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Author(s): Harry J. Holzer
Reviewed work(s):
Published by: University of Wisconsin Press
Stable URL: http://www.jstor.org/stable/145795
Accessed: 30/07/2012 14:27

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Reservation Wages and their Labor Market Effects for Black and White Male Youth

Harry J. Holzer

ABSTRACT

This paper presents an empirical analysis of self-reported reservation wages for unemployed young black and white males. The results show that young blacks seek wages which are comparable to those of young whites in absolute terms, but which are higher relative to what is available on the demand side of the market. These relatively higher reservation wages of young blacks contribute to their unemployment durations and somewhat to their subsequently received wages. Changes in reservation wages may thus help to explain the trends in wages and employment of young blacks in recent years.

In this paper I compare the self-reported reservation wages (i.e., the lowest wages considered acceptable) of white and black male youth, in absolute terms and also relative to what each group faces in the labor market. I then analyze the effects of these reported reservation wages on durations of unemployment and on subsequently received wages for each group.

The main motivation for this analysis lies in the shockingly high rates of unemployment which plague black youth. These rates have risen to 50 percent and more in recent years, in a development which has been secular as well as cyclical. While unemployment for white youth has risen as well, that increase is far smaller in percentage terms and primarily reflects a rise in labor force participation rather than declining employment rates (Freeman and Wise 1982, 5). Furthermore, the factors that appear to explain much of the wage and employment developments for young whites in recent years (e.g., the shift of labor supply caused by the "Baby
Boom” cohort) have less explanatory power when applied to blacks (Wachter and Kim 1982).

The difference in employment trends between black and white youth becomes even more striking when considered in conjunction with their relative wage trends. The wages of young whites relative to those of white adults have fallen, a finding consistent with their stable employment trends in the face of the “Baby Boom” (Freeman and Wise 1982, 10). However, relative wages for young blacks have risen.

Butler and Heckman (1977) have, in fact, argued that recent wage and employment developments for blacks are linked—i.e., that the rise in black earnings reflects the decline in participation rates of blacks with low earnings. This would have raised average earnings by truncation of the lower tail of the earnings distribution, as well as by an upward shift along the labor demand curve for young blacks. Of course, the work of Smith and Welch (1977), Freeman (1973, 1977), Brown (1981), and others suggest that this explanation cannot be the only one with regards to earnings, and that factors such as government antidiscrimination efforts and educational improvements have caused an outward shift in the demand for some groups of blacks. However, none of these studies have focused on youth, for whom the gains in earnings and declines in employment have been greatest among blacks.

The analysis below is an attempt to provide some direct evidence on this issue by seeing how the earnings and employment of young blacks are affected by reservation wages, which are considered to be measures of shifting labor supply across individuals. Although the evidence presented is cross-sectional, some limited inferences about trends over time are possible as well.

Since reservation wages are measures of willingness to work, the evidence below will also shed some light on the extent to which these high unemployment rates may be considered “voluntary.” The view of black youth unemployment as reflecting unwillingness to work at low wages has recently been put forth by certain social scientists and also in the popular press. This view has stressed the development of a new consciousness among blacks as a result of the Civil Rights movement, in which they are no longer willing to accept low-status jobs that are considered “menial.” The growth of other sources of income, sometimes from illegal sources, has also been discussed as contributing to unwillingness to work for low wages. But evidence in favor of this position has been weak. In particular, Borus (1982) has argued that young blacks are more willing to accept most jobs than are young whites, even when controlling for personal and background characteristics. Thus there remains some need to resolve these conflicting views.

1. Another factor to which youth employment trends are often attributed is the minimum wage. However, evidence on the relative size of effects for blacks and whites is very mixed (Brown et al. 1982, 508). While Cogan (1982) finds that technological changes in southern agriculture explain the bulk of the decline in black youth employment between 1950 and 1970, there is little evidence that this factor was important after 1970.

2. Anderson (1980) offers a sociological approach which stresses the reluctance of young blacks to do menial work.
The focus here is on duration of unemployment or nonemployment and on received wages subsequent to this period of unemployment. The focus on duration of unemployment rather than on unemployment or labor force participation more generally is consistent with an expanded job search approach and is dictated by data availability, since reservation wages were not asked of most employed workers in the survey which is used below. Duration of unemployment is also a major issue of interest with regards to black youth. Clark and Summers (1982) have found that differences in unemployment and nonemployment rates between young blacks and whites primarily reflect differences in probabilities of gaining employment among those without jobs rather than differences in probabilities of becoming nonemployed—i.e., differences in duration rather than differences in frequency. Thus an ability to help explain the longer durations for young blacks would also mean an ability to help explain much of the huge unemployment problem more generally for young blacks.

The work described below involves the estimation of a set of equations using panel data on young white and black males. In particular, self-reported reservation wages recorded in a given year are used to explain wage and employment outcomes observed in the subsequent year.\(^3\) Comparisons of reservation wages between the two groups can also give some indication of overall job search and labor supply characteristics for a group like young blacks relative to a benchmark group like young whites. With both kinds of information, the overall contribution of reservation wages to black-white wage and employment differentials can be determined. All of the estimation reported below uses data from 1979 and 1980 panels of the National Longitudinal Survey (NLS) New Youth Cohort.

I. Equations, Data, and Econometric Issues

The work described below is based on a sequential job search model which is similar to many that are currently found in the literature.\(^4\) The model posits that an individual's reservation wage is chosen in each period as a function of his expected offer probability and wage offer distribution, nonwage income, and utility of leisure; it thus encompasses both job search and labor supply factors as determinants of reservation wages. The model which follows assumes constant reservation wages

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3. The focus on self-reported reservation wages in estimating search effects contrasts with other approaches which attempt to infer these effects from observed distributions of wages and unemployment durations. An example of the latter can be found in Kiefer and Neumann (1979), and criticisms of this approach appear in Flinn and Heckman (1982). Of course, the use of self-reported reservation wages also has been criticized for its reliance on subjective measures in estimating determinants of behavior. A discussion of the uses and drawbacks of subjective variables in economic analysis can be found in Freeman (1978), while empirical analysis of economic determinants of self-reported reservation wages appears recently in Feldstein and Poterba (1984).

4. Lippman and McCall (1976) review these models.
and offer wage distributions (and therefore constant employment probabilities) for all periods of unemployment subsequent to $t$.\(^5\)

The effects of an individual’s reservation wage on his expected unemployment duration from period $t$ onward and on his expected wage can be shown as follows:

\begin{equation}
E(D)_t = \frac{1}{P(Emp)_t} = \frac{1}{\pi \int_{w_r}^{\infty} r f(w)dw}
\end{equation}

\begin{equation}
E(w)_t = \frac{\int_{w_r}^{\infty} w r f(w)dw}{\int_{w_r}^{\infty} r f(w)dw}
\end{equation}

where $P(Emp)_t$ is the probability of becoming employed in period $t$; $\pi$ is the probability of his receiving an offer; and $f(w)$ is the offer wage distribution which the individual faces when offers are received. Using these equations, we can calculate the elasticities of expected durations and wages with respect to $w_r$:

\begin{equation}
\frac{d \ln E(D)}{d \ln w_r} = \frac{w_r f(w_r)}{1 - F(w_r)} > 0
\end{equation}

\begin{equation}
\frac{d \ln E(w)}{d \ln w_r} = \frac{w_r f(w_r) \int_{w_r}^{\infty} r (w - w_r) f(w)dw}{(1 - F(w_r)) \int_{w_r}^{\infty} w r f(w)dw} > 0
\end{equation}

It is noteworthy that the effects of reservation wages on both unemployment durations and received wages rise with $f(w_r)$, the probability density associated with that reservation wage. Intuitively, this is true because any small increase in the reservation wage will truncate a greater part of the offer wage distribution as $f(w_r)$ becomes greater. Also, the untruncated portion of the offer wage distribution enters the denominator of each elasticity; this means that reservation wage effects should rise as the degree of truncation of the offer wage distribution rises. The magnitudes of other terms entering Equation (4) will also depend on the relationship between the reservation wage and the offer wage distribution. It is therefore important to consider reservation wage levels relative to offer wages for blacks and whites when

\(5\) If employment probabilities can vary over time, it can be shown that the expected duration of unemployment from period $t = 0$ onward becomes:

\[E(D) = \sum_{t=0}^{\infty} \frac{t}{P(Emp)_t} \pi (1 - P(Emp)_s) \]

Computing elasticities here with respect to changes in the current period reservation wage, holding constant the offer wage distribution and all changes in the reservation wage, would be exceedingly difficult.
evaluating reservation wage effects on wages and unemployment for each group.

Reservation wage effects on unemployment duration and received wages are empirically estimated using the following equations:

\[
\ln D = \beta_{11} + \beta_{12}X + \beta_{13}\ln w^r + \epsilon_1
\]

\[
\ln W = \beta_{21} + \beta_{22}X + \beta_{23}\ln w^r + \epsilon_2
\]

where \(D\) is the subsequent duration of unemployment (i.e., from the current time onward) and \(W\) is the subsequent wage; while \(X\) represents a vector of variables that directly determine offer probabilities and wages. Subsequent outcomes and reservation wages all appear in logarithmic form, so that coefficients can be interpreted as elasticities.

Several features of these equations are noteworthy. Most importantly, the current period reservation wage is considered exogenous with respect to the subsequent duration of unemployment and the subsequently received wage. Of course, the same cannot be said about prior durations (either of previous spells or of the incomplete current spell) and wages, to which the reservation wage may have responded. Reservation wages also clearly respond to expected demand-side determinants of subsequent durations and wages, since offer probabilities and wages affect their reservation wage choice. But these should be captured by the \(X\) vector of variables; if the \(X\) are reasonably complete, the assumption of exogeneity will be justified.\(^6\)

Other potentially important econometric issues here include omitted variables bias and selection bias. The former is likely to occur in Equation (5) because unobserved measures of individual skill will be positively correlated with reported reservation wages but negatively correlated with unemployment durations. Thus the bias on the demand coefficient is likely to be negative. On the other hand, the same bias in estimating reservation wage effects for Equation (6) is likely to be positive, since the unobserved measures will be positively correlated with both reservation wages and received wages.

A further bias may occur because of the subsequent changes in reservation wages or offer wages described above. Such duration-dependence can be partially controlled for by including the duration of the incomplete spell up to the current period as an additional independent variable. But this variable cannot completely capture the uncertain movements of reservation and offer wages in subsequent periods.\(^7\)

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\(^6\) Other empirical analyses use self-reported reservation wages as exogenous determinants of subsequent outcomes (Sandell 1980 and Barron and Mellow 1981). Earlier attempts treated reservation wages and outcomes as simultaneous (Feinberg 1978 and Crosslin and Stevens 1977).

\(^7\) In other words, changes in subsequent durations and current reservation wages caused by the prior portion of the spell would be captured; changes in reservation wages caused by the subsequent duration itself are not really controlled for here.
The potential selection bias may be caused by the limiting of the analysis to current spells of unemployment, which are the only ones that are observed directly subsequent to observations on reservation wages. Thus we miss previously completed spells, for the currently unemployed (see Akerlof and Main 1980) as well as the employed. Kaitz (1970) and others have pointed out that these past spells might be systematically shorter than those used here, since they were less likely to be observed; or they may be longer, since they are not truncated in the way the subsequent spells are. Furthermore, this selection on spell length may induce biases in estimated coefficients for duration and reservation wage equations of the type discussed by Heckman (1979); and, if these biases differ by race, comparisons between blacks and whites may be distorted.

While our ability to deal with these problems is limited, some comparisons were made between mean durations of current and previous spells and between reservation wages of the unemployed and the employed (where they are available for the latter). The evidence is discussed in greater detail below, but I did not find strong support for concerns about selection bias.

As noted above, the estimations reported here are based on data from the NLS New Youth Cohort. The samples were limited to white and black males, aged 16 through 21 in 1979, who were nonstudents. This data set is particularly useful because it contains the variables of interest, and because blacks and low-income whites have been oversampled.

Reservation wages presented here are based on responses to the questions, “What type of work have you been looking for?” and “What would the wage or salary have to be for you to be willing to take it?” The question was asked of everyone who had sought employment in the previous month or who planned to be seeking it in the coming year; responses are thus available for virtually all of the nonemployed and for some of the employed.

Responses to this question by the unemployed in both 1979 and 1980 panels are used below for comparisons between blacks and whites. Furthermore, reservation wage responses from 1979 are used in Equations (5) and (6), along with subsequent durations of unemployment and received wages as outcome variables. The latter are calculated from year-long retrospective employment histories taken from the 1980 panel. The underlying variables which are used to control for demand effects (X) are: occupation, industry, and union status for those with work in the previous year, along with dummy variables for those without such work and for missing values; plus experience, schooling, “Knowledge of the World of Work,” household income, presence of a library card at home, region, urban residence, and marital status.8 These variables are taken from the 1979 panel and can therefore be considered exogenous.

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8. The dummy variable for being without work in the previous year controls for duration of the prior portion of the spell of joblessness. Other equations in which a continuous variable for this duration was included produced virtually identical results.
A final note must be added concerning the reservation wage variable used here. In another paper (Holzer 1986a), I show that reported reservation wages in this and other data sets differ in magnitudes and in their effects on outcome variables according to how the question is phrased in the survey. For instance, it was found that reservation wages which are asked for specific jobs (e.g., factory work, cleaning jobs, etc.) often vary among themselves and differ from the ones reported here. In that paper, I have hypothesized that these differences reflect factors such as nonwage job characteristics and horizons which vary across jobs.

The decision to focus on the particular measure used here was based on two considerations. For one thing, reservation wages for jobs sought, where the latter can vary across individuals, seems to be more consistent with standard job search treatments of this measure. But more important, the evidence presented in the other paper shows this measure to have generally stronger effects on labor market outcomes than do the others. Reservation wages for the jobs individuals seek and truly want explain their unemployment durations and subsequently received wages to a greater extent than do reservation wages for jobs they do not seek but which they may have to accept temporarily.9 The role of both kinds of reservation wage measures in determining outcomes will be discussed more fully below. But for now, this primary focus on reservation wages for sought jobs seems justified on theoretical and empirical grounds.

II. Empirical Results

The first two tables of this section present evidence on the reservation wages of young blacks and whites relative to the respective labor demands they face. The next three tables then show the effects of these reservation wages on unemployment durations and received wages for each group.

Table 1 presents means and standard deviations on reported reservation wages and previously received wages in 1979 and 1980 for each group, as well as on the ratio of the former to the latter. Separate measures are presented for the unemployed and the nonemployed, since the models described may be relevant for both groups.10 The nonemployed are also divided into those who reside in the

9. The evidence that employment durations are shorter and turnover higher out of the kinds of low-wage jobs that are listed appears in that paper. Thus it is hypothesized that these jobs are considered more temporary than those which are actually sought by the individual. The shorter horizons which individuals hold for these jobs may also explain why reservation wages reported for them are relatively lower among blacks than those for sought jobs.
10. Since search effort as well as reservation wages are chosen in each period in many of the models mentioned above, those temporarily out of the labor force may be included here. Evidence for the view that many spells out of the labor force are hardly different from time unemployed appears for youth in Clark and Summers (1982). This may be especially true for a sample of young males who are not in school and who report reservation wages. But an alternative view that stresses differences between unemployment and time out of the labor force can be found in Flinn and Heckman (1983). Therefore all estimation was done for both samples.
Table 1

| Reservation Wages and Previously Received Wages: Means and Standard Deviations |
|---------------------------------|----------------|----------------|----------------|----------------|
|                                 | Reservation Wages | Received Wages | Ratio |
|                                 | Whites | Blacks | Whites | Blacks | Whites | Blacks |
| Unemployed                      | 4.30   | 4.22   | 4.63   | 3.90   | 0.929  | 1.082  |
|                                 | (1.88) | (1.73) | (3.27) | (2.33) |        |        |
| Nonemployed                     | 4.59   | 4.47   | 4.74   | 3.99   | 0.968  | 1.120  |
|                                 | (1.96) | (2.21) | (2.72) | (2.20) |        |        |
| North                           | 4.73   | 4.51   | 5.05   | 3.91   | 0.935  | 1.150  |
|                                 | (1.85) | (1.77) | (2.96) | (1.88) |        |        |
| South                           | 4.31   | 4.59   | 4.02   | 4.07   | 1.071  | 1.127  |
|                                 | (2.02) | (3.58) | (1.98) | (2.45) |        |        |
| Unemployed with previously      | 4.56   | 4.22   | 4.63   | 3.90   | 0.985  | 1.082  |
| received wages                  | (1.95) | (1.93) | (3.27) | (2.33) |        |        |
| Nonemployed with previously     | 4.79   | 4.47   | 4.74   | 3.99   | 1.011  | 1.120  |
| received wages                  | (1.98) | (1.96) | (2.72) | (2.20) |        |        |
| Employed with unemployment       | 5.71   | 5.66   | 4.76   | 4.19   | 1.120  | 1.351  |
| spell in previous year          | (3.00) | (3.83) | (2.16) | (1.82) |        |        |

Note: Samples include data from 1979 and 1980 panels of NLS. Sample sizes are 265 and 160 for unemployed whites reporting reservation wages and received wages respectively. Comparable numbers are 491 and 349 for nonemployed whites; 194 and 103 for unemployed blacks; 329 and 191 for nonemployed blacks. For the employed, sample sizes are 1,130 and 1,599 for whites reporting reservation wages and received wages; comparable numbers for blacks are 379 and 567. All means are weighted using sample weights.

North and those in the South. Reservation and received wages are then presented for the employed who have had unemployment spells in the previous year, to check for selectivity biases due to the omission of previous spells from the analysis. Of course, these measures are available only for the fraction of the employed who sought or planned to seek new jobs. All means are weighted by sample weights to provide population-wide estimates.

The results show that reservation wages are quite comparable in absolute levels between unemployed young whites and blacks, but that the received wages of blacks
are significantly lower than those of whites. Consequently, reservation wages are higher for blacks relative to what they receive in the market. The ratios of reservation to received wages are 15.8 percent higher among unemployed blacks and 17.1 percent higher among nonemployed blacks than among comparable whites. When both samples are restricted to those who report previous received wages the results are very similar. As for the regional differences, the ratio is higher for blacks in both the North and the South. But in the North, where the differences in unemployment rates and durations between whites and blacks are higher, the 21.5 percent difference in the ratios is particularly striking.

Finally, the ratio of reservation to received wages for the employed who had spells of unemployment earlier in the year is substantially higher among blacks than among whites, while reservation wages in absolute levels are again comparable. Thus we conclude that the omission of previous spells of unemployment from the analysis by focusing on the currently unemployed does not induce a serious selectivity bias in these comparisons.

Of course, this simple comparison of sought and received wage in Table 1 is of limited value in controlling for offer probabilities and wages. For one thing, it ignores differences in offer probabilities and focuses exclusively on offer wages. Furthermore, Equation (2) shows that these received wages are themselves functions of the individual's past reservation wages. Since some determinants of reservation wages may remain relatively constant over time (e.g., tastes for leisure), individuals with high reservation wages today may have had high reservation wages in the past as well; and mean received wages will be higher than mean offer wages for this reason. Thus the comparison of reservation and received wages may bias downwards the actual ratio of reservation to offer wages, especially for those whose reservation wages are relatively high. Finally, received wages are not available for those without work in the previous year.

For these reasons, Table 2 presents reservation wage differentials between unemployed blacks and whites which have been calculated from reservation wage...

11. The standard errors on the means of wages for blacks and whites are not presented in Table 1. However, the standard errors on the unweighted means form a rough basis on which to calculate the standard error of the difference, which equals \((S.E.)_a^2+(S.E.)_b^2\) in this case. These standard errors are approximately .16 and .20 for whites and blacks respectively, which implies a standard error of roughly .25 on the difference which appears significant.

12. The basic results hold up when the analysis is done on medians rather than means. Thus the results are not due to outliers in the reservation wage distribution of blacks.

13. The distributions of jobs sought by young blacks and whites are also remarkably similar at the 1-digit level, which reinforces the finding on reservation wages (Holzer 1986a).

14. Another test for selectivity involved comparisons of unemployment durations of past completed spells for both the employed and nonemployed with those of the present unemployed. The results here showed much shorter spells in the past, implying that "length bias" in which short spells are not observed at a given time may dominate "truncation bias" in current spell measurement and produce a net upward bias in mean spell duration. However, this bias appeared to be about equally true for whites and blacks. Thus racial differences in durations are comparable for past and present spells (Holzer 1986a).
Table 2  
**Black-White Reservation Wages Differentials:**  
*Controlling for Wages and Weeks Worked*

<table>
<thead>
<tr>
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<th>Using Wages</th>
<th>Using Weeks Worked</th>
</tr>
</thead>
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<tr>
<td>Unemployed</td>
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<td>.115</td>
</tr>
<tr>
<td>Nonemployed</td>
<td>.110</td>
<td>.130</td>
</tr>
<tr>
<td>North</td>
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<td>.130</td>
</tr>
<tr>
<td>South</td>
<td>.099</td>
<td>.159</td>
</tr>
</tbody>
</table>

Note: Calculations based on coefficients from reservation wage equations of whites and mean predicted wages or weeks worked of blacks in each sample. Wages and weeks worked are predicted from weighted regressions on individual characteristics that included currently employed and nonemployed. Sample sizes in reservation wage equations are 254 for unemployed whites, 473 for nonemployed whites, 188 for unemployed blacks, and 316 for nonemployed blacks. All equations here are based on pooled samples from the 1979 and 1980 panels of the NLS.

equations that have wages or weeks worked as independent variables. To deal with the possible endogeneity of wages and weeks worked with respect to reservation wages (because of their dependence on past reservation wages which may be fairly constant over time), we use predicted instead of actual measures as independent variables; these predicted values, in turn, are based on regressions of wages and weeks worked on the X variables described above. The use of predicted wages and weeks worked in the reservation wage equations enable us to include in the sample those without work in the previous year. All regressions are based on samples which pooled observations from the 1979 and 1980 panels of the NLS.

The racial differentials in reservation wages are then calculated using intercepts and coefficients from these reservation wage equations of unemployed whites along with mean predicted wages or weeks worked for unemployed blacks to obtain reservation wages of whites with comparable characteristics. These predicted measures are compared with actual reservation wages of blacks to obtain the racial differences.

15. The wage and weeks worked equations included both currently employed and nonemployed in the samples.

16. For example, the racial difference in reservation wages can be calculated as \( \Delta w^r = \bar{w}_B - \beta_{\omega} \bar{X}_B = (\beta_{\omega} - \beta_{\omega}) \bar{X}_B. \) This formula is based on the decomposition of racial or sexual differences in wages first used by Oaxaca (1973) and Blinder (1973).

17. The decision to use white coefficients and black characteristics in calculating racial differentials, as opposed to black coefficients and white characteristics, was based on two factors. First, whites are the benchmark group here with whom blacks are being compared. The coefficients of whites capture the behavior of this benchmark group. Furthermore, the coefficients of the black equation
The results show that reservation wages are 10.4 percent higher for the black unemployed than for the white unemployed when controlling for previous wages and 11.5 percent higher when controlling for weeks worked. Among the nonemployed the differences are somewhat larger, and they exist among those in the North as well as the South. The differences are significant as well.¹⁸ The larger differences when controlling for weeks worked as opposed to wages reflects the larger racial difference in means for the former. This suggests that differences in offer probabilities must be considered as well as differences in offer wages when reservation wages are compared for whites and blacks.

It therefore appears that reservation wages of unemployed young blacks are higher, relative to the labor demand they face, than are those of young whites. This finding by itself raises fundamental questions about the process of reservation wage formation by young blacks. Do their reservation wages reflect unrealistic expectations about labor market prospects? Do these expectations adapt over the spell of unemployment and as these youth age? Or do the reservation wages reflect fully rational behavior, give their sources of nonwage income, discount rates, etc.?

The answers to these important questions lie beyond the scope of this paper; and the evidence on these issues which is presented elsewhere remains fairly preliminary and inconclusive.¹⁹ More work is needed before we can answer these questions with any degree of confidence.

It should also be pointed out that the racial differences in wages and weeks worked might reflect unobserved differences in skills, discrimination, or some combination of both. In fact, observed differences in the personal attributes captured by the X variables explain very little of the racial differences in wages and weeks worked show much lower responsiveness of their reservation wages to predicted wages and weeks worked. Using their coefficients would have naturally produced negligible racial differences, since demand-side differences between whites and blacks would have little effect here.¹⁸ The standard error of the calculated differential is based on the formula in Footnote 13, which in turn required us to calculate the standard errors on the predictions of reservation wages for whites with black characteristics. The formula for such a prediction when based on a simple regression is

\[ S \left( \frac{1}{N} + \frac{(X_i - \bar{X})^2}{\sum_i (X_i - \bar{X})^2} \right)^{1/2} \]

where S is the square root of the residual variance, N is sample size, and \( X_i \) is the value of X at which the prediction is made. Using this formula and the standard error on the log reservation wages for blacks, the standard errors on the calculated differentials are .033 and .043 when using wages and weeks worked respectively for the unemployed. Comparable standard errors for the nonemployed are .033 and .038.

¹⁸. The evidence of reservation wage responsiveness to wages and weeks worked, nonwage income, and duration of prior unemployment spells appears in Holzer (1983). In a different study (Holzer 1986b), reservation wages of young blacks appear to be consistent with a simple income-maximizing search model as long as these youth have relatively high discount rates and accurate wage expectations.
and therefore very little of the difference in relative reservation wages between blacks and whites.\footnote{20} Thus the failure of black reservation wages to adjust to their lower wages and weeks worked may at least partly reflect a refusal to accept discriminatory treatment on the demand side of the market.

We now proceed to study the effects of reservation wages on subsequent unemployment durations and subsequently received wages for blacks and whites. Table 3 presents reservation wage effects on durations, which are based on estimates of Equation (5). As noted above, the samples are from the 1979 panel, with subsequent durations calculated from retrospective histories in the 1980 panel. Both reservation wages and durations appear in logarithmic form; the estimated coefficients can thus be regarded as demand elasticities. Control variables are those described above. Estimates are again presented for both the unemployed and nonemployed; in the case of the latter, dummy variables for search in the previous month are included in the equations to control for the effects of search effort on offer probabilities and wages. It should be pointed out here that those who were without work for the entire subsequent year are included in the samples, since their omission would have introduced another serious selection bias.\footnote{21} Thus the unemployment spells included here are not necessarily complete.

Finally, results appear for equations that are estimated using both Ordinary Least Squares and Weighted Least Squares, using sample weights. The latter is done because of the oversampling of low-income whites in the NLS and the possible nonrandomness of missing values for either group. Under the assumption that relationships may vary across income groups within the sample, the weighted estimates are more likely to produce unbiased estimates of population-wide effects. To determine whether weighting actually makes a difference, the OLS estimates are provided as well.

The results of Table 3 indicate that the unemployment durations of blacks are significantly affected by their reservation wages. Results are substantially stronger for the unemployed than for the nonemployed, indicating that the reservation wage measures listed may be more meaningful for those who are actively searching. The weighted results are also somewhat larger than those derived from OLS. In contrast, the estimates from the white sample are negative when using OLS and positive using WLS, but are significant in neither case. Despite the larger standard errors on estimates for both groups, the difference between effects for whites and blacks are fairly significant for the unemployed.\footnote{22}

20. In fact, the racial difference in reservation wages which was calculated from equations using the X variables directly rather than the predicted wages or weeks worked variables were only about 2 percent. The larger differences obtained when using the wage and weeks worked variables thus reflect the racial differences in the constant terms of the wage and weeks worked equations of blacks and whites.

21. In other words, excluding those with the longest durations would have involved sampling on the basis of the dependent variable and would have introduced serious selectivity bias. Including these individuals with admittedly truncated values for their dependent variables should introduce a much smaller bias, since even these truncated values are well above those for the rest of the sample.
Table 3
Reservation Wage Effects on Subsequent Durations of Unemployment

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<th>Whites</th>
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<tbody>
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<td>Coefficient</td>
<td>R²</td>
<td>Coefficient</td>
<td>R²</td>
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<tr>
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<td>(.528)</td>
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</tr>
<tr>
<td>Nonemployed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLS</td>
<td>-.024</td>
<td>.259</td>
<td>.583</td>
<td>.433</td>
</tr>
<tr>
<td></td>
<td>(.362)</td>
<td></td>
<td>(.311)</td>
<td></td>
</tr>
<tr>
<td>WLS</td>
<td>.145</td>
<td>.361</td>
<td>.594</td>
<td>.394</td>
</tr>
<tr>
<td></td>
<td>(.322)</td>
<td></td>
<td>(.316)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Durations and reservation wages appear in log form. Control variables include: occupation, industry, and union status for those with work in the previous year, along with dummy variables for those without work and for missing values; plus experience, schooling, "knowledge of the world of work," household income, presence of a library card at home, region, urban residence, and marital status. Search in the previous month is also included in equations for the nonemployed. Sample sizes are 121 for unemployed whites, 166 for nonemployed whites, 92 for unemployed blacks, and 127 for nonemployed blacks. Estimates are based on samples from the 1979 panel of the NLS, with subsequent duration calculated from the 1980 panel.

The appearance of some negative coefficients for whites when estimating a relationship that according to theory should be strictly nonnegative indicates that the bias caused by unobserved skill measures described above may well remain a serious one for whites. That the problem appears to be less severe for blacks may indicate that these unobserved measures are less highly correlated with their reservation wages and their durations of unemployment.23

The differences in results for the unemployed, however, may also reflect higher elasticities of duration with respect to reservation wages faced by young blacks.

22. T-statistics on these differences are about 1.8 using OLS estimates and 1.75 using WLS.
23. The hypothesis that unobserved skill measures have less impact on durations and with reservation wages for blacks receives support from the evidence on some observed measures. In particular, the coefficients on predicted wages and weeks worked in reservation wage equations are lower for blacks than for whites.
Equation (3) shows that reservation wage effects can rise substantially as the portion of the wage distribution which they are truncating becomes larger. Since the reservation wages of young blacks appear to be truncating greater portions of their offer wage distributions, this effect alone would produce greater effects on unemployment for blacks. As for the terms in the numerator, $w^r$ and $f(w^r)$, these do not appear to be substantially different for whites and blacks in the samples used. Thus, a higher reservation wage effect (and a more elastic labor demand) for blacks is both theoretically predicted and empirically observed. This finding, in conjunction with the earlier one of relatively high reservation wages for blacks, implies that reservation wages may contribute substantially to the lengthy unemployment durations of black youth. The magnitude of this contribution is evaluated below.

Moving on now to the issue of reservation wage effects on subsequently received wages, Table 4 presents estimates of Equation (6). As with durations of unemployment, it presents results for both the unemployed and nonemployed, using both OLS and WLS. Both reservation and received wages appear in log form. It also presents two different specifications. The first one uses previously received wages as the control, with predicted wage included for those without work in the previous year or with missing values for wages. The second uses the same set of controls that are used for Equation (5). The former specification is justified on the grounds that only offer wages are relevant here, given that everyone with a job has received an offer. But the table includes the latter specification on the grounds that it may better capture the omitted factors which could cause upward bias in estimated coefficients as described by Equation (6). Again, samples are from the 1979 panel with subsequently received wages obtained from the 1980 panel.

The results show positive and significant effects of reservation wages on subsequently received wages for whites, regardless of which sample or which specification is used. The coefficients are larger when weighting and when the first specification is used. As before, results for the unemployed are stronger than those for the nonemployed.

By contrast, the estimated effects for blacks are consistently lower and are more sensitive to the specification used. Results are positive in all cases but are generally significant only using the first equation. Weighted equations and the sample of unemployed again show the stronger results.

These results now raise the question of why the estimated effects are greater for whites, especially when effects on unemployment durations are greater for blacks. One possibility, as argued above, is that unobserved factors (in this case causing upward biases) are more serious for whites. As for the effects of reservation wage levels and offer wage distributions on elasticity magnitudes, the predic-

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24. As noted about, mean reservation wages are quite comparable between the two groups. As for $f(w^r)$, distributions of received wages for blacks and whites show heavier spiking around the minimum wage for blacks and a larger right-hand tail for whites above $5$, with little difference in densities in between. Of course, it is the distribution of offer wages that is relevant here rather than that of
Table 4

Reservation Wage Effects on Subsequently Received Wages

<table>
<thead>
<tr>
<th></th>
<th>Whites</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>R^2</td>
<td>Coefficient</td>
<td>R^2</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>.623</td>
<td>.286</td>
<td>.410</td>
<td>.136</td>
<td></td>
</tr>
<tr>
<td>OLS-1</td>
<td>(.103)</td>
<td></td>
<td>(.195)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.491</td>
<td>.560</td>
<td>.235</td>
<td>.423</td>
<td></td>
</tr>
<tr>
<td>WLS-1</td>
<td>.666</td>
<td>.275</td>
<td>.467</td>
<td>.201</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>(.115)</td>
<td></td>
<td>(.176)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonemployed</td>
<td>.543</td>
<td>.252</td>
<td>.182</td>
<td>.182</td>
<td></td>
</tr>
<tr>
<td>OLS-1</td>
<td>(.090)</td>
<td></td>
<td>(.120)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.442</td>
<td>.508</td>
<td>.087</td>
<td>.350</td>
<td></td>
</tr>
<tr>
<td>WLS-1</td>
<td>.642</td>
<td>.299</td>
<td>.190</td>
<td>.249</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>(.093)</td>
<td></td>
<td>(.107)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Subsequently received wages and reservation wages appear in log form. The first equation includes previously received wages as the control, with predicted wages included for missing values. The second equation uses the same controls as in the previous table. Sample sizes are 94 for unemployed whites, 125 for nonemployed whites, 68 for unemployed blacks, and 88 for nonemployed blacks. Estimates are based on samples from the 1979 panel of the NLS, with subsequent wages drawn from the 1980 panel.

...
effects on received wages should be greater for blacks. The other term in the denominator, which is an unconditional expected wage, should reinforce this effect by presumably being larger for whites. But the terms in the numerator, especially \( \int_{-\infty}^{\infty} w_r(w-w') f(w) \, dw \), may also be larger for whites. Therefore it is theoretically ambiguous whether the overall effect of reservation wages on received wages should be larger for blacks or whites.

The effects of reservation wages on received wages for blacks and whites will also be affected by a few other factors. As noted above, the effects of future as well as present reservation wages will be captured by the coefficients of Table 4. To the extent that declines in reservation wage over the subsequent spell are correlated with current wages, the estimated effects of the current reservation wages will be reduced. Also, some of those with the highest relative reservation wages will gain no employment at all, and their omission from the sample will change the estimated effects. If either of these effects is larger for blacks, it may account for the smaller estimated effects of reservation wages on received wages for them.

Finally, it is mentioned above that reservation wages for certain low-wage temporary jobs often differ from the ones presented here for jobs which are sought. Blacks ultimately obtain these low-wage jobs more frequently and their sought jobs less frequently than do whites. It is therefore to be expected that reservation wages for sought jobs will have somewhat lower effects and those for low-wage jobs somewhat greater effects on received wages for blacks than for whites, even though the former generally dominate the latter in predicting outcomes for both groups. In fact, the evidence presented in Holzer (1986a) shows that this is the case. Differences in these reported reservation wage measures also explain differences in results between this study and that of Borus, who used only measures for the specific low-wage jobs in his study.

We can construct a consistent picture that incorporates all of these factors. Young blacks seek wages comparable to those sought by young whites but which are less available to them. Because of this, their durations of unemployment rise substantially. As these lengthy durations progress, many young blacks either lower their

25. Of these two possible reasons, the latter appear likely to be a factor in explaining lower effects for blacks. The percentage of unemployed blacks in the original sample (27 percent) who were not reporting received wages was larger than the percentage of whites (20 percent), and the blacks appear to be concentrated among those with higher reservation wages. As for the former reason, it is difficult to ascertain anything about future changes in reservation wages and their correlations with reservation wage levels. Some limited inferences can be made from comparisons of subsequently received and reservation wages. Approximately 46 percent of whites and 44 percent of blacks who report both measures ultimately receive wages which are less than their reservation wages. These figures suggest fairly large declines in reservation wages over the subsequent spell.

26. The results there also show that reservation wages for sought jobs have relatively greater effects on received wages when those jobs are obtained, while reservation wages for the low-skill jobs do relatively better when low-wage laborer or service jobs are ultimately obtained. But given the small sample sizes of these subsets and the broad occupational categories involved, the estimates obtained are fairly imprecise.
reservation wages or accept other positions which they consider to be temporary. Others gain no employment at all. Thus the unemployment durations of young blacks will reflect their high reservation wages while the received wages will do so to a lesser extent. Although not all elements of this scenario have been clearly documented, they are consistent with the evidence that is thus far available.

It remains to be seen how the reservation wages of blacks for their sought jobs affect their overall wage rates and durations of unemployment relative to those of whites. Table 5 sums up the preceding evidence on these factors. The first column shows the overall contributions of the higher reservation wages of young blacks to their wages and durations. There figures are computed by multiplying estimated wage and duration effects from the results for blacks in Tables 3 and 4 by racial differences in reservation wages from Table 2. The weighted coefficients from Table 3 and 4 are used here, since these are unbiased estimates of population-wide effects; while the racial differences using weeks worked are used from Table 2. A range of wage effects is also presented that represents estimates from the two different specifications used in Table 4.

Table 5
Reservation Wage Effects on Black-White
Wage and Unemployment Duration Differentials

<table>
<thead>
<tr>
<th>Contribution of Reservation Wage Differences to Black Levels</th>
<th>Black-White Differential</th>
<th>Percent Explained/Reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment duration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>.167</td>
<td>.398</td>
</tr>
<tr>
<td>Nonemployed</td>
<td>.077</td>
<td>.300</td>
</tr>
<tr>
<td>Wages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>.029–.054</td>
<td>-.161</td>
</tr>
<tr>
<td>Nonemployed</td>
<td>.014–.025</td>
<td>-.158</td>
</tr>
</tbody>
</table>

Note: Calculations based on results from earlier tables as described in text.

The total black-white differences in wages and in unemployment durations then appear in the second column. These are calculated in both cases as percentages of the measure for whites. Wage differences are calculated from figures in Table 1 while duration differences are calculated from figures not appearing elsewhere. Finally, the third column presents the percent of the unemployment duration difference that is explained by the reservation wage contribution as well as the percent by which the wage difference is reduced. The former is obtained by dividing the
The results show that the reservation wages of the young black unemployed raise their wages by 2.9–5.4 percent and their unemployment durations by 16.7 percent. Reservation wages therefore tend to reduce wage differentials that would otherwise exist by 15.3–25.1 percent and to raise differentials in unemployment durations by 42 percent. The comparable number for the nonemployed are about half as large.27

If, instead of using those numbers, these calculations are done using reservation wage differences from Column 1 of Table 2 or using unweighted coefficients from Table 3 and 4, the results are also reduced a bit. Making both of these changes together gives us the smallest effects of reservation wages on outcomes for blacks—12.7–20 percent for the black-white differential in wages and 30.4 percent for the duration differential. The effects for the nonemployed would also be reduced by only small amounts. Thus the calculated effects of Table 5 seem fairly robust. It should also be pointed out that these figures are only for those currently without jobs; wage differentials among the employed are not considered here. But the evidence cited above on their reservation wages suggests that the effects for them may be quite comparable to those presented here for the unemployed.

When considering these calculations, one must keep in mind the econometric biases that potentially affect the estimated parameters. An additional source of bias in these calculations involves the assumption of constant elasticities despite aggregate changes in reservation wages. This assumption is unlikely to hold, since Equations (3) and (4) show that the elasticities are functions of the offer probabilities and wages that individuals face; and since these, in turn, will depend on aggregate reservation wage levels. For if willingness to work generally rises in the population, fewer vacant jobs will be available to those remaining nonemployed. This will lower the effects of reservation wage changes on an individual’s wage and employment outcomes. Thus the assumption of constant elasticities creates upward biases in the calculations of Table 5. Finally the lack of precision with which duration effects are estimated here implies that any such calculations based on particular point estimates must be interpreted with caution.

III. Conclusion

This paper has presented an empirical analysis of self-reported reservation wages for unemployed young black and white males. The effects of these measures on

27. It should be noted here that the effects of reservation wages on unemployment or nonemployment rates, as opposed to durations, depend on the relative importance of frequency and duration in explaining unemployment or nonemployment differences. As noted above, Clark and Summers (1982) have found duration to be the more important determinant of black-white differences in nonemployment rates, as have Ballen and Freeman (1986). My own calculations show frequency and duration to con-
subsequent outcomes, such as duration of unemployment and received wages, have also been considered.

The results show that young blacks seek wages which are comparable to those of young whites in absolute terms. However, relative to what is available to what most ultimately receive, the reservation wages of blacks are higher.

The empirical results, which rest on a particular specification of the variables and functional form, also show that the relatively higher reservation wages which young blacks report contribute to their unemployment durations and somewhat to their subsequently received wages. In this specification, the racial difference in relative reservation wages raises the unemployment durations of blacks by about 17 percent and their nonemployment durations by about 8 percent. These figures constitute over 40 percent of the differences in unemployment durations and about one-fourth of the differences in nonemployment durations between young blacks and whites. On the other hand, black wages rise 3–5 percent for the unemployed and 1–3 percent for the nonemployed due to reservation wages. The black-white difference is thus reduced by 15–25 percent for the unemployed and 8–14 percent for the nonemployed. Wage effects for the currently employed are less clear.

These results imply that at least part of the relative rise in wages of young blacks in recent years may be related to their decline in employment. Of course, one cannot necessarily infer anything about trends over time from cross-sectional studies like this one. However, Kim (1982) has presented evidence that the ratio of reservation to received wages has risen for both groups over the past decade but especially for blacks. This finding at least broadly consistent with evidence of rising non-wage income for young blacks over time, especially from sources such as crime.28 Thus, rising relative reservation wages for young blacks appear to be related to their recent trends in both wages and employment. On the other hand, evidence presented here and elsewhere suggest that the empirical magnitudes of these effects are limited. Indeed, the magnitudes estimated here explain only a fraction of both the wage and employment trends observed for young blacks. Presumably, other factors have been involved which have raised the labor demand which some blacks face while lowering the demand faced by others.

One must also take great caution in labelling any part of the black unemployment problem as “voluntary” on the basis of these results. Young blacks want to work at wages comparable to those of young whites, as if they faced comparable demands for their labor. As usual, we cannot tell what part of the demand-side difference is due to discrimination and what part to unobserved skills; therefore the unwillingness of young blacks to take these wages may at least partly reflect

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28. Crime rates for young blacks and whites and their trends over time are discussed in Hindelang et al. (1981). A strongly negative relationship between crime and employment for young blacks is found in Viscusi (1986).
an unwillingness to accommodate discriminatory behavior by adapting their supply responses. Finally, the finding of roughly equal reservation wages despite unequal job availability raises important questions about the process of reservation wage formation among black and white youth. In particular, the relative roles played by nonwage income, expectations, and other factors must be more accurately measured; and the role of learning over time must be considered as well. Further research on the issue of reservation wages among young blacks and whites is thus clearly warranted.

References


