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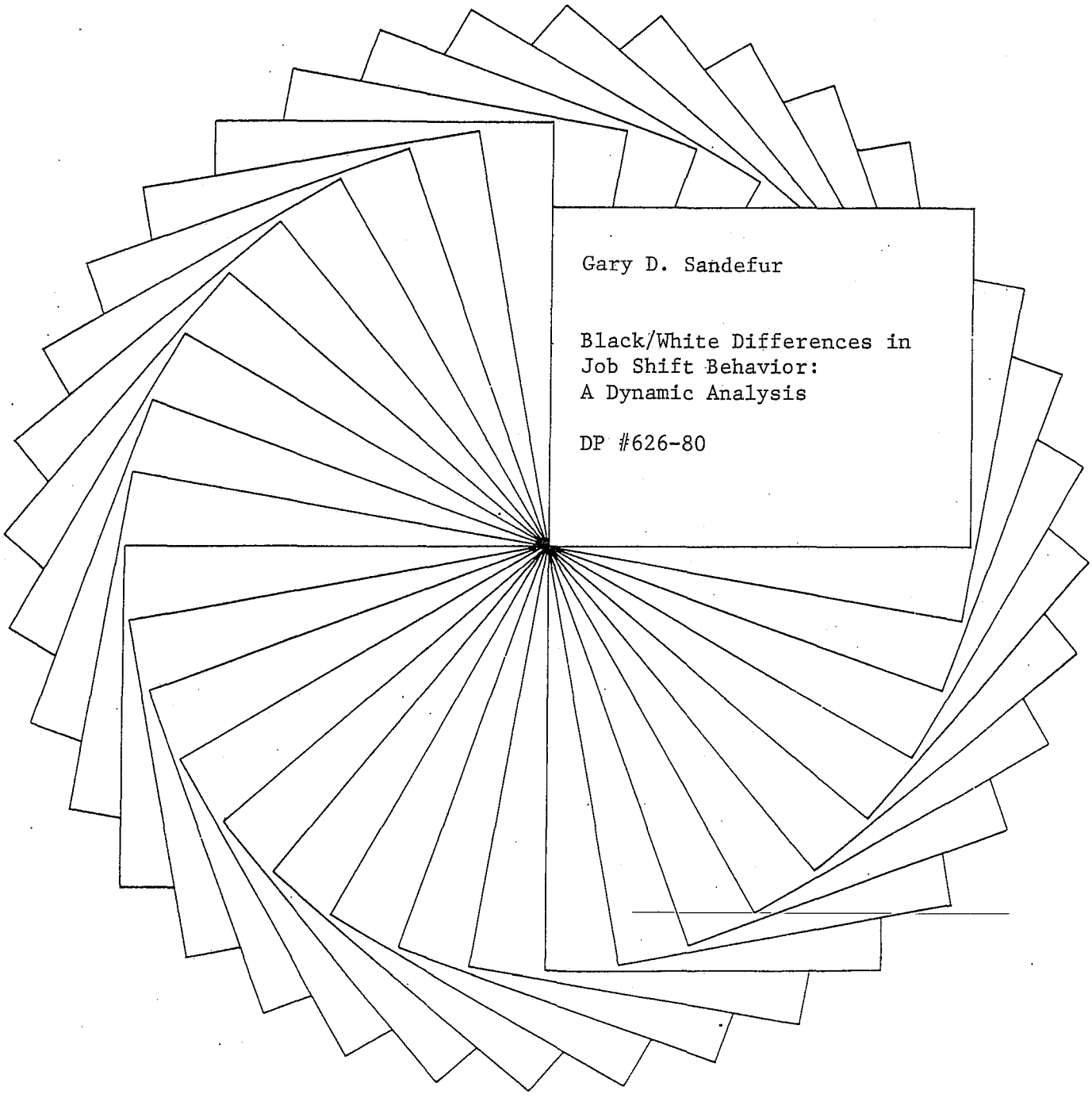

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Black/White Differences in
Job Shift Behavior:
A Dynamic Analysis

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ABSTRACT

This paper investigates one mechanism through which black/white differences in returns to resources occur through time--job shifts. The results show that whites receive greater returns to education in interfirm shifts in prestige than blacks. Blacks receive equal or greater returns to education and firm-specific resources in intrafirm shifts in prestige and wage than whites.

Black/White Differences in Job Shift Behavior: A Dynamic Analysis

Past research has shown that there are substantial differences in the levels of income and prestige achieved by blacks and whites in the United States (Blau and Duncan, 1967; Duncan, 1969; Farley, 1977; Featherman and Hauser, 1976; Jencks et al., 1972; Masters, 1975; Siegel, 1965; Thurow, 1969). Recent evidence indicates that racial differences may be declining in size and significance (see, for example, Farley, 1977; Wilson, 1978), though there is considerable controversy over this issue. Many researchers agree with Duncan that "Negroes (that is, disproportionate numbers of them) are poor mainly because they are 'Negroes' and are defined and treated as such by our society" (p. 87).

Some students of black/white differences have attempted to deal with the factors that create and maintain these racial differences (Blau and Duncan, 1967; Blum, 1972; Coleman et al., 1972 a, b; Featherman and Hauser, 1976; Kluegel, 1975; Portes and Wilson, 1976; Snyder and Hudis, 1976; Hauser and Featherman, 1974). This research has contributed to our knowledge by examining ways in which being defined and treated as black serves as a liability. The results demonstrate two kinds of black disadvantages. First, blacks begin the life cycle and enter the labor force with "characteristics that would be a disadvantage to anyone...subsequent favorable events cannot be capitalized on as readily" (Duncan, p. 88). Second, blacks and whites "in the same line of work, with the same amount of formal schooling, with equal ability, from families of the same size and same socioeco-

nomic level, simply do not draw the same wages and salary" (Duncan, p. 88). In this paper I examine the latter black disadvantage--unequal returns to resources.

One way to examine lower black returns to resources is to look at the effect of labor market structures on the unequal distribution of rewards. For example, Marxists argue that racial differentials in rewards are largely due to the class distribution of races (Wright and Perrone, 1977). On the other hand, Beck and his colleagues (1978) found that not only does discrimination occur in the distribution of blacks and whites into labor markets, but also in the distribution of rewards and opportunities within these markets.

Another way to examine lower black returns to resources is to look at the process through which blacks receive unequal returns to their resources over the course of their careers. Investigating this process involves looking at job changes within and between systems of jobs and requires dynamic models and longitudinal data. In this analysis, I focus explicitly on this question by examining black/white differences in rates of job shifts and in the effects of independent variables on job shifts. This analysis provides significant additional information about lower black returns to resources such as education.

A MODEL OF RACIAL DIFFERENCES IN JOB SHIFTS

The dynamic analysis of job shifts is a relatively new approach to the study of social mobility (Sørenson and Tuma, 1978; Tuma, 1976). A

job shift refers simply to leaving one job and moving to another. Whether and when a job shift or change occurs is determined by the perceptions of the respondent. Also, there are several ways of differentiating job shifts. In this paper, I look at upward and downward shifts in prestige and in wage, and most importantly, whether the shift involves a change in employer or firm.

Interfirm and intrafirm shifts are theoretically different events. Interfirm shifts involve moving between systems of jobs, whereas intrafirm shifts involve moving within systems of jobs, often on well-defined job ladders.[1] As Rosenbaum (1979a) points out, the factors that govern movement within systems of jobs are probably quite different from the factors that govern movement between systems of jobs. First, individuals have less and different kinds of information about jobs outside the firm they presently work for than about jobs within that firm; firms have less and different kinds of information on nonemployees than they have on employees (March and March, 1977). Second, intrafirm job systems are one type of internal labor market (Doeringer and Piore, 1971; Dunlop, 1966; Kerr, 1950), and are assumed to be one of the desirable attributes of the "good" sectors of the American economy (Averitt, 1968; Baran and Sweezy, 1966; Beck et al., 1978; Bluestone, 1970; Wilson, 1978).

There are definite advantages to gaining access to intrafirm job ladders. In such job ladders, advancement to more prestigious and higher paying positions takes place in an orderly and systematic manner. Consequently, better use of job ladders may be one way in which whites receive greater returns to their resouces than blacks. Furthermore, there are two ways in which whites could have an

advantage: (1) in obtaining access to job ladders and (2) in moving on job ladders. If whites do have advantages in both movement within and between systems of jobs, affirmative action efforts should be directed at improving access to entry-level positions and at improving opportunities within systems of jobs after entry has been gained. However, if the analysis shows that one type of disadvantage is more serious than the other, affirmative action efforts can be adjusted to cope with the most significant problem.

There are some important caveats to keep in mind when analyzing job shifts. First, any shift in occupational prestige must occur through changing jobs, whereas shifts in wage can occur through raises in a job as well as through changing jobs. Second, a shift in prestige usually signals a change in occupation and long-term changes in wage (Coleman et al., 1972, b). Third, some downward shifts in wage or prestige might be upward shifts in internal prestige as defined by an employer (Kanter, 1977; Rosenbaum, 1979, a, b). Thus, the results for downward shifts must be interpreted carefully. Also, given the implications of a shift in prestige, I assume that changes in prestige are sociologically more important events than changes in wage. Finally, the reader should keep in mind that the analysis of job shifts picks up most, but not all, aspects of the process through which returns to resources accrue over time.[2]

Differences in Rates of Job Shifts

One way to examine black/white differences in job shift behavior is to look at the frequency or likelihood of job shifts. If whites

receive greater returns to their resources through job shifts, this should be reflected in higher rates of upward job shifts, and perhaps in lower rates of downward shifts.

A rate is defined in the following way. Let $P_{jk}(t,t+\Delta t)$ denote the probability of a change from state (job) j at time t to state (job) k at time $t+\Delta t$; such probabilities are usually called transition probabilities. The limit of a transition probability as Δt approaches zero is called the instantaneous rate of a transition:

$$r_{jk} = \lim_{\Delta t \to 0} \frac{P_{jk}(t,t+\Delta t)}{\Delta t}.$$

In addition to examining the actual rates in the sample, I estimate rates for blacks and whites assuming they have the same characteristics. In this manner, it is possible to examine the extent to which black/white differences in rates of job shifts are due to other variables. If blacks have lower rates of upward shifts than whites after adjusting for resources, levels of rewards, age, and job tenure, we can conclude that blacks are receiving fewer opportunities to move upward than are whites. This would explain one mechanism through which blacks receive lower returns to resources. If, on the other hand, the differences in rates disappear when other factors are controlled, this would indicate that black/white differences in job shift behavior are due to racial differences in levels of resources. Furthermore, it would indicate that black/white differences in returns to resources are occurring through other mechanisms, and not through job shifts.

Differences in Returns to Resources.

A second way to examine black/white differences in job shifts is to look at the effects of resources on upward and downward shifts. Past research shows that blacks receive lower returns to education than whites (Blau and Duncan, 1967; Collins, 1979; Featherman and Hauser, 1976). However, these lower returns could occur through any or all of the types of job shifts. Given the lack of a theoretical rationale for suspecting equality of returns in some types of shifts, I expect to find that education will have larger positive effects on interfirm and intrafirm upward shifts in wage and prestige for whites than for blacks, and larger negative effects on interfirm and intrafirm downward shifts in wage and prestige.

Education is a general resource or credential in that it is useful in gaining entry to firms and in securing promotions within a firm (Collins). Other resources are employer- or firm-specific (Becker, 1975). These resources include most on-the-job-training and experience with an employer. Research shows that firm-specific resources have positive effects on intrafirm upward shifts in wage and prestige, but negative effects on interfirm upward shifts in wage and prestige (Sandefur, forthcoming). This seems to reflect the nontransferable nature of firm-specific resources and the unwillingness of individuals to give up the value of these resources, which constitute a form of investment in a firm. Though there is no research that has investigated black/white differences in returns to firm-specific resources, the presence of other differentials suggests that blacks probably receive lower returns to these resources also. This could occur through any or all of the types of job shifts. Again, I expect that blacks will receive lower returns in all situations.

Though I am primarily interested in the effects of general and firm-specific resources, I include two other sets of variables that have been found to be important determinants of job shifts: first, measures of job rewards. The problem of regression towards the mean leads to a negative effect of prestige (wage) on upward shifts in prestige (wage), and a positive effect of prestige (wage) on downward shifts in prestige (wage). This renders the effects of prestige on shifts in prestige, and wage on shifts in wage, uninterpretable (Coleman, 1968). However, the effects of prestige on shifts in wage, and of wage on shifts in prestige can be interpreted. Past research has shown that the higher the level of one reward, the less likely an individual is to move upward or downward in terms of the other reward (Sørensen and Tuma, 1978; Tuma, 1976). This is probably due to three factors: the higher the level of job rewards, the less likely an individual is to search for a better job, the fewer the opportunities for moving up, and the more protected individuals are from involuntary downward moves.

Existing knowledge of black/white differences suggests that blacks have fewer opportunities to move upward than whites and are less protected from downward moves. If this is true, the results should show that wage (prestige) has larger negative effects on upward shifts in prestige (wage) for blacks than for whites, and that wage (prestige) has larger negative effects on downward shifts in prestige (wage) for whites than for blacks.

Age and duration are also included in the analysis. Both have been found to reduce the likelihood of changing jobs and moving in any direction (Tuma). The effects of age on upward shifts are probably

due to declining opportunities with increasing age, whereas the effects of age on downward shifts are probably due to the protection of seniority and experience in the labor force (Rosenbaum, 1979 a,b; Stewman, 1975). In the case of both upward and downward shifts, age should be more of a handicap for blacks.

The effects of duration in jobs are apparently due to increasing satisfaction with a job as the amount of time spent in that job increases, and to the fact that job tenure is a measure of job-specific resources (March and March, 1977; Tuma, 1976). There is no theoretical reason for expecting differences in the effect of duration on upward shifts. However, whites should be more protected by duration from downward shifts than are blacks.

RESEARCH DESIGN

Data

The data consist of retrospective life histories of a random sample of U.S. males between the ages of 30 and 39 inclusive. Collected in 1969 under the direction of the National Opinion Research Center, this data set is the first and only collection of retrospective life histories for a national sample in this country.

Individuals were selected through standard multistage area probability methods as described in Blum et al. (1969). A supplemental sample of blacks was taken in order to have fairly equal numbers of blacks and whites. The total number of white respondents was 851; the total number of black respondents was 738. After excluding job-person

matches with missing information, military jobs, self-employment and unemployment, 8,075 job-person matches remained.

The retrospective life histories contain information on a number of variables from age 14 to the date of the interview in 1969. Most respondents entered the labor force following World War II and had some labor force experience by 1969. One of the most appealing features of these data is that they contain information on the exact time of job changes along with a number of other pieces of information about each job.

Method

A variety of statistical techniques can be utilized to analyze life-history (and other event-history) data because such data provide information on the states (e.g., kinds of jobs) occupied by every individual in the sample continuously over some interval of time. However, the most common methods (e.g., panel analysis) do not use all available information in event-history data and have other disadvantages as well. I use a method of event-history analysis described in detail by Tuma et al. (1979), which has many desirable properties and does use all information on the kinds of jobs held, the sequencing of jobs, and the timing of job changes.

In this method, the instantaneous rates of transition (defined earlier) are the dependent variables. A variety of observable variables--including the duration in a state, the number of state changes in a period, and the state occupied at a given time--are random variables whose probability densities (or probabilities) are functions of the unobservable transition rates. Knowledge of the rela-

tionship between observable variables and transition rates allows the transition rates to be estimated from data.

I allow transition rates to be functions of a vector of variables X describing characteristics of job j and the individual, and d_j which represents the duration of job j. In particular, I assume that each transition rate r_{jk} is a log-linear function of X and d_j:

$$\ln r_{jk} = BX + cd_j = b_0 + b_1x_1 + ..+ b_mx_m + cd_j \qquad (2)$$

or

$$r_{jk} = e^{b_0 + b_1x_1 + ..+ b_mx_m + cd_j} \qquad (3)$$

Because event-history data provide information on the duration in each job and on the kind of job entered after leaving a job, the method of maximum likelihood (ML) can readily be used to provide estimates of B that have the usual desirable properties of ML estimators--consistency and asymptotic normality. Furthermore, standard errors of estimates can be obtained, allowing tests of hypotheses about individual b's. In addition, a likelihood ratio test can be used to compare nested models, for example, to test whether the addition of a set of variables X significantly improves the explanation of a transition rate.

In applying the form of event-history analysis sketched above, the only data that are needed--other than information on X--are the time that jobs are entered and left (so that duration in a job [d_j] can be computed), and the description of the states that are entered after leaving each job.

Variables

Empirical measures of the variables are listed in Table 1. Most of these definitions are self-explanatory. Duration is obtained from information on the month and year a person enters a job and is last observed in this job. Prestige is measured by the Siegel (1971) occupational prestige index. Wage was obtained by dividing monthly earnings in dollars by hours worked per month.

RESULTS

In discussing the results I look at the means of the variables, examine black/white differences in rates of movement, and in returns to resources in interfirm and intrafirm job shifts.

The means of Table 1 are means for job-person matches rather than for individuals. The means for the variables are higher for white job-person matches with two exceptions, age (24.02 for whites vs. 24.36 for blacks) and duration (1.78 for whites vs. 2.45 for blacks). White job-person matches show higher levels of education (11.84 vs. 10.37), a higher proportion of individuals who previously worked for the same employer (.25 vs. .14), a higher proportion of jobs that involve on-the-job training (.09 vs. .05), higher levels of prestige (34.81 vs. 27.10), and higher wages (2.08 vs. 1.76). Thus, the means indicate that the average white job-person match involves a higher level of rewards and lasts a shorter period of time. This would seem to indicate that whites are more mobile and are competing for higher rewards than blacks.

Table 1

Empirical Measures of the Variables

Variable	Indicator	White $\overline{X}$[a]	Black $\overline{X}$
RESOURCES			
EDUCATION	Years of education	11.84	10.37
PRIOR JOB	1=Employed by same employer immediately prior to present job; 0=other	.25	.14
OJT	1=Present job involves on-the-job training; 0=other	.09	.05
REWARDS			
PRESTIGE	NORC score (at beginning of job)	34.81	27.10
WAGE	Dollars per hour (at beginning of job)	2.08	1.76
AGE	Age in years at beginning of job	24.02	24.36
DURATION	Years in present job	1.78	2.45

[a]Means are those for job-person matches, rather than for individuals.

Differences in Rates

Table 2a contains the estimated rates of job shifts; Table 2b contains predicted rates of job shifts. The first set of rates are those based on the actual job shift behavior of individuals in the sample. The second set was computed by assuming that whites and blacks had the same individual and job characteristics. By comparing the rates in Table 2a to those in Table 2b, we can determine the extent to which black/white differences in rates of job shifts are due to other variables.

The results in Table 2a show that the estimated rates of upward interfirm shifts, downward interfirm shifts, and upward intrafirm shifts are higher for whites than for blacks; in fact, the rates of upward intrafirm shifts are three times as high for whites as they are for blacks. This suggests that whites are indeed more mobile than blacks, especially within systems of jobs.

In Table 2b, the same general pattern shows up, with a few deviations. Even if whites and blacks had the same resources, same level of rewards, same job tenure, and were the same age, whites would have higher rates of upward interfirm and intrafirm shifts. Furthermore, the differences in rates of upward interfirm shifts would increase. Thus, a comparison of the rates of shifts offers no support for the argument that racial differences in job shifts are due to factors such as resources or job characteristics. Rather, it indicates that, even after controlling for other factors, blacks have fewer opportunities than whites to move to better jobs. Job shifts are an important mechanism through which black/white differences in rewards are created and maintained.

Table 2

Job Shift Rates

A. ESTIMATED RATES (NO CONTROLS)

Type of Move	SES Whites	SES Blacks	SES Whites	SES Blacks
Interfirm Up	.12	.10	.14	.12
Down	.09	.08	.10	.08
Intrafirm Up	.03	.01	.06	.02
Down	.01	.01	.01	.01

B. PREDICTED RATES (ASSUMING EQUAL CHARACTERISTICS)

Interfirm Up	.12	.06	.14	.10
Down	.07	.08	.11	.07
Intrafirm Up	.03	.01	.05	.02
Down	.02	.01	.01	.00

Blacks also move downward less often than whites. However, I do not think this indicates any white disadvantage. Research indicates that blacks have higher levels of unemployment, a higher probability of being laid off, and a greater chance of being fired. Thus, it seems important to distinguish between involuntary job shifts and downward job shifts. A fairly high percentage of voluntary downward shifts may be for the purpose of taking advantage of long-range opportunities in another job or another firm. However, a resolution of this issue awaits an in-depth analysis of the causes and consequences of voluntary and involuntary downward shifts.

Interfirm Shifts

Table 3 contains estimates of the effects of individual and job characteristics on the rates of interfirm shifts in prestige for blacks and whites. The likelihood ratio tests indicate that this model improves significantly over a model that assumes a constant rate. Since the coefficients are metric coefficients, we can compare the effects of the same variables across columns, but we cannot compare the effects of different variables within a column, unless these variables are measured in the same metric.

The results in Table 3 indicate that whites receive greater returns to education as a determinant of interfirm upward shifts in prestige than do blacks. Education opens more doors and provides more opportunities for whites than for blacks. The negative effect of education on downward shifts is only slightly higher for whites (-.0564) than for blacks (-.0424), indicating that education enables both

Table 3

Interfirm Shifts in Prestige[a]

Variables	Whites (N=4743)[b]		Blacks (N=3332)	
	Up[c]	Down	Up	Down
RESOURCES				
EDUCATION	.1817 (.0145)[d]	-.0564 (.0152)	.1275 (.0152)	-.0424 (.0155)
PRIOR JOB	-.3268 (.0843)	-.5982 (.1032)	-.2808 (.1442)	-.3418 (.1415)
OJT	-.4241 (.1286)	-.4927 (.1299)	-.4439 (.2134)	-.6481 (.2012)
REWARDS				
PRESTIGE	-.0838 (.0035)	.0282 (.0031)	-.0788 (.0051)	.0399 (.0035)
WAGE	-.1153 (.0434)	-.1853 (.0456)	-.2000 (.0528)	-.2051 (.0545)
AGE	-.0305 (.0074)	-.0652 (.0088)	-.0033 (.0076)	-.0333 (.0084)
DURATION	-.1714 (.0179)	-.2609 (.0266)	-.1027 (.0150)	-.1568 (.0181)
CONSTANT	-.1565 (.1909)	-.2324 (.1986)	-.9448 (.2230)	-1.6520 (.2071)
LIKELIHOOD RATIO TEST (df=7)	1278.90 ($p < .001$)	421.97 ($p < .001$)	478.36 ($p < .001$)	241.61 ($p < .001$)

[a]These estimated effects are metric coefficients.
[b]N's refer to the number of job-person matches.
[c]The results in column 1 also appear in Sandefur (forthcoming).
[d]Numbers in parentheses are standard errors.

blacks and whites to avoid moving from one firm to a less prestigious position in another firm.

The negative effects of prior job and ojt in Table 3 indicate that firm-specific resources deter both upward and downward interfirm shifts in prestige. They deter upward shifts because individuals are reluctant to give up their investment in an organization; they deter downward shifts because individuals with specific resources are valuable to the firm and loss of such an individual represents a lost investment to the firm. There are no significant differences in the effects of firm-specific resources for blacks compared to whites.

Prestige is included primarily as a control in Table 3, and I make no arguments concerning the effects of this variable. The effects of wage on shifts in prestige, however, are interpretable. The results in Table 3 show that wage deters an upward shift for blacks (-.2000) substantially more than for whites (-.1153), and that the effects on downward shifts are quite similar. These effects indicate one or both of the following: (1) As wage increases, opportunities to move to more prestigious jobs in other firms decrease more for blacks than for whites; (2) as wage increases, blacks become less likely than whites to look for more prestigious jobs outside the firm they are presently employed in. If the former is correct, this would indicate that highly paid blacks are in some ways trapped in their job and firm. If the latter is correct, this would indicate that wage is more important to blacks than to whites whereas prestige is more important to whites than to blacks. But there is no theoretical or empirical basis for believing the latter, while the former explanation is consistent with other black disadvantages in the labor market.

Finally, the results in Table 3 show that age and duration in job deter interfirm upward and downward shifts in prestige substantially more for whites than for blacks. This demonstrates that age and job tenure protect whites from interfirm downward shifts more than blacks. On the other hand, age and duration also deter interfirm upward shifts more for whites. Is this an indication of black advantage? Probably not. In fact, it most likely reflects the fact that whites move upward more quickly than blacks, and, thus, move less as they grow older. Second, these effects could reflect greater returns to whites in terms of in-job rewards. This would support a view of duration as an investment in a job and firm that has higher returns for whites.

By examining Table 4, it is possible to determine if a similar pattern of advantages shows up in interorganizational shifts in wage. The results indicate that education has similar effects on interfirm upward shifts in wage for both whites (.0973) and blacks (.0765). Thus, whites receive greater returns to education in interfirm upward shifts in prestige, but not in wage. If one accepts the view that shifts in prestige are more important and more sociologically significant than shifts in wage, the results indicate that whites receive greater returns in the type of job change that has the most long-range impact on careers.

Viewing shifts in prestige as more important is supported by the positive effects of education on interfirm downward shifts in wage. This suggests that downward shifts in wage may in some cases be a strategy for achieving increases in prestige and, eventually, wage. Even if another explanation is more correct, the results show that the

Table 4

Interfirm Shifts in Wages[a]

Variables	Whites (N=4743)[b]		Blacks (N=3332)	
	Up[c]	Down	Up	Down
RESOURCES				
EDUCATION	.0973 (.0125)[d]	.0395 (.0149)	.0765 (.0134)	.0178 (.0160)
PRIOR JOB	-.4872 (.0828)	-.6426 (.0933)	-.1611 (.1245)	-.6810 (.1673)
OJT	-.5969 (.1141)	-.2354 (.1166)	-.5550 (.1764)	-.5083 (.2139)
REWARDS				
PRESTIGE	-.0195 (.0026)	-.0271 (.0032)	-.0096 (.0035)	-.0154 (.0043)
WAGE	-.5823 (.0439)	.2408 (.0283)	-.8739 (.0574)	.2108 (.0240)
AGE	-.0144 (.0067)	-.0504 (.0077)	.0106 (.0069)	-.0213 (.0083)
DURATION	-.2172 (.0171)	-.1628 (.0177)	-.1025 (.0135)	-.1230 (.0171)
CONSTANT	-.3837 (.1629)	-.5425 (.1930)	-1.1920 (.1853)	-1.7840 (.2282)
LIKELIHOOD RATIO TEST (df=7)	846.24 ($p < .001$)	384.91 ($p < .001$)	443.25 ($p < .001$)	155.44 ($p < .001$)

[a]These estimated effects are metric coefficients.
[b]N's refer to the number of job-person matches.
[c]The results in column 1 also appear in Sandefur (forthcoming).
[d]Numbers in parentheses are standard errors.

processes of wage shifts and prestige shifts are indeed theoretically and empirically different events.

The results in Table 4 indicate that firm-specific resources (prior job and ojt) deter both upward and downward shifts in wage for both whites and blacks. As expected, wage has negative effects on upward shifts and positive effects on downward shifts. Table 4 shows that prestige deters interfirm upward shifts in wage more for whites than for blacks. Again, if we think of the situation in terms of the decisions made by employers and employees, these results suggest one or both of the following: (1) as prestige increases, opportunities to move to higher paying jobs in other firms decrease more for whites than for blacks; (2) as prestige increases, whites become less likely to look for higher paying jobs in other firms than blacks. In this case, the latter explanation seems most likely. If we consider the effects of wage in Table 3 and the effects of prestige in Table 4 together, the results suggest that highly paid blacks are probably much more limited in their ability to find more prestigious jobs in other firms than are highly paid whites, whereas the higher negative effects of prestige for whites reflect the built-in advantages of high prestige occupations which render interfirm shifts to obtain increases in wage or salary unnecessary. However, this is a tentative conclusion and one which must be investigated more carefully in the future.

Age and job tenure deter interfirm upward and downward shifts in wage more for whites than for blacks. This is the identical pattern to that of interfirm shifts in prestige. Age and job tenure protect whites from downward shifts in prestige; older whites and those with

job tenure also do not need to change firms or jobs in order to be upwardly mobile.

In sum, the results concerning interfirm shifts show that whites benefit more from education than blacks in moving to more prestigious positions in other organizations. This, combined with the higher educational level of whites and the generally higher level of prestige of white jobs compared to black jobs, indicates that whites are at quite an advantage in moving between firms. Furthermore, the effects of age and job tenure indicate that whites are more protected from being forced to leave a firm than are blacks. Finally, though there are no consistent racial differences in the effects of firm-specific resources on downward interfirm shifts, the higher number of whites who have these resources means that whites benefit more from the protective devices associated with a system of jobs.

Intrafirm shifts.

Given the advantages of whites in moving between systems of jobs and the higher white rates of intrafirm shifts, it would seem reasonable to expect that whites also receive greater returns to their resources in intrafirm shifts. However, the results in Table 5 indicate that education has similar effects on intrafirm upward shifts in prestige for whites (.1244) and blacks (.1250); the effects on downward shifts are not statistically significant. This suggests that once blacks gain entry to a system of jobs, their education provides access to more prestigious positions in that system in the same manner as whites.

Table 5

Intrafirm Shifts in Prestige[a]

Variables	Whites (N=4743)[b]		Blacks (N=3332)	
	Up[c]	Down	Up	Down
RESOURCES				
EDUCATION	.1244 (.0283)[d]	-.0547 (.0383)	.1250 (.0402)	.0602 (.0616)
PRIOR JOB	.9266 (.1302)	1.1310 (.1908)	1.3780 (.2132)	1.9210 (.2978)
OJT	-.0600 (.2131)	.5661 (.2311)	-.0698 (.4626)	-.3491 (.5972)
REWARDS				
PRESTIGE	-.0601 (.0064)	.0307 (.0077)	-.0921 (.0132)	.0428 (.0123)
WAGE	-.2229 (.0869)	-.0790 (.0983)	.1651 (.0757)	-.4107 (.1962)
AGE	-.0061 (.0147)	-.0139 (.0220)	.0210 (.0204)	-.0234 (.0345)
DURATION	-.0839 (.0280)	-.0659 (.0376)	-.0198 (.0333)	.0219 (.0440)
CONSTANT	-2.4530 (.3937)	-4.7130 (.5756)	-4.2930 (.6313)	-6.3070 (.8576)
LIKELIHOOD RATIO TEST (df=7)	185.63 ($p < .001$)	61.11 ($p < .001$)	97.33 ($p < .001$)	60.52 ($p < .001$)

[a]These estimated effects are metric coefficients.
[b]N's refer to the number of job-person matches.
[c]The results in column 1 also appear in Sandefur (forthcoming).
[d]Numbers in parentheses are standard errors.

The results in Table 5 indicate that some firm-specific resources are more valuable to blacks than to whites. Prior job has larger positive effects on upward and downward shifts for blacks (1.3870 and 1.9210) as compared to whites (.9266 and 1.1310); the effects of ojt do not indicate the presence of meaningful black/white differences. The effects of prior job suggest two things. First, blacks receive a greater return to some firm-specific resources than do whites. It is important to remember, though, that the rewards blacks are competing for are substantially lower than those for whites (see Table 1). Second, the results for downward shifts suggest that intrafirm downward shifts in prestige are not necessarily bad. For example, a job ladder may involve a slight downward move at some point. Furthermore, the move could be considered downward in terms of the external prestige scale, but upward internally (Rosenbaum, 1979 a, b). For this reason, I am reluctant to use the results for internal downward shifts as evidence of black/white differences in return to resources.

The effects of prestige on intrafirm shifts in prestige are as predicted. The results for wage indicate that as wage increases for whites, they become less likely to move to a more prestigious job within the same firm (-.2229), whereas as wage increases for blacks, they become more likely to move to a more prestigious job within a firm (.1651). Furthermore, higher wages protect blacks (-.4107) from downward shifts in prestige more than whites (-.0790). Though I am not certain what to make of this finding, it does <u>not</u> indicate the presence of white advantages in intrafirm shifts.

None of the effects of age in Table 5 are significant at the .05 level. Only the effect of duration on intrafirm upward shifts in

prestige for whites is significant (-.0839). Also, this effect is substantially larger than the insignificant effect of duration on intrafirm upward shifts in prestige for blacks (-.0198). This is consistent with the results for interfirm upward shifts and suggests that whites receive greater returns in terms of in-job rewards.

In Table 6, there is clear evidence of greater returns to resources for blacks as compared to whites. Given the theoretically ambiguous meaning of internal downward shifts, I confine my attention to upward shifts in examining returns to resources. Blacks receive substantially greater returns to education as a determinant of intrafirm upward shifts in wage (.1689) compared to whites (.0791). The effects of prior job are also larger for blacks, though the effects of ojt are not. These results and the results for resources in Table 5 suggest that once blacks gain access to a system of jobs, they receive similar or larger returns to their resources than whites.

The negative effects of prestige on intrafirm upward and downward shifts in wage are higher for blacks than for whites. The negative effects of age and duration on upward shifts are substantially higher for whites, whereas the effects on downward shifts are quite similar for blacks and whites. Again, this could reflect more rapid movement and greater in-job return to job tenure for whites, and the necessity of continued movement for blacks in order to gain increases in wage.

SUMMARY AND CONCLUSIONS

The results clearly demonstrate that job shifts are one mechanism through which larger returns accrue to white resources as compared to

black resources over the course of a career. Whites have higher rates of upward shifts in prestige and wage both within and between firms, and compete for higher levels of rewards. In sum, whites have substantially better opportunities to move to better jobs over the course of their careers.

Once we examine the effects of resources within this context of less black mobility and smaller black rewards, we find some surprising results. White advantages in returns to resources occur in moving across firms, especially in prestige mobility. Within firms, blacks receive an equal or greater return to their resources, especially in shifts involving wage increases. This suggests that a major problem for blacks has been gaining access to job ladders. If such a scenario is indeed true, affirmative action programs, to the extent that they improve black access to job ladder entry positions, may lead to a reduction in inequality. This, combined with improved education and training for blacks, could lead to the disappearance of the "double handicap" faced by blacks--few resources and lower returns to resources.

The present analysis strongly suggests that such a scenario is true, but does not definitely demonstrate it. A number of issues remain which should be addressed in future analyses. First, some researchers have suggested that affirmative action efforts have produced "parallel job ladders" (Bowser, 1979). That is, the job ladders on which blacks move are qualitatively less important to the central work of the firm than those on which whites move and the rewards are quantitatively smaller. Second, some of the black/white differences in job shift behavior may be due to the differential distribution of

blacks and whites in different sectors of the economy. Though there are probably few job ladders in the peripheral or secondary sectors of the economy, much black intrafirm movement may be occurring here. Consequently, future research should address the sectoral distribution of intrafirm movement and the impact of this on black/white differences in job shift behavior. This combination of structural and dynamic analyses should yield additional information on black/white differences in job shift behavior and in returns to education and firm-specific resources.

NOTES

[1]In this paper, I treat all intrafirm movement as sufficiently similar to be considered together, and do the same for interfirm movement. Obviously, there is a great deal of variation across firms and systems of jobs. In future analyses, I hope to complicate the conceptual scheme by looking at interfirm and intrafirm shifts in different sectors of the economy.

[2]Besides upward shifts and downward shifts, it is also possible to look at lateral shifts. However, the theoretical meaning of lateral shifts is ambiguous.

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