Racial and Ethnic Differences in Pension Wealth

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Abstract

It is well established that black and Hispanic workers accumulate less wealth for retirement than white workers. Earlier studies find that the shortfall in wealth among the minority workers cannot be entirely accounted for by their lower earnings. This study provides evidence on whether racial and ethnic differences in private pension coverage and benefit levels contribute to the wealth differentials. Using data from the Current Population Survey, Survey of Consumer Finances and the Health and Retirement Survey, several consistent findings emerge. First, most of the racial and ethnic differences in pension benefit levels are accounted for by differences in worker characteristics. Second, among workers who are covered by a private pension, racial and ethnic differences in pension asset accumulation are quite small. Finally, exclusion of pension wealth has only a small effect on the comparison of average levels of wealth across racial and ethnic groups, but has a substantial effect for comparisons at the bottom of the wealth distribution. Overall, the findings suggest that, holding worker characteristics constant, minority and majority workers accumulate very similar levels of wealth. Also, the accumulation of pension assets is a particularly important source of retirement wealth for those at the low end of wealth distribution.

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1. Introduction.

Black and Hispanic Americans earn less and have less wealth than white Americans. Lower earnings in the black and Hispanic population are an obvious explanation for their lower wealth. However, several studies document that the gap in wealth is far larger than the gap in earnings. For example, Oliver and Shapiro (1995) report that among dual earner married couples, black households earn 77 percent of white households but have only 19 percent of white households' net financial assets. Menchik and Jianakoplos (1997) report that black household income averages 63 percent of white household income, but black households average only 10 to 25 percent of the wealth held by whites.[1] While Hispanic households average 70 percent of white household income,[2] Smith (1995) reports that Hispanic households have only 30 percent of white household wealth. Moreover, Blau and Graham (1990) report that as much as three-quarters of the wealth gap between blacks and whites cannot be explained by differences in income and other demographic factors.

The reasons that blacks and Hispanics accumulate less wealth relative to income are not well understood. Some hypotheses that have been proposed include: (1) differences in inheritances and/or the desire to leave a bequest; (2) differences in life-expectancies; (3) differences in labor market uncertainty that lead to different investment decisions and rates of return; and (4) differential access to housing and loan markets that can affect the ability to build home equity.[3]

One issue that has received little attention in the literature is how the accumulation of pension wealth differs between blacks, Hispanics and whites. Given that blacks and Hispanics acquire less wealth than whites, it is interesting to ask whether they acquire less pension wealth. Unfortunately, most of the aforementioned studies ignore pension and Social Security wealth. One exception is Smith (1995), who argues that ignoring Social Security and private pension wealth has "an enormous impact on

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[1] Other studies that find that the earnings gap is less than the wealth gap include Blau and Graham (1990), Oliver and Shapiro (1989), and Snyder (1989).

[2] This ratio was derived from the 1996 *Statistical Abstract of the United States*.

[3] These hypotheses are mentioned by Blau and Graham (1990), Smith (1995), or Menchik and Jianakoplos (1997).

racial and ethnic disparities ... As the wealth concept is expanded these disparities narrow."[4] Adding Social Security and private pension wealth increases the black/white ratio of mean wealth from .27 to .46 and the Hispanic/white ratio from .35 to .43. If only pension wealth is added to net worth, the black/white ratio of mean wealth increases to .37 and the Hispanic/white ratio decreases to .32.

The purpose of this study is to determine the extent of racial and ethnic differences in pension wealth and the reasons for these differences. In section 2, we show that black and Hispanic retirees received substantially less income from pensions than white retirees in the mid-1990s. The link between pension coverage rates and income to prior labor market experience is investigated in section 3. This section also shows that most of the differences in pension coverage and benefit accumulation can be accounted for by differences in labor market characteristics. In section 4, we examine the impact of private pensions on racial and ethnic differences in total wealth.

2. Pension Income Among the Elderly.

To provide some background on the extent of racial and ethnic differences in pension coverage and generosity among past generations of workers, we turn first to the September 1994 Current Population Survey (CPS). The September 1994 CPS data are used because of the supplemental questions asked regarding whether people were ever covered by an employer pension in the past, and the amount of pension income currently being received. The sample is restricted to people aged 55 and over who were previously employed but not in the labor force at the time of the survey. Summary statistics are provided in table 1. The table reports the percentage of people that are currently receiving benefits from an employer pension. These statistics understate the fraction of people that were covered by a pension for at least two reasons: First, a worker may have received a pre-retirement lump sum distribution from a pension and not be currently receiving benefits. Second, a worker may have a balance in a defined contribution plan that was not annuitized. In the case of defined contribution plans, the CPS measures benefits only if the account balance was annuitized.

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[4] Smith (1995), p. S179.

The results indicate that, among people over age 55 and out of the labor force, 33.5 percent of whites are receiving benefits, 26.1 percent of blacks, and 18.6 percent of Hispanics.[5] When the measure of pension coverage is broadened to include people that report coverage by a pension plan at any time in the past, coverage rates grow to 45.9 percent among whites, 37.1 percent among blacks, and 27.0 percent among Hispanics.

Since later sections of the paper discover that public sector employment contributes to racial and ethnic differences in pension coverage, table 1 also provides statistics by public sector employment status.[6] Blacks are more likely and Hispanics less likely than whites to be employed in the public sector. Among those whose longest job was in the public sector, there is no statistically significant difference (at the .10 level) between whites and blacks, or whites and Hispanics in terms of their pension coverage. This result holds true whether coverage is measured by current receipt of pension income or coverage at any time in the past. The differences are, however, statistically significant in the private sector.

Table 2 lists the average annual benefit among people receiving a pension. These results indicate no statistically significant difference in annual benefits, though the small sample sizes for blacks and Hispanics generate rather imprecise estimates of the mean benefit level. When the analysis is done separately by public sector employment status, blacks are found to have significantly lower benefits than whites only among public sector employees. There is no statistically significant difference between Hispanic and white benefits in either the public or private sector.

The above analysis reveals that, among elderly people with prior labor force experience that are currently out of the labor force, pension coverage is significantly lower among blacks and Hispanics than whites. However, given that a previously employed person is covered by a pension, differences in benefit levels across the racial and ethnic groupings are difficult to discern in the September 1994 CPS

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[5] The definition of Hispanic we employ includes only white Hispanics. Black Hispanics are defined as blacks. Asians and American Indians are excluded from the sample.

[6] A person is classified as a public sector employee if his or her "longest job" was in the public sector.

data. The small sample sizes for the minority groups, however, cast some doubt on the precision of the estimates.

3. Comparisons of Pension Income at Retirement.

This section provides a comparison of expected pension benefits at retirement across racial and ethnic groups. The analysis relies on Wave I of the Health and Retirement Survey (HRS) and the 1992 Survey of Consumer Finances (SCF). Wave I of the HRS was started in 1992 and surveyed persons born between 1931 and 1941 about their health, retirement and economic status.[7] The survey included 12,652 people in 7,702 households. Our analysis restricts attention to "age-eligible" respondents (i.e. those born between 1931 and 1941) who worked more than 1000 hours in the past year, whose wage rate equals or exceeds the minimum wage of $4.25, are not self-employed, and who can be classified as either white, black, or Hispanic. This results in a sample of 4,458 individuals. For the analysis on pension benefits, restricting the sample to those covered by a pension, currently or in the past and eliminating those with missing information on the necessary pension questions reduces the sample to 2,338 individuals.

The 1992 SCF provided detailed information on the financial status of U.S. households. The entire sample includes responses from 6,470 persons in 3,906 households, of which 1,450 households are an oversample of wealthier households. The SCF imputes values for missing data. To capture the underlying variance associated with the imputed values, each observation is repeated 5 times in the data set to reflect the underlying variance in imputed values.[8] Following the recommendation of Montalto and Sung (1996), all 5 observations are employed in our analysis. The resulting sample consists of 32,350 observations. Our analysis is restricted to individuals between the ages of 21 and 55 working more than 1000 hours per year, whose wage rate equals or exceeds the minimum wage of $4.25, are not

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[7] The text describing the data and benefit calculations borrows heavily from our earlier study, Even and Macpherson (1998).

[8] That is, for example, if income is imputed for an individual, the value of income will take on 5 different values for that person to reflect the variance in the estimate of income. If income is not imputed for an individual, it will take the same value for that person 5 times.

self-employed, and who can be classified as either white, black, or Hispanic. This results in a sample of 9,863 observations.[9] For the analysis on pension benefits, restricting the sample to those covered by a pension, currently or in the past, and eliminating those with missing information on the necessary pension questions reduces the sample to 6,032 individuals.

Pension Coverage.

Table 3 reports descriptive pension statistics from the HRS and SCF.[10] In comparison to the September 1994 CPS data examined earlier, coverage rates are higher for each racial and ethnic group in both the HRS and SCF. There are at least two plausible explanations for this. First, the HRS and SCF worker cohorts were born later than the CPS cohorts of people over age 55 who were out of the labor force. As a consequence, the CPS cohorts were in the labor market in earlier years when pension coverage was lower. Second, coverage by a defined contribution plan is missed in the CPS data unless it is converted into some form of annuity. In the HRS and SCF data, anyone with an account balance in a defined contribution plan is counted as covered.

The percentage of workers covered by a pension with their current employer is higher in the HRS than in the SCF for each racial and ethnic group. Part of the reason for this is that the HRS contains only workers in the 51-61 age group whereas the SCF contains workers between the ages of 21 and 55. Since pension coverage generally rises with worker age, the inclusion of younger workers in the SCF should result in a lower coverage rate.

Table 3 also presents statistics for a broader measure of pension coverage -- whether a person is either currently covered by a pension or expects to receive benefits from a past pension. While these coverage statistics are substantially higher than those based on current coverage alone, the pattern of differences in coverage across racial/ethnic groups is similar.

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[9] Notice that the sample size of 9,863 includes many individuals five times. However, since some of the variables that we delete on may be imputed (e.g. if the wage rate is less than $4.25), some individuals will not appear five times. The imputed value for a given variable may cause the observation to be excluded in some cases but not in others.

[10] Since the HRS and SCF both over-sample some groups, all statistics and regressions rely upon the sample weights provided in the surveys.

While the level of pension coverage differs across the HRS and SCF, several patterns persist and are worth noting. First, coverage rates are lowest among Hispanics and highest among whites. Second, as is true for the population as a whole, coverage is higher for men than women among whites. However, in the Hispanic population, women have higher pension coverage than men. In the black population, coverage is higher for men than women in the HRS, but the reverse is true in the SCF.

Pension Benefits.

A comparison of pension saving across racial and ethnic groups requires a common measure across different types of pensions. To achieve this, we compute the annuity value of each pension type for a retirement at age 65. For defined benefit plans, this requires that the benefit formula be applied to a forecast of earnings and years of service at age 65. For defined contribution plans, account balances are projected for a retirement at age 65 and then an annuity factor is applied to convert the balance into a single life annuity. The methods employed are identical to those in Even and Macpherson (1998). The data appendix provides a summary of the methodology and assumptions.

A list of mean benefit levels is presented in table 4 by sex and race/ethnicity. Benefits from both past and present employers are summed and the results are presented for both the HRS and SCF. Without restricting the sample to workers expecting a pension from a current or past employer, blacks and Hispanics expect substantially less than whites in pension benefits. In the HRS data, whites expect an age 65 retirement benefit averaging $11,694; blacks expect $7,185; and Hispanics expect only $4,306. In the SCF data, the corresponding statistics are $16,967; $14,152, and $9,504. In both data sets, the shortfall in black and Hispanic benefits relative to that of whites is statistically significant at the .05 level. However, when the analysis is done separately by sex, the shortfall for blacks and Hispanics is statistically significant at the .05 level only for men in both data sets. In fact, black females have expected benefits that are significantly higher than white women in the SCF data.

When the analysis is restricted to workers covered by a pension, a different picture emerges. Among men, blacks and Hispanics expect lower pension benefits than whites but the differences are not

statistically significant at the .05 level. Among women, mean benefits are consistently lowest among whites in the two data sets but the differences are not statistically significant.

The major conclusions to be drawn from the above analysis are (i) in the population as a whole, blacks and Hispanics expect lower levels of pension benefits; (ii) the shortfall in black and Hispanic pension benefits relative to whites is largely a male phenomenon; and (iii) given that a pension benefit is expected, blacks and Hispanics expect pension benefits that are comparable to those expected by whites.

The fact that expected pension benefits among workers expecting a pension are similar across racial and ethnic groups is somewhat surprising given that blacks and Hispanics have lower earnings on average. This might suggest that blacks and Hispanics devote a larger share of their earnings to pension saving. To determine whether this is the case, we control for the effect of labor market experience and earnings history and pension accumulation.

To examine how pension accumulation compares across racial and ethnic groups, focus is placed on workers currently covered by a pension plan and the features of the plan. Pension coverage from past employers is not considered because too little is known about the provisions of past plans in the HRS and SCF data to calculate a pension saving rate. In table 5, estimates of average pension benefits are presented for workers currently covered by a pension. Since these estimates exclude benefits from pensions with prior employers, the mean benefit levels are slightly lower than those presented in table 4. Nevertheless, excluding benefits from past pensions has little effect on the patterns observed earlier. Mean pension benefits are highest among whites and lowest among Hispanics; racial and ethnic differences are more pronounced among men than women; and racial and ethnic differences in expected pension benefits are relatively modest among workers covered by a pension.

To provide some indication of the fraction of income replaced and the level of pension saving, two additional pension statistics are presented in table 6. First, the replacement rate represents the age 65 pension annuity as a percentage of projected income at age 65. Second, the generosity rate represents the percentage of age 65 income replaced per year of service with the employer. The generosity rate is

frequently included as part of a defined benefit formula. For defined contribution plans, the higher is the saving rate, the higher the implied generosity rate. A comparison of replacement rates removes the effect of salaries on pension benefits. That is, for example, if two workers are in identical defined benefit or defined contribution plans but one worker has twice the income of the other, her benefit will be twice as high but her replacement rate will be identical. A comparison of generosity rates helps control for the effect of both salaries and years of service on benefits.

The evidence on replacement rates in both the HRS and SCF indicates that, for both men and women, blacks have higher replacement rates than whites. The evidence on Hispanics in the two data sets is mixed, however. In the HRS, there is no statistically significant difference in replacement rates between Hispanics and whites for either men or women. In the SCF, replacement rates are higher for Hispanics than whites for both men and women.

The range of replacement rates is generally higher in the SCF than the HRS. This could indicate that the pensions held by younger workers are more generous since the SCF represents a younger sample of people. Alternatively, it might indicate that the assumptions used to forecast benefits are too optimistic in terms of how the future will affect retirement benefits. For example, since the forecasts assume no employee turnover and no expenditure of pension savings prior to retirement, the forecast of benefits may be too high. The consequences of this will be greater in the SCF since it has younger workers.

Another possible explanation for differences in replacement rates could be differential time with the employer at the time of the survey. To control for the effect of years of service on the measure of pension saving, generosity rates (i.e. the replacement rate divided by years of service) are compared. In both the HRS and SCF, black men accumulate a larger fraction of salary per year of service than white men. Among Hispanic men, the results differ between the HRS and SCF. In the HRS, there is no significant difference between the generosity of white and Hispanic men. In the SCF, Hispanic men have significantly higher generosity rates. The HRS and SCF results on generosity rates also differ for

women. In the HRS, black and Hispanic women have generosity rates that are not significantly different than that of white women. In the SCF, black and Hispanic women have significantly higher generosity rates. The different results across data sets could reflect the fact that the SCF sample is younger than the HRS sample.

Given that black men and women have higher pension generosity rates than their white counterparts, it is natural to ask why this is the case. In an attempt to provide an understanding of the source of the differential, a model of generosity rates was estimated to allow for a decomposition of the racial difference in generosity rates. Included in the list of explanatory variables for generosity rates were the worker's industry, occupation, firm and plant size, union status, income, experience, education age, and the type of plan (i.e. defined benefit, defined contribution, or both). The regression model for generosity rates had statistically significant explanatory power but could explain only a small fraction of the variation in generosity rates across workers. [11] Moreover, use of the regression coefficients for white men or women to perform a decomposition of racial and ethnic differences in generosity rates revealed that virtually none of the gap in generosity rates can be explained.

Since the explanatory variables available in the data sets cannot explain the higher pension generosity rates of blacks, it is worth speculating as to what excluded variables might be responsible. One obvious omission is whether the pension is a private or public pension plan. To a certain degree, this will be accounted for by the industry controls in the model but these are by no means perfect. Another possibility is that, in the pensions where workers are given control over the decision of how much to save, blacks may choose to save a larger fraction than whites. This is consistent with evidence found in other work (Even and Macpherson 1998) where, *ceteris paribus*, black men are found to contribute more to 401(k) plans than white men.

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[11] The statistical significance of the regressions was based on an F-test of the null hypothesis that all coefficients in the regression, with the exception of that on the intercept, were equal to zero. For white men and women, the F-tests rejected the null at the .001 significance level. The conclusion that only a small fraction of the variation in generosity rates can be accounted for by the explanatory variables is based on the fact that the adjusted R-squared in the regression equations ranged between .06 and .18.

4. Pension and Racial Differences Wealth.

The evidence presented in the previous section suggests that, controlling for worker characteristics, blacks and Hispanics are as likely as whites to have a pension. Also, among workers with a pension, blacks actually save a larger fraction of their salaries. While pension income is an important source of retirement income, it is important to consider all the wealth that has been accumulated to measure differences in the standard of living beyond retirement.

In this section, we report on racial and ethnic differences in wealth using the SCF and HRS data. Wealth in both data sets is the sum of all financial assets (stocks, bonds, home equity, checking and saving accounts balances) less non-mortgage debt. We also generate an estimate of pension wealth at the worker's current age. For defined contribution plans, pension wealth includes the account balance for pensions with current and past employers. For defined benefit plans, pension wealth includes the present value of the annuity that is promised if the worker was to retire at age 65 but terminate employment today. For this calculation, we compute the present value of the defined benefit annuity based on years of service at the worker's current age but use the estimate of the workers' real earnings at retirement. Using estimates of real earnings at retirement (instead of current earnings) assumes that workers accumulate pension savings in a defined benefit plan according to an "implicit contract model" instead of a "legal liability" model. Among others, Ippolito (1985) provides evidence that the legal theory of pension accumulations in defined benefit plans is not consistent with the manner in which defined benefit plans affect earnings profiles.[12] Since it is difficult to divide financial assets between spouses in married households, all the net worth calculations for couples pool financial and pension assets of the partners.

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[12] The annuity factors and interest rates necessary for estimating the present value of the annuity are identical to those described in the data appendix.

Table 7 provides a summary of wealth with and without pensions by racial and ethnic groups. To provide some indication of the distribution of wealth, we also report "decile means" for non-pension wealth, pension wealth, and total wealth.[13] By construction, the decile means of the parts (non-pension wealth and pension wealth) sum to the whole (total wealth).

Several patterns stand out in the data. First, total wealth of blacks and Hispanics is substantially lower than that of whites in both the HRS and SCF. In the HRS, the mean of total wealth is $134,740 among blacks, $135,433 among Hispanics and $282,597 among whites. Thus, among workers approaching retirement (i.e. 51-61 year olds) whites have accumulated nearly twice as much in total wealth as blacks and Hispanics. The mean level of total wealth in the SCF among whites, blacks, and Hispanics are respectively $139,451; $84,296; and $62,101. As in the older HRS sample, total wealth of blacks and Hispanics is approximately one half of that for whites. Given that the SCF sample consists of workers of younger workers than the HRS, the lower level of wealth in the SCF sample is not surprising.

The black-white wealth ratios we find in the HRS and SCF are substantially higher than those found in earlier studies. For example, Menchik and Jianakoplos (1997) reports that, in the 1989 Survey of Consumer Finances, the black-white ratio of non-pension household wealth is .23. Smith (1995) uses the 1992 HRS and finds a black-white ratio of non-pension household wealth of .27. Both of these estimates are substantially lower than reported here. The most significant difference between our study and these is that we restrict our analysis to people who work 1000 or more hours per year and earn a wage of at least $4.25 per hour. The aforementioned studies do not exclude households on the basis of employment status. Since the black population has a larger fraction of people that are unemployed or out of the labor force, our analysis excludes a larger fraction of people with low levels of income (and

[13] To compute a "decile mean", we first rank people according to their total wealth. We then take all workers within 5% (plus or minus) of the relevant percentile of interest. The means of the variables of interest (non-pension wealth, pension wealth, and total wealth) are then computed for this sub-group. For example, to compute the decile mean at the 25th percentile, we take all workers that have total wealth that ranks them between the 20th and 30th percentile. For this sub-group, means are calculated for each of the wealth measures.

wealth) in the black population.[14] The reason we exclude the part-time and non-employed population is that we are interested primarily in the role of pensions on the wealth distribution.

To examine how pension saving affects the distribution of wealth, wealth ratios are computed with and without pension wealth included. When pension wealth is added to the wealth measure, the black-white ratio of mean wealth rises from .45 to .48 in the HRS and from .49 to .60 in the SCF. For the Hispanic-white comparison, adding pension wealth decreases the wealth ratio in the HRS from .53 to .48 but has not effect on the ratio in the SCF.

While the addition of pension wealth has relatively modest effects on the ratio of black and Hispanic wealth at the mean, the effects differ substantially across the wealth distribution. For all the racial and ethnic groups, pension wealth is a larger fraction of total wealth at the lower end of the wealth distribution. Moreover, at the lower end of the wealth distribution, black and Hispanic workers have a larger fraction of wealth in pension assets than whites. As a consequence, the addition of pension wealth has a greater effect on black and Hispanic wealth relative to whites among households at the lower end of the wealth distribution.

The large racial and ethnic differences in wealth accumulation could be the result of different earnings, age, or other factors that might influence saving behavior. To examine why wealth accumulation among blacks and Hispanics are lower, a regression approach is followed. Table 8 presents the results of wealth regressions for blacks, whites, and Hispanics pooled. Dummy variables are included to indicate whether a person is black or Hispanic. The model is estimated with and without controls for characteristics that might influence wealth accumulation. The additional controls in the regression include earnings and its square, age and its square, an interaction between age and earnings, education, marital status, and union status. For workers with partners that have earnings, we also include spousal earnings and its square (set equal to zero for single workers and for spouses that are self-employed), a

[14] In 1996, the employment-population ratio for the population over age 16 was 64.1 among whites and 57.4 among blacks. The unemployment rates for the civilian non-institutionalized population were 4.7 percent among whites and 11.1 percent among blacks.

dummy variable indicating whether a person has a spouse that is self-employed, the spouse's years of education and its square, and the spouses earnings interacted with age. For single workers, all the spousal variables are set equal to zero.

For each of the three wealth measures (non-pension, pension, and total wealth), we report the results of a regression of the wealth measures on a black and Hispanic dummy with and without controls for household characteristics. The results from the HRS regressions with only the black and Hispanic dummies match the results on average levels of wealth found in the table 7. The coefficients on racial and ethnic dummies indicate the size of the racial or ethnic gap relative to the white reference group. Including the control variables substantially reduces the size of the coefficients on the black and Hispanic dummies. For example, in the non-pension wealth equation, the coefficient on the black dummy variable drops from -112,016 to -38,859 when controls for household characteristics are included. The coefficient on the Hispanic dummy drops from -95,669 to -15,144. Consequently, approximately 65 percent of the shortfall in black non-pension wealth relative to whites can be accounted for by the controls included in the regression. For Hispanics, approximately 85 percent of shortfall can be explained.

When total (pension plus non-pension) wealth is considered, the results are quite similar. Approximately 70 percent of the black-white gap in total wealth is accounted for by differences in household characteristics; approximately 80 percent of the Hispanic-white gap can be explained.

After controlling for worker characteristics, pension wealth has relatively little effect on racial and ethnic differences in average wealth. Given the regression coefficients and assuming average characteristics, blacks are estimated to have 81 percent as much non-pension wealth as whites, and 83 percent as much total wealth; Hispanics are estimated to have 93 percent as much non-pension wealth as whites, and 90 percent as much total wealth. However, in the case of Hispanics, the shortfall in non-pension wealth and total wealth relative to whites is statistically insignificant after controlling for household characteristics.

In the SCF data, the absolute gap in wealth is much smaller than in the HRS data. This is expected given the younger ages of the workers and the smaller amounts of wealth accumulated. In the SCF, blacks and Hispanics have a statistically significant shortfall in non-pension and total wealth relative to whites. However, after controlling for household characteristics, there is no statistically significant shortfall for blacks or Hispanics. Thus, in the younger sample, while there are substantial racial and ethnic differences in wealth accumulation, the differences can be entirely accounted for by a small number of observed household characteristics.

5. Summary and Conclusions.

Several studies establish that blacks and Hispanics have less wealth than whites. This study examined the extent to which pensions contribute to differential wealth accumulation. In our analysis of the September 1994 CPS, we demonstrated that, among people out of the labor force over age 55, blacks and Hispanics are substantially less likely to have pension coverage than whites. However, among those receiving a pension, expected benefits among black and Hispanic workers are quite similar to whites. The lack of information on prior labor market history in the CPS data, however, preclude an investigation of the source of these patterns.

Using data from the 1992 Survey of Consumer Finances (SCF) and the 1992 Health and Retirement Survey (HRS), we examine prospects for racial and ethnic differences in pension wealth among people working in 1992. The HRS and SCF are similar in that they both provide extensive information on pension plans and other financial assets. The major difference is that the HRS focuses on workers approaching retirement (aged 51-62). Our subsample of the SCF included workers between the ages of 21 and 55.

The analysis of the HRS and SCF revealed that blacks and Hispanics expect substantially less in pension benefits than whites in the male, but not the female, population. However, when the analysis is

restricted to workers expecting a pension benefit, benefits among black and Hispanic workers are quite similar to those among white workers. This is similar to the result found in the September 1994 CPS for retired people. We also find some evidence that, when covered by a pension, black and Hispanic men and women accumulate a larger fraction of their salary in pensions, holding worker characteristics constant.

Finally, this study examined the importance of including pension saving in calculating racial and ethnic differences in wealth. Comparing mean levels of wealth (including pension wealth), blacks and Hispanics have approximately one-half as much wealth as whites. The inclusion of pension wealth has little effect on the average wealth position of the minority groups relative to whites. However, examination of wealth differentials at different points of the wealth distribution reveals that pensions reduce the black-white and Hispanic-white wealth gap primarily at the bottom end of the wealth distribution. This reflects the fact that the fraction of wealth held in pensions is largest among low wealth households and this pattern is more pronounced in the black and Hispanic populations.

While Hispanics and blacks accumulate substantially less wealth than whites, our study finds that differences in earnings, education, spousal earnings, and other measures of household characteristics can account for virtually all of the racial and ethnic differences in wealth accumulation. Moreover, this result holds whether pension wealth is included or excluded from the measure of total wealth. Thus, the evidence suggests that differences in average wealth are neither amplified or dampened by racial or ethnic differences in pension saving.

What conclusions can be drawn from our study? First, while blacks and Hispanics accumulate substantially less wealth than whites, our results suggest that the majority of the differential can be accounted for by their lower earnings and other personal characteristics. One need not rely on racial or ethnic differences in attitudes about saving, life expectancy, or family structure to explain the majority of the difference in wealth accumulation. It should be emphasized, however, that our results apply to the

working population only. To the extent that blacks and Hispanics are less likely to be employed and this reduces wealth accumulation, this conclusion might not apply.

A second conclusion to be drawn is that pension saving does not appear to amplify or dampen mean differences in the accumulation of pension wealth. However, the impact of pension saving varies across the wealth distribution. In particular, since there are more black and Hispanic workers in the lower tail of the income distribution where wealth accumulation is very low, pension saving could have a substantial effect on the wealth positions of the minority groups. Our evidence suggested that 51-61 year old blacks and Hispanics in at the tenth percentile of their group-specific wealth distribution had less than $300 of non-pension wealth. For whites, the tenth percentile had over $12,000 of non-pension wealth. The most meager pension plan would substantially improve the relative wealth position of blacks and Hispanics at the lower end of wealth distribution.

References

Blau, Francine D. and Graham, John W. "Black-White Differences in Wealth and Asset Composition" *Quarterly Journal of Economics* 105 (May 1990): 321-39.

Employee Benefit Research Institute, *EBRI Databook on Employee Benefits*, 4th edition, 1997.

Even, William E., and Macpherson, David A. "The Impact of Rising 401(k) Pension Coverage on Future Pension Income.* Report submitted to Pension and Welfare Benefits Administration, U.S. Department of Labor, 1998.

Ippolito, Richard A. "The Labor Contract and True Economic Pension Liabilities," *American Economic Review* 75 (December 1985): 1031-43.

Menchik, Paul L. and Jianakoplos, Nancy Ammon. "Black-White Wealth Inequality: Is Inheritance the Reason?" *Economic Inquiry* 35 (April 1997): 428-42.

Montalto, Catherine P., and Sung, Jaimie. "Multiple Imputation in the 1992 Survey of Consumer Finances," *Financial Counseling and Planning* 7 (1996): 133-146.

Oliver, Melvin L. and Shapiro, Thomas M. *Black Wealth/White Wealth: A New Perspective on Racial Inequality*, New York: Routledge, 1995

Smith, James P. "Racial and Ethnic Differences in Wealth in the Health and Retirement Study." *Journal of Human Resources* 30 (Suppl. 1995): S158-83.

Snyder, Donald C. "A Data Base with Income and Assets of New Retirees by Race and Hispanic Origin." *Review of Black Political Economy* 17 (Spring 1989): 73-81.

Society of Actuaries Group Annuity Valuation Task Force, "1994 Group Annuity Mortality Tables and 1994 Group Reserving Table," *Transactions of the Society of Actuaries* 107 (1996): 865-913.

Data Appendix: Estimation of Retirement Benefits in the HRS and SCF.

In the Health and Retirement Survey (HRS) and the Survey of Consumer Finances (SCF), information is provided on pension coverage from current and past jobs. For current jobs, both data sets indicate the type of plan(s) that the worker has, the number of years in the plan, and other information that we use to forecast future retirement income at age 65.

In the case of DB plans, workers are asked when they expect to retire and the benefits they will receive at retirement. Benefits may be reported as either a percentage of final pay or as an absolute amount. To estimate what benefits are to be received at age 65, the following steps are taken. First, we project earnings at retirement by assuming a 1.1 percent annual growth rate in real wages. To translate this into a benefit at age 65, a "generosity factor" (the percentage of final pay replaced per year of service) is computed by dividing expected benefits at retirement by the product of years in plan and salary at retirement.[15] Benefits for an age 65 retirement are calculated as the product of the age 65 value of forecast earnings, number of years of service at 65, and the generosity factor.

For DC plans, information is provided on the current balance in the plan and the amount that the employer and employee contribute. To project the balance in the pension plan at age 65 in 1992 dollars, the current balance is compounded forward with real interest rates to age 65. The real interest rate is assumed to be equal to the yield on indexed Treasury bills in February 1998 (3.7 percent). Between 1992 and the year that the worker reaches age 65, it is assumed that both employer and employee contributions remain at the same percentage of pay and that real salary growth continues at 1.1 percent.

All workers are assumed to live to age 65 with certainty. Benefits from DC plans are converted into a single life annuity by applying annuity factors to the projected DC balance at age 65. In the case of benefits that a worker expects to receive from prior pension plans, both the HRS and SCF indicate the

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[15] Our methodology assumes that people report expected benefits in 1992 dollars.

type of pension (i.e. DB or DC). However, when a lump sum was received or a person is currently receiving a benefit, only the HRS provides information on the type of pension. In both cases, it is possible to tell whether a person received a lump sum distribution at some point in the past, is currently receiving benefits, or expects to receive benefits in the future. In the HRS, workers receiving lump sums indicate whether they saved or spent it. Only those balances that were saved are counted as benefits from past pensions. Unfortunately, in the SCF, no such information is available. To adjust for this, estimates of the percentage of workers that save lump sum distributions by age of receipt, provided by EBRI (1997), are used to randomly assign workers into categories indicating whether they saved their lump sum distributions. [16] For those with a lump sum that was saved, an equivalent age 65 annuity is computed as follows: (1) the lump sum is compounded forward to 1992 assuming historical interest rates;[17] (2) the 1992 balance is compounded forward from 1992 to the year the person reaches age 65 using an assumed real interest rate of 3.7 percent (the rate on indexed Treasury bills); (3) the lump sum is converted into an annuity at age 65.[18] The annuity calculation assumes constant nominal payments and uses an assumed nominal interest rate beyond 1992 equal to that on 10 year Treasury bills in 1992 (7.0 percent) and the mortality table for group annuitants provided by the Society of Actuaries.[19] Using these assumptions, we estimate that a $100 payment at age 65 would buy a life annuity of $9.63 per year.[20]

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[16] Using table 17.3 of EBRI (1997), we estimated the percentage of workers that used all of their lump sum for either (i) tax qualified saving; (ii) non-tax qualified saving; or (iii) a mix of the two. This is a conservative estimate of the percentage of lump sums saved. The fraction of lump sums saved, by age group, are: 8.3 percent for 16-20 year olds; 21.7 for 21-30 year olds; 35 for 31-40 year olds; 40.2 for 41-50 year olds; 56.8 for 51-60 year olds; 57.6 for 61-64 year olds; and 21.4 for those 65 and over.

[17] Interest rates prior to 1992 (the survey dates in HRS and SCF) are assumed equal to the rates observed on one-year U.S. Treasury bills plus .28 percent. We added .28 percent to the one year treasury rate to allow for the fact that returns on pension contributions will likely reflect interest rates on a longer term investment. The .28 percent per year is one-half of the average premium that 5 year bonds paid relative to one year bonds between 1953 and 1992.

[18] When a worker receives cost-of-living adjustments, the real interest rate is used to compute the annuity rate. Otherwise, nominal rates are used.

[19] The source of the mortality rates is Society of Actuaries Group Annuity Valuation Task Force (1996), Table 13. The group annuitant mortality tables provide gender specific mortality rates. We compute an average mortality rate by taking a weighted average of the gender specific mortality rates where the weights represent the predicted fraction of the population of a given gender based on their mortality experience assuming each sex is half of the population at age 65.

[20] It is worth noting that we ignore differences between DB and DC plans in terms of survivor or disability benefits. In DC plans, the survivor has the right to the account balance. In DB plans, the survivor benefit is generally specified according to some formula tied to the worker's years of service and final salary.

Separate calculations are required for pension benefits that workers have already received or expect to receive from a past job. For workers that report they are currently receiving benefits, we calculate the age 65 equivalent annuity as follows: First, we compute the present value (in 1992 dollars) of benefits received between the starting age and 65. Second, we compute the lump sum cost of a life annuity starting at age 65 equal to the annual benefit paid by the pension. These two parts are added and then converted into an age 65 life annuity. When the benefits are indexed for inflation, appropriate adjustments are made to reflect the growth in nominal benefits over time.[21]

For workers that expect a future benefit, it may be either a lump sum or an annual benefit. For annual benefits that start before age 65, we estimate the expected present value of the annuity assuming the person lives with certainty to age 65 and has survivor probabilities given by the group annuitant mortality tables beyond age 65. For a person that expects to receive benefits starting after age 65, we estimate the expected present value of the annuity (again accounting for survival probabilities beyond age 65) and discount back to age 65. When cost-of-living adjustments are expected with future benefits, appropriate adjustments are made in evaluation of the annuity.

[21] Inflation prior to 1992 is measured by historical movements in the Consumer Price Index. Inflation beyond 1992 is assumed equal to 2.7 percent which equals the difference between the nominal yield on 10 year bonds and the real yield on indexed Treasury bills in 1998. When evaluating an annuity that is indexed for inflation, the real interest rate is used instead of the nominal rate.

Table 1

Pension Recipiency Rates for Persons 55 and Older who are not in the Labor Force*

Racial or Ethnic Group.	% whose longest job was in private sector	t-statistic for equality with white population	% receiving pension benefits	t-statistic for equality with white population	% ever covered by a pension.	t-statistic for equality with white population	Sample Size
White	91.2	--	33.5	--	45.9	--	9,375
Black	85.1	-5.83	26.1	-4.35	37.1	-4.88	825
Hispanic	94.7	2.14	18.6	-5.57	27.0	-6.66	318
Public sector employees							
White	100	--	63.1	--	68.8	--	823
Black	100	--	55.3	-1.66	61.8	-1.55	123
Hispanic	100	--	58.8	-0.36	76.5	0.68	17
Private sector employees							
White	0	--	30.6	--	43.7	--	8,552
Black	0	--	20.9	-5.4	32.8	-5.64	702
Hispanic	0	--	16.3	-5.34	24.3	-6.72	301

* Data source is September 1994 Current Population Survey.

Table 2

Benefits on Main Pension Plan for Persons 55 and Older Receiving Pension Benefits*

Racial or Ethnic Group.	% whose longest job was in private sector	t-statistic for equality with white population	Average Pension Benefit	t-statistic for equality with white population	Sample Size
White	83.5	--	$10,244	--	2,407
Black	68.4	-4.31	$9,293	-0.87	160
Hispanic	83.0	-0.54	$11,680	0.73	47
Public sector employees					
White	100	--	$18,591	--	390
Black	100	--	$12,278	-2.69	47
Hispanic	100	--	$17,084	-0.28	9
White	0	--	$8,629	--	2,017
Black	0	--	$8,052	-0.49	113
Hispanic	0	--	$10,401	0.89	38

* Data source is September 1994 Current Population Survey.

Table 3.

Pension Coverage Rates from Current and Past Employers.

Race/Ethnic	Gender	% Covered by Pension with Current Employer		% Covered by Pension with either Current or Past Employer		Sample Size	
		1992 SCF	1992 HRS	1992 SCF	1992 HRS	1992 SCF	1992 HRS
White	--	60.7	71.9	65.2	81.7	8,349	3,430
Black	--	59.3	68.0	62.8	76.2	1,077	761
Hispanic	--	36.6	57.0	41.6	64.7	715	269
White	Male	62.6	77.0	67.2	88.1	5,926	1,580
Black	Male	58.6	71.6	60.4	80.4	656	438
Hispanic	Male	35.0	52.7	40.6	63.4	527	114
White	Female	57.4	66.0	61.6	74.2	2,300	1,850
Black	Female	60.8	65.2	67.2	72.9	410	323
Hispanic	Female	41.2	63.5	44.3	66.7	187	155

Note: The SCF sample is restricted to wage and salary workers aged 21 to 55 working at least 1,000 hours per year and earning at least the minimum wage. The HRS sample has the same restrictions except the age restriction is 51 to 62.

Table 4.

Projected Benefits at Age 65 from Pensions with Current and Past Employers. *

Racial or Ethnic Group	Gender	All Workers: Average Pension Benefit	All Workers: t-statistic for equality with white population	All Workers: Sample Size	Workers Covered by a Current or Past Employer Pension: Average Pension Benefit	Workers Covered by a Current or Past Employer Pension: t-statistic for equality with white population	Workers Covered by a Current or Past Employer Pension: Sample Size
			1992 HRS				
White	--	11,694	--	3,428	20,169	--	1,979
Black	--	7,185	-4.06	761	19,520	-0.3	274
Hispanic	--	4,306	-4.27	269	13,399	-1.88	85
Male	White	17,590	--	1,848	26,004	--	1,230
Male	Black	11,500	-2.94	323	25,150	-0.25	141
Male	Hispanic	4,720	-4.72	155	15,509	-1.93	48
Female	White	4,841	--	1,580	10,357	--	749
Female	Black	3,813	-1.41	438	12,778	1.41	133
Female	Hispanic	3,680	-0.86	114	10,605	0.09	37
			1992 SCF				
White	--	16,967	--	8,181	26,259	--	5,173
Black	--	14,152	-3.18	1,009	23,458	-2.18	608
Hispanic	--	9,504	-6.97	673	24,953	-0.67	251
Male	White	19,350	--	5,807	28,987	--	3,817
Male	Black	14,475	-3.95	599	25,574	-1.89	331
Male	Hispanic	9,815	-7.23	507	25,720	-1.39	190
Female	White	11,310	--	2,251	18,590	--	1,310
Female	Black	14,156	2.56	399	21,350	1.71	272
Female	Hispanic	8,519	-1.67	165	22,663	1.26	60

* The SCF sample is restricted to wage and salary workers aged 21 to 55 working at least 1,000 hours per year and earning at least the minimum wage. The HRS sample has the same restrictions except the age restriction is 51 to 62.

Table 5.

Projected Benefits at Age 65 from Pensions with Current Employers.*

Racial or Ethnic Group	Gender	All Workers: Average Pension Benefit	All Workers: t-statistic for equality with white population	All Workers: Sample Size	Workers Covered by a Current Employer Pension: Average Pension Benefit	Workers Covered by a Current Employer Pension: t-statistic for equality with white population	Workers Covered by a Current Employer Pension: Sample Size
		1992 HRS					
White	--	9,367	--	3,430	19,495	--	1,639
Black	--	5,328	-4.18	761	17,225	-1.03	227
Hispanic	--	3,678	-3.75	269	12,669	-1.93	75
Male	White	13,689	--	1,850	24,440	--	1,015
Male	Black	7,754	-3.31	323	20,820	-1.05	112
Male	Hispanic	4,061	-4.02	155	14,679	-1.84	43
Female	White	4,339	--	1,580	11,173	--	625
Female	Black	3,432	-1.29	438	13,200	1.07	115
Female	Hispanic	3,099	-0.95	114	9,970	-0.38	32
		1992 SCF					
White	--	16,200	--	8,181	26,940	--	4,802
Black	--	13,770	-2.78	1,009	24,362	-1.93	571
Hispanic	--	9,401	-6.44	673	27,993	0.5	223
Male	White	18,538	--	5,807	29,847	--	3,549
Male	Black	14,185	-3.57	599	25,981	-2.08	321
Male	Hispanic	9,680	-6.79	507	30,005	0.06	162
Female	White	10,615	--	2,251	18,780	--	1,207
Female	Black	13,626	2.78	399	22,813	2.38	245
Female	Hispanic	8,519	-1.29	165	22,663	1.2	60

Note: The SCF sample is restricted to wage and salary workers aged 21 to 55 working at least 1,000 hours per year and earning at least the minimum wage. The HRS sample has the same restrictions except the age restriction is 51 to 62.

Table 6.

Generosity and Replacement Rates for Pension with Current Employer.

Racial or Ethnic Group	Gender	Generosity Rate**	t-statistic for equality with white population	Replacement Rate***	t-statistic for equality with white population	Sample Size
				1992 HRS		
White	--	0.012	--	0.41	--	1,640
Black	--	0.014	2.13	0.48	2.16	227
Hispanic	--	0.011	-0.67	0.35	-1.29	75
White	Male	0.013	--	0.46	--	1,015
Black	Male	0.016	2.41	0.55	1.88	112
Hispanic	Male	0.011	-1.13	0.37	-1.32	43
White	Female	0.011	--	0.33	--	625
Black	Female	0.012	0.89	0.41	1.9	115
Hispanic	Female	0.012	0.44	0.32	-0.2	32
				1992 SCF		
White	--	0.015	--	0.52	--	4,802
Black	--	0.018	6.22	0.63	6.31	571
Hispanic	--	0.021	7.5	0.74	8.09	223
White	Male	0.016	--	0.54	--	3,549
Black	Male	0.020	5.87	0.66	4.81	321
Hispanic	Male	0.021	5.17	0.77	7.05	162
White	Female	0.014	--	0.45	--	1,207
Black	Female	0.017	4.33	0.61	5.92	245
Hispanic	Female	0.023	6.01	0.67	4.14	60

* The SCF sample is restricted to currently covered wage and salary workers aged 21 to 55 working at least 1,000 hours per year and earning at least the minimum wage. The HRS sample has the same restrictions except the age restriction is 51 to 62.

** The generosity rate is defined as the percentage of final salary received per year of service from the pension. For defined contribution plans, this is calculated by assuming that the retiree annuitizes the pension account at retirement. For defined benefit plans, it is calculated by dividing the annual benefit by the product of final salary and years of service.

*** The replacement rate is defined as the percentage of final salary received from the pension after retirement.

Table 7.
Means and Distribution of Wealth*

	Average wealth	10th percentile	25th percentile	50th percentile	75th percentile	90th percentile
			1992 HRS			
Non-pension wealth						
White	204,516	12,599	50,035	117,669	237,459	438,749
Black	92,500	-22	9,379	42,967	98,598	185,665
Hispanic	108,847	226	7,326	42,464	117,765	230,822
Pension wealth						
White	78,081	24,945	48,820	85,208	109,644	133,706
Black	42,240	13,339	20,503	46,421	68,945	94,752
Hispanic	26,586	10,969	4,785	12,063	37,215	64,224
Total wealth						
White	282,597	37,544	98,855	202,877	347,103	572,455
Black	134,740	13,317	29,882	89,388	167,543	280,417
Hispanic	135,433	11,195	12,112	54,526	154,979	295,046
Black Wealth/White Wealth						
Non-Pension Wealth	0.45	0.00	0.19	0.37	0.42	0.42
Pension Wealth	0.54	0.53	0.42	0.54	0.63	0.71
Total Wealth	0.48	0.35	0.30	0.44	0.48	0.49
Hispanic Wealth/White Wealth						
Non-Pension Wealth	0.53	0.02	0.15	0.36	0.50	0.53
Pension Wealth	0.34	0.44	0.10	0.14	0.34	0.48
Total Wealth	0.48	0.30	0.12	0.27	0.45	0.52

Table 7 (continued).
Means and Distribution of Wealth*

	Average wealth	10th percentile	25th percentile	50th percentile	75th percentile	90th percentile
			1992 SCF			
Non-pension wealth						
White	101,225	647	9,935	40,981	100,762	209,155
Black	49,769	-507	1,908	18,063	60,031	138,785
Hispanic	45,317	-4,176	580	11,242	47,308	117,979
Pension wealth						
White	38,226	6,733	10,733	21,473	49,772	93,903
Black	34,527	3,174	11,705	7,310	64,957	74,964
Hispanic	16,784	5,773	2,367	6,518	21,203	42,363
Total wealth						
White	139,451	7,380	20,667	62,454	150,534	303,058
Black	84,296	2,667	13,613	25,373	124,988	213,749
Hispanic	62,101	1,597	2,948	17,760	68,511	160,342
BlackWealth/White						
Non-Pension Wealth	0.49	-0.78	0.19	0.44	0.60	0.66
Pension Wealth	0.90	0.47	1.09	0.34	1.31	0.80
Total Wealth	0.60	0.36	0.66	0.41	0.83	0.71
Hispanic Wealth/White Wealth						
Non-Pension Wealth	0.45	-6.45	0.06	0.27	0.47	0.56
Pension Wealth	0.44	0.86	0.22	0.30	0.43	0.45
Total Wealth	0.45	0.22	0.14	0.28	0.46	0.53

* The SCF sample is restricted to wage and salary workers aged 21 to 55 working at least 1,000 hours per year and earning at least the minimum wage. The HRS sample has the same restrictions except the age restriction is 51 to 62.

Table 8.
Wealth Regressions.*

	Non-Pension Wealth		Pension Wealth		Total Wealth	
	1992 HRS					
Average value among whites	204,516		78,081		282,597	
	Coefficient estimates**					
Black	-112,016	-38,859	-35,840	-7,839.42	-147,857	-46,698
	(5.88)	(2.17)	(4.43)	(1.06)	(6.82)	(2.39)
Hispanic	-95,669`	-15,144	-51,494	-14,356	-147,163	-29,500
	(3.69)	(0.58)	(4.68)	(1.34)	(4.99)	(0.22)
Controls included?**	no	yes	no	yes	no	yes
Sample size	4,203	4,203	4,203	4,203	4,203	4,203
	1992 SCF					
Average Value among whites	101,225		38,226		139,451	
	Coefficient estimates**					
Black	-51,546	-9,477	-3,699	5,405	-55,155	-4,072
	(3.80)	(0.73)	(1.41)	(2.76)	(3.86)	(0.31)
Hispanic	-55,908	-4,648	-21,442	-1,287	-77,351	-5,936
	(3.38)	(0.28)	(6.70)	(0.52)	(4.43)	(0.36)
Controls included?	no	yes	no	yes	no	yes
Sample size	9,711	9,711	9,711	9,711	9,711	9,711

* The SCF sample is restricted to wage and salary workers aged 21 to 55 working at least 1,000 hours per year and earning at least the minimum wage. The HRS sample has the same restrictions except the age restriction is 51 to 62.

** t-statistics are given in parentheses.

*** Controls for personal characteristics include earnings, age, an interaction between age and earnings, education, marital status, and union status. For workers with partners that have earnings, we also include spousal characteristics. See text for more detail.