleaners	96.2
Building interior cleaners	57.9
Janitors & sextons	17.6 <sup>b</sup>
Food service workers	65.7 <sup>b</sup>
Bartenders	50.0
Waiters' assistants	19.9
Cooks	49.9
Dishwashers	27.6
Food counter & fountain workers	84.9
Waiters	88.6 <sup>b</sup>
Food service workers, n.e.c.	74.6 <sup>b</sup>
Health service workers	89.7
Dental assistants	98.0
Health aides, excluding nursing	86.2
Nursing aides, orderlies, & attendants	87.1
Practical nurses	97.0

TABLE B-2 (Continued)

Occupation	Women as Percent of Total Employed in Occupation
Personal service workers	76.9
Attendants	54.6
Barbers	14.5 <sup>c</sup>
Child care workers	96.2
Hairdressers & cosmetologists	89.5
Housekeepers, excluding private households	69.8
Welfare service aides	93.3
Protective service workers	10.9
Firefighters	0.5
Guards	12.7
Police & detectives	6.7
Sheriffs & bailiffs	11.7
Farm workers	17.5 <sup>b</sup>
Farmers & farm managers	11.8
Farmers (owners & tenants)	11.9
Farm laborers & supervisors	24.1
Farm laborers, wage workers	15.4
Farm laborers, unpaid family workers	61.9

<sup>a</sup>1982 annual averages, household data, unless otherwise noted.

<sup>b</sup>Not utilized when coding occupational segregation.

<sup>c</sup>Occupations whose change from 1981 to 1982 was > 3 percent, or whose change from 1980 to 1982 was > 5 percent, and no clear trend was evident from 1980 to 1982. Figure given is the average of 1981 and 1982. This averaging resulted in percentage changes (between 1982 and the figure given) of .8 to 3.8.

<sup>d</sup>Not elsewhere classified (designates broad categories of occupations which cannot be more specifically identified).

<sup>e</sup>Less than 0.05 percent. Occupational segregation is coded as 0.0.

SOURCES: Bureau of Labor Statistics. (1983). Employment and Earnings, 30(1), 158-159.  
 Bureau of Labor Statistics. (1982). Employment and Earnings, 29(1), 165-166.  
 Bureau of Labor Statistics. (1981). Employment and Earnings, 28(1), 180-181.

TABLE B-3  
 WORKERS WHOSE JOBS ARE COVERED BY A UNION OR  
 EMPLOYEE ASSOCIATION CONTRACT<sup>a</sup>

Industry	Represented by Unions or Employee Associations (Percent of Employed)
Agricultural wage & salary	3.8
Private nonagricultural wage & salary	18.8 <sup>b</sup>
Mining	23.1
Construction	29.4
Manufacturing	30.5 <sup>b</sup>
Durable goods	32.0
Nondurable goods	28.4
Transportation & public utilities	46.2
Transportation	44.7
Communications & public utilities	47.9
Wholesale & retail trade	9.8 <sup>b</sup>
Wholesale trade	10.8
Retail trade	9.6
Finance, insurance, & real estate	4.1
Services	9.6
Government	45.5

<sup>a</sup>1983 annual averages for wage & salary workers. Excluded are self-employed workers whose businesses are incorporated.

<sup>b</sup>Not utilized when coding union or employee association coverage.

SOURCE: Bureau of Labor Statistics. (1985). Employment and Earnings, 32(1), 209.

TABLE B-4

## SUMMARY OF CHARACTERISTICS OF TOTAL SUBSAMPLE BY GENDER, RACE AND AGE COHORT

Characteristics	Women										Men				
	White					Nonwhite					White				
	All %	25-34 %	35-44 %	45-54 %	55-64 %	All %	25-34 %	35-44 %	45-54 %	55-64 %	All %	25-34 %	35-44 %	45-54 %	55-64 %
<b>HUMAN CAPITAL VARIABLES:</b>															
<b>Education</b>															
< 8th grade education	5.9	1.7	3.7	7.5	13.8	17.7	9.8	10.9	24.3	40.5	7.8	1.3	1.8	15.2	18.2
Some high school	11.7	8.6	11.1	12.6	16.2	19.2	15.3	21.0	18.0	27.4	9.8	6.9	9.8	11.2	12.8
Completed high school	42.5	41.0	44.7	42.8	41.7	32.5	35.8	44.9	21.6	17.9	33.7	36.2	34.6	35.2	26.8
Post high school trng. or some college	19.2	23.5	18.8	17.1	15.4	19.0	26.0	10.1	24.3	8.3	18.6	23.5	18.0	13.4	17.4
College graduate	20.7	25.2	21.8	20.1	12.9	11.7	13.0	13.0	11.7	6.0	30.1	32.1	35.8	25.0	24.7
In poor health	4.2	1.5	2.2	5.6	9.6	9.9	6.5	9.4	9.9	19.0	4.4	0.3	2.5	6.8	10.9
<b>SOCIOECONOMIC VARIABLES:</b>															
<b>Marital Status</b>															
Married	79.7	80.9	80.1	81.0	76.3	61.1	59.1	63.0	66.7	56.0	84.3	78.4	86.5	88.2	86.6
<b>Child(ren) under 6 in family unit</b>															
	20.5	49.3	15.2	2.4	1.6	31.6	48.4	30.4	13.5	14.3	21.9	44.6	22.7	6.0	1.7
N	2758	873	739	573	573	548	215	138	111	84	2382	754	651	500	477

APPENDIX C

MEANS AND STANDARD DEVIATIONS, MANUSCRIPT 1

TABLE C-1  
 MEANS AND STANDARD DEVIATIONS FOR WAGE OFFER VARIABLES,  
 WHITE WOMEN, MANUSCRIPT 1

	White Women									
	All		25-34		35-44		45-54		55-64	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<b>HUMAN CAPITAL VARIABLES:</b>										
<b>Education</b>										
< 8th grade education	0.031	0.17	0.0106	0.103	0.027	0.16	0.046	0.21	0.07	0.26
Some high school	0.084	0.28	0.053	0.22	0.0809	0.27	0.093	0.29	0.16	0.36
Completed high school	0.42	0.49	0.403	0.49	0.44	0.50	0.45	0.50	0.39	0.49
Post high school trng. or some college	0.19	0.39	0.21	0.408	0.17	0.38	0.17	0.38	0.22	0.41
College graduate	0.27	0.45	0.32	0.47	0.28	0.45	0.24	0.43	0.17	0.38
<b>Work History</b>										
Part-time	0.031	0.17	0.021	0.14	0.044	0.206	0.015	0.12	0.05	0.22
Continuous (full-time)	0.23	0.42	0.304	0.46	0.19	0.39	0.15	0.35	0.25	0.43
Interrupted (full-time)	0.27	0.44	0.19	0.39	0.28	0.45	0.34	0.47	0.305	0.46
Dual-interrupted	0.32	0.47	0.23	0.42	0.36	0.48	0.402	0.49	0.36	0.48
Dual-continuous	0.15	0.36	0.25	0.43	0.12	0.33	0.10	0.30	0.04	0.20
<b>Other Human Capital Variables</b>										
In poor health	-	-	-	-	-	-	0.019	0.14	0.005	0.0707
Tenure (current employer)	7.14	6.901	4.33	3.62	6.37	5.48	9.28	7.78	12.53	9.7005
Part-time employment	0.29	0.45	0.26	0.44	0.33	0.47	0.25	0.43	0.33	0.47
<b>SOCIOECONOMIC VARIABLES:</b>										
<b>Occupation</b>										
Prof. & tech.; admin. & mgrs., except farm	0.33	0.47	0.36	0.48	0.33	0.47	0.34	0.47	0.29	0.45
Sales & clerical	0.38	0.49	0.38	0.49	0.39	0.49	0.38	0.49	0.37	0.48
Craftsmen & foremen; farm mgrs. & farmers	0.014	0.12	0.0106	0.103	0.017	0.13	0.0077	0.088	0.025	0.16
Operatives; laborers, except farm	0.12	0.33	0.13	0.34	0.11	0.32	0.1004	0.301	0.15	0.35
Service; farm laborers & foremen	0.15	0.36	0.12	0.33	0.15	0.36	0.17	0.38	0.17	0.38
Age	40.803	10.78	-	-	-	-	-	-	-	-
<b>STRUCTURAL COMPONENTS OF THE LABOR MARKET:</b>										
Occupational segregation	0.67	0.28	0.65	0.28	0.68	0.28	0.67	0.28	0.72	0.26
Union/employee association coverage	0.20	0.15	0.19	0.15	0.19	0.14	0.202	0.15	0.21	0.15
Public sector employment	0.27	0.44	0.21	0.408	0.25	0.43	0.35	0.48	0.34	0.47
CORRECTION FACTOR	0.57	0.26	0.66	0.28	0.64	0.22	0.49	0.21	0.37	0.16
LOGWAGE	1.88	0.506	1.89	0.49	1.91	0.53	1.86	0.53	1.86	0.47



TABLE C-2  
 MEANS AND STANDARD DEVIATIONS FOR WAGE OFFER VARIABLES,  
 NONWHITE WOMEN, MANUSCRIPT 1

	Nonwhite Women							
	All		25-34		35-44		45-54	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<b>HUMAN CAPITAL VARIABLES:</b>								
<b>Education</b>								
≤ 8th grade education	0.067	0.25	0.03	0.17	0.036	0.19	0.107	0.31
Some high school	0.18	0.38	0.13	0.34	0.25	0.44	0.16	0.37
Completed high school	0.36	0.48	0.37	0.48	0.44	0.50	0.23	0.43
Post high school trng. or some college	0.25	0.43	0.30	0.46	0.15	0.34	0.38	0.49
College graduate	0.14	0.35	0.18	0.38	0.14	0.35	0.13	0.33
<b>Work History</b>								
Part-time	0.019	0.14	0.03	0.17	0.33 <sup>a</sup>	0.47 <sup>a</sup>	0.036	0.19
Continuous (full-time)	0.30	0.46	0.35	0.48	0.30	0.46	0.20	0.4009
Interrupted (full-time)	0.33	0.47	0.26	0.44	0.37	0.49	0.48	0.504
Dual-interrupted	0.19	0.39	0.16	0.37	- <sup>a</sup>	- <sup>a</sup>	0.25	0.44
Dual-continuous	0.16	0.37	0.208	0.408	- <sup>a</sup>	- <sup>a</sup>	0.036	0.19
<b>Other Human Capital Variables</b>								
In poor health	0.03	0.17	0.02	0.14	0.071	0.26	-	-
Tenure (current employer)	7.703	5.95	4.703	3.68	8.13	5.40	10.71	7.55
Part-time employment	0.18	0.38	0.13	0.34	0.29	0.45	0.14	0.35
<b>SOCIOECONOMIC VARIABLES:</b>								
<b>Occupation</b>								
Prof. & tech.; admin. & mgrl., except farm	0.22	0.41	0.19	0.39	0.18	0.39	0.304	0.46
Sales & clerical	0.32	0.47	0.406	0.49	0.29	0.45	0.29	0.46
Craftsmen & foremen; farm mgrs. & farmers	0.022	0.15	-	-	0.071	0.26	-	-
Operatives; laborers, except farm	0.23	0.42	0.22	0.41	0.21	0.41	0.21	0.41
Service; farm laborers & foremen	0.22	0.41	0.19	0.39	0.25	0.44	0.20	0.4009
Age	39.88	9.75	-	-	-	-	-	-
<b>STRUCTURAL COMPONENTS OF THE LABOR MARKET:</b>								
Occupational segregation	0.69	0.26	0.72	0.23	0.68	0.25	0.66	0.28
Union/employee association coverage	0.23	0.15	0.26	0.16	0.19	0.13	0.21	0.15
Public sector employment	0.309	0.46	0.32	0.47	0.23	0.42	0.34	0.48
CORRECTION FACTOR	0.59	0.19	0.53	0.17	0.74	0.18	0.68	0.23
LOGWAGE	1.806	0.51	1.77	0.43	1.81	0.44	1.907	0.604

<sup>a</sup> Figure given is for a combined category of part-time, dual-interrupted and dual-continuous work histories.

TABLE C-3  
MEANS AND STANDARD DEVIATIONS FOR WAGE OFFER VARIABLES  
WHITE MEN, MANUSCRIPT 1

	White Men									
	All		25-34		35-44		45-54		55-64	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
<b>HUMAN CAPITAL VARIABLES:</b>										
<b>Education</b>										
< 8th grade education	0.048	0.21	0.014	0.12	0.0084	0.091	0.095	0.29	0.16	0.37
Some high school	0.098	0.30	0.064	0.25	0.096	0.30	0.12	0.32	0.16	0.37
Completed high school	0.35	0.48	0.36	0.48	0.36	0.48	0.38	0.49	0.23	0.42
Post high school trng. or some college	0.18	0.38	0.21	0.408	0.17	0.37	0.15	0.36	0.17	0.38
College graduate	0.33	0.47	0.35	0.48	0.37	0.48	0.26	0.44	0.28	0.45
<b>Work History</b>										
Part-time	0.00509	0.071	0.014	0.12	0.403 <sup>a</sup>	0.49 <sup>a</sup>	0.38 <sup>a</sup>	0.49 <sup>a</sup>	0.29 <sup>a</sup>	0.46 <sup>a</sup>
Continuous (full-time)	0.49	0.5001	0.43	0.50	0.51	0.5003	0.53	0.50	0.55	0.50
Interrupted (full-time)	0.097	0.30	0.0909	0.29	0.084	0.28	0.086	0.28	0.16	0.37
Dual-interrupted	0.081	0.27	0.0909	0.29	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>
Dual-continuous	0.32	0.47	0.37	0.48	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>	- <sup>a</sup>
<b>Other Human Capital Variables</b>										
In poor health	-	-	-	-	-	-	0.0062	0.078	-	-
Tenure (current employer)	9.92	8.88	4.98	3.89	9.63	6.42	14.66	9.97	16.49	12.74
Part-time employment	0.053	0.23	0.066	0.25	0.042	0.2006	0.037	0.19	0.072	0.26
<b>SOCIOECONOMIC VARIABLES:</b>										
<b>Occupation</b>										
Prof. & tech., admin. & mgrl., except farm	0.38	0.49	0.307	0.46	0.44	0.50	0.43	0.50	0.38	0.49
Sales & clerical	0.101	0.302	0.12	0.33	0.0901	0.29	0.0708	0.26	0.12	0.32
Craftsmen & foremen; farm mgrs. & farmers	0.25	0.43	0.26	0.44	0.27	0.44	0.22	0.42	0.23	0.42
Operatives; laborers, except farm	0.19	0.39	0.21	0.409	0.16	0.36	0.203	0.403	0.21	0.409
Service; farm laborers & foremen	0.0707	0.26	0.094	0.29	0.044	0.205	0.0708	0.26	0.067	0.25
Age	40.407	10.67	-	-	-	-	-	-	-	-
<b>STRUCTURAL COMPONENTS OF THE LABOR MARKET:</b>										
Occupational segregation	0.23	0.205	0.24	0.22	0.22	0.20	0.23	0.2006	0.23	0.19
Union/employee association coverage	0.27	0.14	0.26	0.14	0.27	0.15	0.29	0.14	0.29	0.14
Public sector employment	0.19	0.40	0.19	0.39	0.19	0.39	0.206	0.405	0.20	0.40
CORRECTION FACTOR	0.77	0.16	0.86	0.073	0.84	0.082	0.79	0.12	0.49	0.086
LOGWAGE	2.34	0.55	2.18	0.46	2.45	0.52	2.39	0.609	2.41	0.64

<sup>a</sup> Figure given is for a combined category of part-time, dual-interrupted and dual-continuous work histories.

APPENDIX D  
LOGIT COEFFICIENTS, MANUSCRIPT 2

TABLE D-1

LOGISTIC REGRESSION COEFFICIENTS OF THE LIKELIHOOD OF BEING A WAGE OR SALARY EARNER, WHITE WOMEN, MANUSCRIPT 2

Independent Variables	White Women									
	All		25-34		35-44		45-54		55-64	
	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>
Intercept	2.13**		0.83*		0.62*		0.51		-0.0071	
HUMAN CAPITAL VARIABLES:										
Education										
≤ 8th grade education	-0.38	-0.092	_b	_b	_b	_b	-0.24	-0.057	-0.73	-0.18
Some high school	-	-	_b	_b	_b	_b	-	-	-	-
Completed high school	0.59**	0.13	0.99*	0.20	0.66*	0.14	0.54	0.11	-0.08	-0.018
Post high school trng. or some college	0.53**	0.11	0.71*	0.15	0.49	0.109	0.29	0.064	0.55	0.11
College graduate	1.18**	0.22	1.59*	0.27	1.44*	0.26	0.86*	0.17	0.39	0.082
In poor health	_c	_c	_c	_c	_c	_c	-1.78*	-0.408	-3.38*	-0.60
SOCIOECONOMIC VARIABLES:										
Marital Status										
Married	-1.025**	-0.25	-1.18*	-0.29	-1.17*	-0.28	-1.32*	-0.32	-0.67*	-0.16
Child(ren) under 6 in family unit	-1.11**	-0.27	-1.29*	-0.309	-0.84*	-0.207	_c	_c	_c	_c
Age	-0.0403**	-0.0095	_d	_d	_d	_d	_d	_d	_d	_d

\*Statistically significant at the 0.05 level.

\*\*Statistically significant at the 0.01 level.

<sup>a</sup>The marginal effect of a change in an independent variable on the likelihood of being a wage or salary earner is:

$$\hat{P}_1 = \frac{e^{\beta_0 + \beta_1 x}}{1 + e^{\beta_0 + \beta_1 x}} - \frac{e^{\beta_0}}{1 + e^{\beta_0}}$$

<sup>b</sup>Because of limited dispersion in the ≤ 8th grade education category, reference group is the combined categories of ≤ 8th grade education and some high school.

<sup>c</sup>Dropped from model due to limited dispersion.

<sup>d</sup>Not in model when analyses done by age cohorts.

Reference group is indicated by a hyphen (-) unless otherwise noted above.

TABLE D-2

LOGISTIC REGRESSION COEFFICIENTS OF THE LIKELIHOOD OF BEING A WAGE OR SALARY EARNER, NONWHITE WOMEN, MANUSCRIPT 2

Independent Variables	Nonwhite Women									
	All		25-34		35-44		45-54		55-64	
	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>
Intercept	-0.34		-0.64		-0.073		-0.38		-0.33	
HUMAN CAPITAL VARIABLES:										
Education										
≤ 8th grade education	-1.36**	-0.33	_b	_b	_b	_b	-1.25	-0.302	-0.37	-0.087
Some high school	-	-	_b	_b	_b	_b	-	-	-	-
Completed high school	0.35	0.078	0.74*	0.15	0.24	0.056	-0.21	-0.0505	1.806*	0.26
Post high school trng. or some college	0.78**	0.16	0.94*	0.18	1.29	0.25	1.11	0.21	2.26*	0.29
College graduate	0.58	0.12	1.38*	0.24	0.58	0.13	-0.015	-0.0035	0.30006	0.064
In poor health	_c	_c	_c	_c	_c	_c	-8.72*	-0.62	-8.55*	-0.66
SOCIOECONOMIC VARIABLES:										
Marital Status										
Married	0.32	0.072	0.102	0.024	0.63	0.14	0.99	0.19	-1.0099	-0.25
Child(ren) under 6 in family unit	-0.34	-0.082	-0.51	-0.12	-0.55	-0.14	_c	_c	_c	_c
Age	0.0022	0.0005	_d	_d	_d	_d	_d	_d	_d	_d

\*Statistically significant at the 0.05 level.

\*\*Statistically significant at the 0.01 level.

<sup>a</sup> The marginal effect of a change in an independent variable on the likelihood of being a wage or salary earner is:

$$\hat{P}_1 = \frac{e^{\beta_0 + \beta_1 x}}{1 + e^{\beta_0 + \beta_1 x}} - \frac{e^{\beta_0}}{1 + e^{\beta_0}}$$

<sup>b</sup> Because of limited dispersion in another race or gender subsample for the ≤ 8th grade education category, reference group is the combined categories of ≤ 8th grade education and some high school.

<sup>c</sup> Dropped from model due to limited dispersion in another race or gender subsample.

<sup>d</sup> Not in model when analyses done by age cohorts.

Reference group is indicated by a hyphen (-) unless otherwise noted above.

TABLE D-3

LOGISTIC REGRESSION COEFFICIENTS OF THE LIKELIHOOD OF BEING A WAGE OR SALARY EARNER, WHITE MEN, MANUSCRIPT 2

Independent Variables	White Men									
	All		25-34		35-44		45-54		55-64	
	Logit Coef.	Marginal Effects <sup>b</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>	Logit Coef.	Marginal Effects <sup>a</sup>
Intercept	2.38**		0.61		0.0308		0.99*		0.26	
HUMAN CAPITAL VARIABLES:										
Education										
< 8th grade education	-0.73**	-0.18	- <sup>b</sup>	- <sup>b</sup>	- <sup>b</sup>	- <sup>b</sup>	-0.78*	-0.19	-0.22	-0.052
Some high school	-	-	- <sup>b</sup>	- <sup>b</sup>	- <sup>b</sup>	- <sup>b</sup>	-	-	-	-
Completed high school	-0.068	-0.017	0.2006	0.049	0.57	0.13	0.25	0.059	-0.64	-0.16
Post high school frng. or some college	-0.25	-0.062	-0.11	-0.027	0.15	0.036	0.307	0.072	-0.505	-0.12
College graduate	0.11	0.027	0.606	0.14	0.56	0.13	-0.14	-0.034	-0.40	-0.097
In poor health	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>	- <sup>c</sup>	-3.44*	-0.54	-10.2003	-0.64
SOCIOECONOMIC VARIABLES:										
Marital Status										
Married	0.43**	0.099	0.47*	0.11	0.72*	0.16	-0.17	-0.042	0.11	0.025
Child(ren) under 6 in family unit	-0.30	-0.074	-0.28	-0.07	-0.21	-0.052	- <sup>d</sup>	- <sup>d</sup>	- <sup>c</sup>	- <sup>c</sup>
Age	-0.044**	-0.0107	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>	- <sup>e</sup>

\*Statistically significant at the 0.05 level.

\*\*Statistically significant at the 0.01 level.

<sup>a</sup>The marginal effect of a change in an independent variable on the likelihood of being a wage or salary earner is:

$$\hat{P}_1 = \frac{e^{\beta_0 + \beta_1 x}}{1 + e^{\beta_0 + \beta_1 x}} - \frac{\beta_0}{1 + e^{\beta_0}}$$

<sup>b</sup>Because of limited dispersion in the < 8th grade education category, reference group is the combined categories of < 8th grade education and some high school.

<sup>c</sup>Dropped from model due to limited dispersion.

<sup>d</sup>Dropped from model due to limited dispersion in another race or gender subsample.

<sup>e</sup>Not in model when analyses done by age cohorts.

Reference group is indicated by a hyphen (-) unless otherwise noted above.

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