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3 Layoffs, Discharges and Youth Unemployment

Peter Jackson and Edward Montgomery

3.1 Introduction

The causes of the youth unemployment and nonemployment constitute one of the most troublesome labor market problems facing us today.[1] Joblessness among black youths has become increasingly acute in the past 25 years, as shown in table 3.1. The unemployment rate for black youths now stands at almost 50 percent. Further, this level has been rising relative to that of white youths. For example, the unemployment rate for young black men aged 16 to 19 was 1.2 times the rate for young white men in 1955, but it rose to 2.2 times as great by 1983. Young women have also experienced an increase in unemployment relative to that of their white counterparts, such that their rate is now 2.4 times that of white women aged 16 to 19.

In this paper we examine the importance of layoffs and discharges in explaining the high rate of unemployment among black male youths as well as the differential in black-white unemployment rates. The analysis concentrates primarily on explaining why unemployed youths lost their jobs, rather than the differences in the duration of unemployment associated with job loss. Previous work by Leighton and Mincer (1982) suggests that 60 percent of the black-white differences in unemployment rates for 16- to 19-year-olds is due to differences in the incidence of unemployment. Further, Flanagan (1978) has shown that layoffs are more common among blacks than whites.[2] Thus, an examination of the determinants of layoff or job-loss rates should shed some light on an important component of black joblessness.

Table 3.2 presents evidence from May Current Population Survey (CPS) data on youth unemployment, by reason for separation or entrant

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Table 3.1 **Unemployment Ratios and Black-White Differentials by Race and Gender**

		Unemployment Ratio, Men			Unemployment Ratio, Women		
Year	Age	Whites	Blacks	Blacks/ Whites	Whites	Blacks	Blacks/ Whites
1948	16–17	10.2	9.4	.92	9.7	11.8	1.22
	18–19	9.4	10.5	1.12	6.8	14.6	2.15
	20–24	6.4	11.7	1.83	4.2	10.2	2.43
1958	16–17	14.9	27.1	1.82	15.6	25.4	1.63
	18–19	16.5	26.7	1.62	11.0	30.0	2.73
	20–24	11.7	19.5	1.67	7.4	18.9	2.55
1969	16–17	12.5	24.7	1.98	13.8	31.2	2.26
	18–19	7.9	19.0	2.41	10.0	25.7	2.57
	20–24	4.6	8.4	1.71	5.5	12.0	2.18
1975	16–17	19.7	39.4	2.00	19.2	38.9	2.03
	18–19	17.2	32.9	1.91	16.1	38.3	2.38
	20–24	13.2	22.9	1.73	11.2	22.5	2.01
1979	16–17	16.1	34.4	2.14	15.9	39.4	2.48
	18–19	12.3	29.6	2.41	12.5	33.4	2.67
	20–24	7.4	17.0	2.30	7.8	20.8	2.67
1982	16–19	21.4	46.2	2.16	22.8	42.7	1.87
	20–24	15.8	31.4	1.99	12.1	27.6	2.28

Source: Handbook of Labor Statistics (1980, 69, table 32).

status. Unemployed workers are categorized as losers (laid off or discharged), leavers, entrants, and reentrants. Differences in black and white unemployment rates are explained primarily by differences in the amount of unemployment attributable to entrants and to job losers. For the younger workers, differences in unemployment among new entrants constitute the primary cause of the black-white differential. The difference in black and white unemployment rates for older youths (20 to 24 years old) is primarily the result of differences in unemployment rates for job losers and reentrants, while unemployment among new entrants is relatively unimportant.

If, as Clark and Summers (1982) have pointed out, the distinction between labor-force and non–labor-force status is a weak one, such that reentrants should be treated as losers and leavers and not as entrants, the magnitude of unemployment attributable to job loss is even greater. If reentrants are partitioned into losers and leavers in the same proportion as losers and leavers are represented in the unemployed population, job losers then account for 59 percent of the unemployment and 60 percent of the differential in black-white unemployment rates among 20- to 24-year-olds and 42 percent of the unemployment and 44 percent of the black-white differential among 18- to 19-year-olds. Clearly,

Table 3.2 **Catagories of Youth Unemployment, 1969–79**

Age/ Status	Blacks				Whites			
	1969	1975	1978	1979	1969	1975	1978	1979
16–17								
Total Unemployment Rate	24.6	42.4	44.0	40.8	10.7	17.7	13.8	14.4
Losers	2.7	5.6	3.4	1.3	1.4	3.3	1.5	1.1
Leavers	2.4	1.8	.8	.4	1.0	1.4	1.3	.8
Total entrants	19.6	35.1	39.8	39.1	8.2	13.0	11.0	12.3
reentrants	7.7	19.5	11.9	15.2	3.5	5.0	4.2	3.5
new entrants	11.9	15.6	28.0	23.9	4.7	8.0	6.8	8.8
18–19								
Total Unemployment Rate	18.5	36.7	38.0	36.0	5.7	15.9	9.0	10.3
Losers	5.4	13.1	4.8	6.0	1.9	7.2	2.7	1.9
Leavers	4.5	.7	2.7	3.8	.7	1.3	1.9	1.9
Total entrants	8.6	22.9	30.5	26.2	3.1	7.4	4.5	6.4
reentrants	8.1	14.1	17.8	14.8	2.5	4.8	2.9	3.8
new entrants	.5	8.8	12.7	11.4	.6	2.6	1.6	2.6
20–24								
Total Unemployment Rate	7.1	28.3	18.8	17.8	4.4	13.6	6.6	6.4
Losers	2.5	18.0	8.7	5.6	1.6	8.7	3.1	2.1
Leavers	2.7	1.7	2.2	2.5	1.0	1.0	1.2	1.4
Total entrants	2.0	8.7	7.9	9.7	1.7	4.0	2.3	2.9
reentrants	1.5	5.8	5.1	7.0	1.5	3.6	1.8	2.5
new entrants	.5	2.9	2.9	2.7	.2	.4	.5	.4

Source: For data through 1978, see Freeman and Medoff (1982 *b*). All data are weighed based on the appropriate May CPS tapes.

this high rate of job loss is a major source of unemployment among black youths.

3.2 Theory

How can we account for the high rate of job loss among black youths? The previous literature has attributed this differential to differences in seniority and unionism between black and white youths.[3] Although based on informal analysis, these conclusions are derived from the observed differences in unionism and tenure between whites and blacks. These differences can be seen in CPS data on seniority and unionism shown in table 3.3. It should be noted that these differences are greatest for older blacks aged 20 to 24, who have the highest rate of job loss. Given the negative relationship between seniority and layoffs and the positive one between unionism and layoffs that is found for mature workers, it is plausible that these differentials are a factor in explaining these differences. In addition to these parameters, differences in stocks of human capital or in concentrations in unstable industries or jobs may account for the difference in the incidence of job loss or separation between black and white teenagers. If blacks have less human capital, they are more likely to be job losers in the event of cyclical or seasonal disturbances in their industry. Moreover, concentration in occupations, industries, or geographic areas where employment is declining would also serve to generate a higher rate of job loss among blacks than among whites.

In the next section, we use a turnover model to test these propositions on the determinants of job loss among black and white youths. Our model of job loss can be derived quite simply.[4] The decision to lay off a worker depends on the value of the worker to the firm in any period of time, V_{it}, or more formally:

$$L_{it} = 1 \text{ if } V_{it} \leq 0$$

$$L_{it} = 0 \text{ if } V_{it} > 0,$$

where L_{it} indicates whether the worker is a job loser. The value of the worker to the firm is the difference between the worker's marginal product, MP_{it}, and his wage, W_{it}, or:

$$V_{it} = MP_{it} - W_{it}. \tag{1}$$

Because of firm-specific human capital and transaction costs associated with hiring and finding new workers, the value of the worker to the firm in period t also includes a premium above the worker's current marginal product, Z_{it}, or:

Table 3.3 Seniority and Union Status, by Race

Age	Status	Blacks	Whites
		Seniority	
16–17	1 year	114 (77.2%)	1,638 (52.4%)
	2 years	33 (22.2%)	989 (31.6%)
	3 years		498 (15.9%)
18–19	1 year	130 (60.1%)	2,548 (43.6%)
	2 years	54 (24.8%)	2,075 (35.5%)
	3 years	33 (15.1%)	1,224 (20.9%)
20–24	1 year	750 (27.2%)	8,124 (30.4%)
	2 years	959 (34.8%)	8,168 (30.5%)
	3 years	1,049 (38.0%)	10,464 (39.9%)
		Union Membership	
16–17	Yes	70 (3.9%)	1,106 (4.0%)
	No	1,774 (96.1%)	26,511 (96.0%)
18–19	Yes	506 (16.1%)	4,205 (10.3%)
	No	2,631 (83.9%)	36,808 (89.7%)
20–24	Yes	7,796 (20.7%)	19,730 (16.9%)
	No	10,717 (79.3%)	96,778 (83.1%)

Source: A subsample of employed workers included in the pension sample of the May 1979 CPS.

$$V_{it} = MP_{it} - W_{it} + Z_{it}. \tag{2}$$

We can express the current marginal product, the wage, and the premium as a function of a vector of observable personal and job characteristics, X_{it}, that determines an individual's productivity; we also include an error term to measure the presence of unobservable individual- and firm-specific determinants of productivity, wage, and transaction costs, such that:

$$MP_{it} = b(t)X_{it} + \epsilon_{it} \tag{3}$$

$$W_{it} = g(t)X_{it} + \theta_{it} \tag{4}$$

$$Z_{it} = h(t)X_{it} + \omega_{it}. \tag{5}$$

Using equations (2), (3), (4), and (5), the value of the worker to the firm in period t is thus:

$$V_{it} = [b(t) - g(t) + h(t)]X_{it} + \phi_{it}, \tag{6}$$

where ϕ_{it} is the composite error term.

If we assume that the conditional probability of job loss, L_{it}, is cumulative logistic, then the job-loss equation to be estimated is:

$$\log\left(\frac{P_{it}}{1-P_{it}}\right) = \beta X_{it} + e_{it}, \tag{7}$$

where P_{it} is the probability of a layoff. The vector X_{it} is composed of schooling, age, tenure on the job, unionism, and industry and occupational dummy variables. In some of the estimated regressions, additional job and individual characteristics, such as the wage rate, firm size, the race of the worker's supervisor, and absenteeism behavior, are added. When we estimate separate layoff and discharge equations, we expect layoffs to be more sensitive to job characteristics than are discharges because of the importance of seasonal or cyclical factors in determining temporary or indefinite layoffs. Conversely, discharges should be more sensitive to personal characteristics or behavior because of the importance of employer perceptions of an individual's productivity in discharge decisions.

To test this model we use data on individuals from three surveys: the 1979 National Longitudinal Survey of Youth (NLS), the 1979 NBER Survey of Inner-City Black Youth, and the May CPS for 1979–81. The NBER survey has detailed data on the personal characteristics of inner-city black youths and provides a large sample of black youths for detailed analysis of the determinants of black discharge and layoff experience. The NLS and CPS data sets contain detailed data on the job and personal characteristics of blacks and whites and thus allows analysis of black-white differences in turnover behavior. We use both the CPS and NLS data sets in part because of differences in the nature of the separation and unemployment questions in the two surveys.[5] Thus, by using all three data sets, we can check the robustness of our results.

3.3 Empirical Results

3.3.1 NBER Data

Previous work on youth unemployment has concentrated on explaining either the incidence or duration of unemployment. We concentrate on explaining the incidence of job loss rather than the resultant duration of spells of unemployment, in part because the incidence of spells has been shown to account for much of the black-white differences in youth unemployment. The incidence of unemployment that is the result of job loss can be related to turnover behavior by using the following expression:

$$P(U \text{ and } Loser) = P(Loser) \cdot P(U|Loser). \tag{8}$$

That is, the contribution of job losers to unemployment equals the rate of job loss multiplied by the proportion of losers who are unemployed (those who do not have new jobs lined up prior to job loss or who do not leave the labor force). To see why blacks have such a high prob-

ability of being in the *P(Loser)* category, we initially used the NBER data. The NBER sample is restricted to young black men residing in three large cities: Boston, Chicago, and Philadelphia. Since inner-city youths suffer disproportionately from unemployment, and most black youths reside in the inner city, this sample should provide insight into the determinants of job loss among black youths.

The 1979 NBER sample is restricted to respondents who had held a job in the past 12 months. The resulting sample comprised 1,549 men living in the three cities, 35 percent of whom had separated from their last job because of layoffs and 10 percent of whom had separated because of discharge. The ratio of quits to layoffs is lower in this sample (1.54) than that derived in previous work using a more representative sample (3.03).[6] This discrepancy may reflect the absence of rural youths who tend to have much lower layoff and discharge rates.

Table 3.4 presents the sample means and standard deviations, and table 3.5 presents the results of estimating logistic equations for job losers and separate layoff and discharge equations. The NBER sample is composed mainly of 16- to 19-year-olds, a large fraction of whom were still in school at the time of the survey. The extent of unionism was quite high, as over 12 percent of these inner-city young men were covered by a collective bargaining agreement. A sizable proportion of the sample, 21 percent, was employed in the heavily unionized construction and manufacturing industries. Given the fact that unionized workers tend to experience higher layoff rates and lower quit rates than those of the overall labor force, concentration in these cyclically sensitive sectors may account for the low quit-layoff ratio found in this survey. Despite the fact that 21 percent of the sample were employed in the manufacturing and construction industries, over 40 percent of the employment in the sample was in the service sector and in service occupations. Further, the mean wage for the sample was only $3.10 per hour. Thus, the majority of inner-city youths in the NBER sample tended to find employment in relatively low-paying service jobs.

The regression results isolate several important contributors to the high incidence of job loss among black youth. The importance of job tenure is evident in all of the regressions. The negative impact of tenure on both layoffs and discharges indicates that being last in the hiring queue contributes to the youth joblessness problem. Lack of seniority is important in both union and nonunion firms, as the addition of the union variable does not reduce the explanatory power of the tenure variable. Not surprisingly, tenure has a bigger impact on layoffs than on discharges. The significance of this variable in the discharge equations does, however, indicate that as blacks gain seniority, they are less likely to be job losers for any reason. The point estimate for the effect of increasing tenure is quite large. An increase in tenure of six

Table 3.4 NBER Survey Means and Standard Deviations

Independent Variable	Mean	Standard Deviation
Union	.124	.329
Hours Worked	22.15	18.45
Average Hourly Wages	3.10	2.81
Schooling	10.74	1.50
Age	19.07	2.57
Tenure (months)	20.41	9.31
Married Dummy Variable	.032	.176
Professional	.043	.203
Managerial	.009	.094
Sales	.028	.165
Clerical	.147	.354
Crafts	.099	.299
Operative	.104	.305
Transport	.031	.174
Service	.397	.490
Agriculture	.003	.050
Mining	.001	.025
Construction	.067	.249
Manufacturing	.144	.352
Transport	.034	.180
Wholesale and Retail	.224	.417
Finance	.037	.190
Service	.437	.496
Public Administration	.053	.223
Boston	.326	.469
Chicago	.335	.472
Training Dummy Variable	.081	.27
Racé of Boss (Black - 1)	.278	.441
Absent Often	.012	.110
Absent Rarely	.192	.393
In School	.560	.496

months above the mean reduces the probability of job loss by 26 percent, as shown in table 3.6. The effect on layoffs is even greater than this.

These estimates of the size of the relationship between tenure and layoffs or job loss must be viewed with a degree of caution, however. Heterogeneity will bias estimates of this relationship because firms with low layoff propensities will tend to have workers with high tenure. As pointed out in Jovanovic (1979), heterogeneity may account for almost half of the observed relationship between tenure and layoffs. Nonetheless, heterogeneity only increases the observed magnitude of this relationship, it does not create it. Thus, seniority, or the lack thereof, still plays an important role in explaining black job-loss rates.

Interestingly, the effect of unionism appears to be quite weak in the layoff and job-loss equations. Both the point estimate and the signifi-

Table 3.5 **NBER Job Loss Equations**

Independent Variables	Job Losers			Layoff			Discharge		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Constant	−2.333**	−1.824**	−2.109**	−2.833**	−2.154**	−2.687**	−3.113**	−3.788**	−3.276**
	(−4.13)	(−6.20)	(−3.13)	(−4.56)	(−6.05)	(−3.57)	(−2.86)	(−8.30)	(−2.66)
Schooling	.065		.007	.117**		.057	−.102		−.128*
	(1.59)		(.15)	(2.55)		(1.16)	(−1.38)		(−1.64)
Chicago	.273**		.076	.243*		−.123	.285		.112
	(2.14)		(−.52)	(1.77)		(−.79)	(1.04)		(.39)
Boston	.234*		−.306**	−.017		−.556**	.854**		.530*
	(1.79)		(−2.08)	(−.12)		(−3.41)	(3.36)		(1.96)
In School	−.331**		−.345**	−.276		−.324**	−.404		−.295
	(−2.44)		(−2.33)	(−1.85)		(−2.01)	(−1.54)		(−1.08)
Age	.018		.035	.019		.024	.053		.040
	(.60)		(1.06)	(.06)		(.66)	(.96)		(.70)
Married	−.224		−.091	−.053		.155	−.792		−.863
	(−.74)		(−.28)	(−.17)		(.45)	(−1.07)		(−1.15)
Training	−.009		−.115	−.087		−.245	.209		.274
	(.04)		(−.52)	(−.40)		(−.99)	(.60)		(.76)

Table 3.5 (continued)

Independent Variables	Job Losers			Layoff			Discharge		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Union		.149	.015		−.845	−.252		.637**	.687**
		(.93)	(.09)		(−.47)	(−1.36)		(2.46)	(2.56)
Tenure		−.075**	−.083**		−.081**	−.091**		−.033**	−.031*
		(−7.05)	(−7.53)		(−6.59)	(−7.16)		(−2.16)	(−1.93)
Absent Often		.546	.530		−.948	−.964		1.910**	1.830**
		(1.29)	(1.24)		(−1.49)	(−1.51)		(4.10)	(3.88)
Absent Sometimes		−.178	−.152		−.345	−.304		.331	.260
		(−.80)	(−.67)		(−1.38)	(−1.20)		(.90)	(.70)
Absent Rarely		.114	.107		.078	.069		.180	.183
		(.84)	(.78)		(.53)	(.46)		(.73)	(.73)
Race of Boss		.051	.051		.126	.011		−.212	−.126
		(.42)	(.40)		(.96)	(.74)		(−.91)	(−.53)
Industry and Occupation Control		√	√		√	√		√	√
Log Likelihood	−1144.10	−970.52	−959.90	−989.59	−838.82	−823.51	−421.25	−382.92	−377.39

Note: **Significant at the 5 percent level in a two-tailed test.

*Significant at 10 percent level in a two-tailed test. t-statistics in parentheses. Asymptotic t- statistics in parentheses.

Table 3.6 **Predicted Differences in Job-Loss Probabilities**

Difference	Losers	Layoff	Discharge
Base	.046	.035	.011
Union–Base	.008	−.007	.010
1 Year Tenure–Base	.040	.022	.003
2 Years Tenure–Base	−.012	−.009	.002
In School–Base	−.013	−.008	−.003
Black Boss–Base	.002	.001	−.002
Married–Base	−.004	−.005	−.006
Absent Often–Base	.030	.019	.053

Note: The base group consists of 19-year-old, nonunion members, who were out of school, with 10.8 years of schooling, no training, single, never absent, living in Philadelphia, and working as laborers in public administration, with 20 months tenure for a white boss. The predicted probabilities are based on the coefficient estimates in table 3.5.

cance level of this variable indicate that the relatively high incidence of union membership among blacks may not be at the heart of the job-loss problem. Specifically, union membership seems to increase the likelihood of discharge but reduce the likelihood of layoff.

The human capital variables also have little explanatory power in these equations. Only the dummy term for being in school is consistently significant. This negative relationship between being in school and job loss, after controlling for age and schooling, suggests that part-time jobs are more likely to end in quits than in job loss. Whether this is because part-time jobs are undesirable jobs per se or because youths leave these jobs to find better permanent jobs cannot be said. It is plausible that the in-school term is also capturing some unmeasured characteristics that are correlated with higher productivity. Youths of a given age who are still in school may have greater ability than out-of-school youths, which is leading them to invest more in human capital. Ceteris paribus, firms would thus be less likely to lay off or discharge these youths. The size of this effect indicates that examining which youths stay in school or why they do so may yield further insights into the youth unemployment problem.

It is of interest to note that the absenteeism variable is significant only in the discharge equation. Workers who are absent often have a much greater probability of discharge than those without attendance problems. This result may indicate that discharges tend to be more dependent on individual actions than are layoffs, which are primarily caused by cyclical or secular shocks. Caution should be exercised in interpreting this variable, however, because frequent absenteeism may be as much the result of undesirable job characteristics as of personal habits. Consequently, it is important to determine whether this variable

is simply a proxy for unmeasured job characteristics that are correlated with discharges or instead reflects the effect of traits specific to the individual.

These job-loss equations for young inner-city black men have enabled us to isolate a few important factors that may be the root of the job-loss problem of black youth. Lack of seniority seems to be particularly important, as is the tendency of inner-city youths to drop out of school. High mean levels of unionism and the lack of training do not seem to increase significantly their job-loss probabilities. Absenteeism increased discharge frequencies but not layoff or overall job-loss rates. Some of the industry and occupational dummy variables were also significant in indicating that employment in volatile industries or occupations may also explain part of the high incidence of job loss among black youths.[7] On the other hand, schooling, marital status, and age did not seem to explain much of the job-loss problem. The human capital variables in general were less powerful than the job and occupational variables in explaining job loss. Thus, these preliminary tests indicate that differences in the types of jobs individuals hold may be relatively more important than individual characteristics in understanding the high rates of job-loss unemployment among black youths.

3.3.2 NLS Data

For comparability with the NBER results, we restricted the NLS sample to men only. The 1979 NLS is composed of 6,398 individuals, of which 1,582 are black. Table 3.7 presents the means and standard deviations for this sample. Blacks were more likely than whites to be unemployed job losers and were more likely than whites to change jobs because of job loss. The magnitude of these differences, however, is smaller than that found in the CPS results in Table 3.2, which may reflect differences in sampling (poor whites are overrepresented in the NLS) or the fact that the NLS respondents were the youths themselves, whereas the CPS respondents were household members.

In addition to differences in job-loss probabilities between blacks and whites, the NLS indicates that black youths had lower average tenure and higher unionism rates than did their white counterparts. Blacks on average were also slightly younger, were less likely to be married, and had less training than whites. Based on the NBER results, these factors would tend to lead to a higher rate of job loss among blacks than among whites. Conversely, blacks were more likely to be in school and less likely to be employed in the cyclically sensitive construction and manufacturing sectors. To distinguish the relative importance of these parameters in explaining black-white differences in job-loss probabilities, a linear probability model was estimated. The effects of human capital versus job and occupation variables are high-

Table 3.7 NLS Summary Statistics

Independent Variable	Whites		Blacks	
	Mean	STD	Mean	STD
Age	17.93	2.35	17.73	2.27
Education	10.43	2.06	10.20	1.87
Urban Dummy (Urban = 1)	.664	.472	.064	.245
Union	.064	.244	.064	.245
Tenure (months)	6.20	16.08	3.91	11.21
Training	.086	.281	.050	.218
In School	.576	.494	.608	.488
Married	.083	.276	.032	.177
Professional	.033	.179	.028	.121
Managerial	.025	.155	.015	.176
Sales	.061	.240	.031	.263
Clerical	.219	.254	.074	.302
Crafts	.142	.348	.101	.343
Operative	.160	.366	.136	.244
Transport	.042	.212	.064	.421
Laborer	.196	.393	.230	.194
Service	.270	.063	.310	.449
Agriculture	.076	.265	.050	.220
Mining	.008	.087	.004	.061
Construction	.080	.271	.072	.259
Manufacturing	.210	.407	.184	.388
Transport	.030	.171	.049	.217
Wholesale and Retail	.332	.471	.328	.470
Finance	.015	.123	.021	.143
Service	.226	.419	.262	.440
Public Administration	.025	.150	.028	.166
P (*U* and *Loser*)	5.3		6.9	
P (*Loser*|*Changers*)	46.8		52.2	

Note: The means are unweighted. STD = standard deviation.

lighted by estimating separate equations for each set of variables. These equations were estimated separately for blacks and whites as well as a pooled version to test for racial differences in the underlying model and the individual parameters. Tables 3.8 and 3.9 present the results of these tests.

The linear probability estimates for blacks from the NLS are generally consistent with those from the NBER sample. Being in school reduced both job-loss and layoff likelihoods. The strength of this effect was weaker in the NLS when controls for industry and occupation were entered. Nonetheless, the effect is evident among both black and white youths. Thus, youths who worked part-time or while in school were consistently less likely than others to be job losers. In addition, the coefficient on this variable is about the same size in both the black

Table 3.8 **NLS Layoff Equations**

Independent Variable	Blacks			Whites			Pooled
	(1)	(2)	(3)	(1)	(2)	(3)	(1)
Constant	.044	.0003	.029	.001	.001	−.015	−.0001
	(1.04)	(.10)	(.76)	(.04)	(.35)	(−.46)	(.01)
Age	−.001		−.001	.003		.004	.002
	(−.29)		(−.49)	(1.02)		(1.27)	(.77)
Schooling	.001		.001	−.001		−.003	−.001
	(.47)		(.38)	(−.27)		(−1.16)	(−.70)
Urban	−.018**		−.013*	−.001		.006	.002
	(−2.04)		(−1.71)	(−.13)		(.87)	(.35)
Training	−.016		−.008	−.031**		−.030**	−.028**
	(−.88)		(−.47)	(−2.75)		(−2.74)	(−3.02)
In School	−.018*		−.005	−.021**		−.018*	−.016*
	(−1.69)		(−.49)	(−2.19)		(−1.90)	(−2.14)
Married	−.018		.046	.018		.013	.013
	(−.38)		(1.03)	(.85)		(.59)	(.69)
Union		−.048*	−.050*		−.062**	−.066**	−.058**
		(−1.73)	(−1.76)		(−3.07)	(−3.19)	(−3.44)
Tenure		−.004**	−.004**		−.002**	−.002**	−.002**
		(−9.29)	(−9.18)		(−9.92)	(−9.60)	(−12.12)
Industry and Occupation Control		✓	✓		✓	✓	✓
SSR	12.74	8.96	8.91	58.23	49.29	48.81	59.13
$\bar{R}^2$	.01	.30	.29	.01	.14	.16	.16

Note: **Significant at the 5 percent level in a two-tailed test. *Significant at the 10 percent level in a two-tailed test. Asymptotic t-statistics in parentheses.

Table 3.9 **NLS Job-Loser Equations**

Independent Variable	Black			White			Pooled
	(1)	(2)	(3)	(1)	(2)	(3)	(1)
Constant	.021	.0003	.013	−.032	.0001	−.038	−.024
	(.60)	(.95)	(.41)	(−1.39)	(.43)	(−1.58)	(−1.27)
Age	.0004		.0003	.004*		.004*	.003*
	(.15)		(.13)	(1.93)		(1.91)	(1.70)
Schooling	−.0005		−.0002	−.001		−.002	−.001
	(−.19)		(−.09)	(−.54)		(−.98)	(−.96)
Urban	−.015**		−.010	−.005		−.002	−.004
	(−2.05)		(−1.58)	(−1.07)		(−.42)	(−.97)
Training	−.010		−.003	−.018**		−.017**	−.015**
	(−.65)		(−.20)	(−2.24)		(−2.11)	(−2.18)
In School	−.002		−.004	−.008		−.006	−.002
	(−.26)		(−.47)	(−1.16)		(−.85)	(−.50)
Married	−.008		.036	.014		.015	.015
	(−.21)		(.95)	(.91)		(.92)	(1.05)
Union		−.050**	−.049**		−.036**	−.039**	−.043**
		(−2.05)	(−1.96)		(−2.50)	(−2.65)	(−3.42)
Tenure		−.003**	−.003**		−.001**	−.001**	−.001**
		(−8.78)	(−8.77)		(−7.38)	(−7.21)	(−9.50)
Industry and Occupation Control		✓	✓		✓	✓	✓
SSR	8.88	6.80	6.78	29.42	26.27	26.07	33.80
$\bar{R}^2$	.01	.23	.22	.01	.08	.09	.10

**Significant at the 5 percent level in a two-tailed test. *Significant at the 10 percent level in a two-tailed test. Asymptotic t-statistics in parentheses.

and the white equations. In fact, the data do not reject the restriction that this coefficient is the same for blacks and whites. Given the fact that the weighted mean value for this variable is roughly the same for blacks and whites (0.625 versus 0.652), differences in dropout rates do not seem to explain black-white differences in the likelihood of job loss. Nonetheless, these results support the view that, ceteris paribus, those who drop out of school are an important part of the high rates of job loss among black and white youths.

Increases in human capital from training reduce the likelihood of layoff or job loss for whites. Schooling also tends to reduce the probability of layoff and job loss, but its effect is insignificant. Neither of these variables, however, has any significant impact on black layoff or job-loss rates. Given the higher mean levels of schooling and training among whites than among blacks, these human capital variables should explain at least part of the lower job-loss rates among whites. Nonetheless, the equations with only the human capital variables indicate that these parameters are of minimal importance in explaining youth job-loss rates. Interestingly, a Chow test for the human capital equations does not reject the hypothesis that these variables affect blacks and whites in the same way. Given the minimal significance of these variables, this finding is not particularly surprising, but it does indicate that differences in the mean levels of these human capital variables are more important than differences in the coefficients in explaining black-white differences in job loss. Since whites on average are older, have more schooling, are more likely to be in school or married, and are more likely to receive training, these human capital results would lead us to expect lower job-loss rates among the white youths. It should be emphasized again, that the contribution of these variables to the lower job-loss rate among whites results not from differences in the parameters but from differences in the mean levels of the human capital variables.

The effect of tenure on layoff and job loss is significant for both blacks and whites. Increases in seniority lead to lower layoff and discharge rates, even after controlling for the effects of unionism. This result indicates that seniority, either because of "first in–last out" layoff rules or firm-specific human capital levels, has an important effect on youth job-loss rates. It should be noted that the size of the impact of tenure is not altered when other human capital variables are added to the regressions. Further, the data do not reject the hypothesis that the coefficients for blacks and whites are significantly different from each other.[8] In fact, the black coefficient is double that for whites, suggesting that blacks differentially gain from increased seniority. Thus, if blacks had the same mean tenure as whites, we would expect a drop in their absolute job loss rate and in the black-white job-loss differential. Since

the probability of being unemployed given a separation also declines more quickly with tenure among blacks than among whites, an increase in tenure would reduce the black-white differential in the probability of being unemployed and a job loser.[9] These results indicate that the protection of seniority-based layoff rules, or the acquisition of firm-specific human capital, is a very important means to reduce the incidence of involuntary separations among young blacks.

Interestingly, unionism appears to lower job-loss and layoff rates for black and white youths. Even after controlling for industry and occupation, union membership is associated with more-stable jobs than those normally held by youths. The presence of formal rules governing layoffs and discharges may protect unionized youths from discretionary terminations. This protection for youths appears to offset the fact that unions, by reducing the employer's flexibility in adjusting labor costs, tend to be associated with higher layoff rates among adult males.[10]

The effect of being in certain industries or occupations also differs between blacks and whites.[11] Working in the construction industry or in the sales, crafts, or operative occupation has a significantly greater impact on the job-loss probabilities of blacks than of whites. That is, blacks in these fields are more likely, ceteris paribus, to lose their jobs than are white youth. Since approximately 26 percent of black youths are employed in these occupations, industry and occupation may explain part of the black-white difference in job-loss rates.

The occupation or job-type variables seem to explain black and white job-loss experience better than the demographic parameters. In other words, the types of jobs held by youths are more important than human capital differences in determining involuntary separations. This result may not be too surprising in light of the fact that the variance in the level of skills among teenagers is likely to be minimal given the amount of time they have had to invest in acquiring skills. Likewise, it is not surprising that having or obtaining a "stable" or "good" job is particularly important to the younger members of the labor force. Thus, it again seems crucial to our understanding of youth joblessness to discover which youths find these jobs and how they do so.

Despite the similarity in the coefficients for the human capital variables, the data reject the hypothesis that black and white job-loss or layoff experiences are generated by the same underlying model.[12] The differences in their experiences result from differences in the effects of job type and tenure on job-loss rates. For example, when we estimated equation (2), the data also rejected the hypothesis of no structural black-white differences in job-loss experience.[13] Either the types of jobs blacks receive have unmeasured characteristics that are correlated with job loss, or employers' treatment of black youths is fundamentally different from their treatment of whites. Thus, even though differences

in the mean levels of various human capital variables and the location of black jobs explain part of the black-white differential, the results from the NLS sample indicate there are important structural differences in the determinants of black and white labor market experience.

3.3.3 CPS Data

This section examines data on the 16- to 24-year-old male labor force from the 1979, 1980, and 1981 May CPS. There are 26,969 individuals in this sample, 22,278 employed and 2,476 unemployed white men with an average unemployment rate of 10.0 percent over the 1979–81 period. Among the 1,795 employed and 420 unemployed black men in the sample, the average three-year unemployment rate was 19.0 percent.[14] Table 3.10 summarizes the characteristics of those black and white labor forces. Only small differences exist between the employed and unemployed men within the same racial group. The most noticeable exception is marital status: 24 percent of the employed white men were married, while 17 percent of the unemployed white men were married; and 18 percent of the employed black men were married, while 8 percent of the unemployed black men were married. Interestingly, the distributions of employment by industry for blacks and whites were also fairly similar. White youths were more likely to be craftsmen and less likely to be service workers, however, than were black youths.

Table 3.11 displays linear probability estimates of the unemployment, layoff, quit, and discharge equations. The results show that youths 16 to 17 years old were the least likely to be unemployed, while those 20 to 21 were the most likely. Unemployment appears to have increased with age before declining as youths reached their mid-twenties. Married men were less likely to be unemployed than were single men. In general, the probability of being unemployed was sensitive to regional, occupational, and industry variables. But even after controlling for human capital, industry, and occupation, blacks were more likely to be unemployed than white youth. Black youths were also more apt to be job losers than were whites, and the difference in discharge probabilities is also statistically significant. The positive coefficients on these dummy variables for race indicate that blacks were more likely to change jobs and significantly more likely to be discharged and unemployed. In order to obtain more precise estimates of how and why black labor market outcomes differ from those of whites, we estimated separate layoff, quit, and discharge equations for blacks and whites. We also performed Chow tests to see if the coefficients in the black and white equations were the same. Table 3.12 presents these results.

The Chow tests reject the hypothesis that the coefficients for blacks and whites will be the same in any of the estimated equations. It therefore appears that black labor market experience may not be generated

Table 3.10 **CPS Summary Statistics**

Independent Variable	Whites				Blacks			
	Employment		Unemployment		Employment		Unmployment	
	Mean	STD	Mean	STD	Mean	STD	Mean	STD
Age	21.9	1.1	21.9	1.0	22.0	1.0	21.7	1.0
Education	13.2	1.9	12.8	1.9	12.9	1.8	12.7	1.56
Urban	.94	.22	.98	.14	.99	.11	1.00	.07
Married	.24	.43	.17	.38	.18	.38	.08	.27
Professional	.07	.25	.04	.19	.05	.21	.03	.17
Administration	.04	.21	.02	.14	.02	.13	.01	.08
Sales	.06	.23	.03	.18	.03	.18	.03	.17
Clerical	.07	.25	.05	.22	.11	.31	.08	.28
Crafts	.19	.39	.18	.38	.11	.31	.13	.34
Operative	.15	.36	.20	.40	.16	.37	.16	.36
Transport	.05	.23	.05	.23	.06	.24	.06	.23
Laborer	.17	.37	.24	.43	.18	.39	.21	.41
Private Household	.001	.35	.001	.03	.001	.03	0	0
Service	.14	.35	.15	.36	.25	.44	.27	.45
Farm Worker	.06	.247	.03	.18	.03	.17	.02	.15
Agriculture	.08	.28	.05	.21	.05	.21	.04	.19
Mining	.02	.13	.02	.13	.01	.07	.007	.07
Construction	.11	.32	.18	.38	.08	.26	.13	.34
Manufacturing	.21	.41	.25	.43	.23	.42	.25	.43
Transport	.04	.18	.03	.18	.04	.20	.03	.17
Utility	.02	.14	.01	.12	.02	.13	.02	.14
Trade	.30	.46	.26	.44	.26	.44	.22	.41
Finance	.02	.15	.01	.10	.04	.18	.02	.14
Service	.16	.37	.16	.37	.23	.42	.24	.45
Public Administration	.02	.15	.03	.18	.05	.22	.05	.22

Note: Means are unweighted. STD = standard deviation.

Table 3.11 CPS Unemployment, Layoff, Quit, and Discharge Estimates

Independent Variable	Unemployment	Layoff	Quit	Discharge
Intercept	−41.8**	−8.7**	−2.99	−18.8**
	(9.0)	(4.6)	(1.6)	(6.5)
Black	.08**	.004	.004	.04**
	(11.3)	(1.5)	(1.3)	(8.7)
Age 16–17	−.06**	−.02**	−.02**	.06**
	(8.7)	(5.3)	(5.9)	(12.7)
Age 18–19	.003	−.1**	−.0001	−.01**
	(.6)	(2.9)	(.1)	(3.2)
Age 20–21	.01**	−.04**	.0003	.002
	(2.6)	(2.3)	(1.3)	(.8)
Married	−.05**	.002	−.01**	−.02**
	(9.4)	(1.2)	(2.9)	(6.5)
Urban	.06**	.001	.01*	.02*
	(5.5)	(.3)	(1.8)	(2.9)
Year	.02**	.004**	.002	.01**
	(9.1)	(4.6)	(1.6)	(6.5)
North Central	.01*	.01**	−.001	−.002
	(1.7)	(4.7)	(.5)	(.7)
South	−.03	−.01**	−.002	−.02**
	(4.8)	(2.5)	(.7)	(4.6)
West	−.002	−.005**	.001	.003
	(.4)	(2.1)	(.4)	(1.0)
High School	−.07**	−.01**	−.02**	−.05**
	(14.4)	(4.1)	(7.3)	(14.7)
Professional	−.06**	−.01**	−.01**	−.03**
	(−7.5)	(3.7)	(2.6)	(5.4)
Administration	.05**	−.01**	−.01	−.02**
	(5.4)	(2.3)	(1.3)	(3.4)
Sales	−.04**	−.01**	−.01**	−.02**
	(4.3)	(1.9)	2.3	(3.7)
Clerical	−.04**	−.004	−.01**	−.02**
	(5.3)	(1.3)	(2.3)	(3.8)
Crafts	−.04**	−.002	−.01**	−.01**
	(6.4)	(.8)	(2.6)	(3.4)
Operative	−.01	.01**	−.004	−.001
	(1.3)	(4.5)	(1.5)	(.5)
Transport	−.2**	.004	.003	−.001
	(2.1)	(1.1)	(.8)	(.1)
Private Household	−.10**	−.002	.02	−.03
	(2.0)	(.1)	(.9)	(.9)
Farm Worker	.01	−.01	−.001	−.01
	(.8)	(.8)	(.1)	(.5)

Table 3.11 (continued)

Independent Variable	Unemployment	Layoff	Quit	Discharge
Agriculture	−.10**	.001	−.01	−.02**
	(6.0)	(.1)	(1.1)	(2.1)
Mining	−.05**	.01	.01*	−.02**
	(2.8)	(1.5)	(1.8)	(2.2)
Construction	.01	.02**	.002	.01*
	(.6)	(4.2)	(.4)	(1.8)
Manufacturing	−.03**	.02**	.001	−.004
	(2.4)	(4.6)	(0.1)	(.5)
Transport	−.05**	.02**	−.004	−.02
	(3.3)	(2.9)	(.7)	(1.5)
Utility	−.05**	.001	.01	−.02
	(2.7)	(.1)	(1.2)	(1.6)
Trade	−.06**	.003	.003	−.01
	(5.1)	(.6)	(.6)	(.01)
Finance	−.09**	−.001	−.003	−.02**
	(5.2)	(.1)	(.5)	(2.16)
Service	−.04**	.003	.001	−.01
	(3.4)	(.7)	(.1)	(.01)
$\bar{R}^2$	.04	.02	.004	.02

Note: **Significant at the 5 percent level in a two-tailed test. *Significant at the 10 percent level in a two-tailed test. Asymptotic t-statistics in parentheses.

by the same model as is white experience. The consistency of this finding with the results from the NLS reinforces the view that there are systematic differences in how blacks and whites fare in the labor market. The individual layoff, quit, and discharge equations illustrate how these differences may arise.

In the black layoff equations, only two variables significantly influence the probability of layoff. Workers in the north-central region were less likely to be laid off than workers in the northeast region of the country, and work in manufacturing raised the probability of layoff relative to that of government work. The significance of manufacturing employment may be due to the high levels of unionism in manufacturing. Unfortunately, the direct influence of unionism is not possible to test in this data set.[15] It should be noted that none of the human capital variables are statistically significant in these regressions. Further, none of the occupation dummy variables are significant. In the white layoff equation, however, age, education, geographic location, occupation, and industry all influence the likelihood of layoff.

The same general pattern appears in the quit equations. Not only is the model generating black quit behavior different from that for whites, but the probability of quitting is also not sensitive to changes in the

Table 3.12 **CPS Separation Equations**

Independent Variable	Layoff			Quit			Discharge		
	Blacks	Whites	Pooled	Blacks	Whites	Pooled	Blacks	Whites	Pooled
Constant	3.63	9.18**	−8.16**	2.70	−3.03	−2.98	−17.64	−18.70**	−18.74**
	(.5)	(4.69)	(4.6)	(.3)	(1.53)	(1.6)	(1.26)	(6.44)	(6.4)
Age 16–17	−.01	−.02**	−.02**	−.01	−.02**	−.02**	−.14**	−.05**	−.06**
	(.7)	(5.47)	(5.5)	(1.1)	(6.02)	(6.0)	(6.56)	(10.86)	(13.4)
Age 18–19	−.01	−.01**	−.01**	.01	−.001	−.001	−.05**	−.01**	−.01**
	(1.6)	(2.50)	(3.0)	(1.4)	(.51)	(.1)	(3.0)	(2.12)	(3.6)
Age 20–21	.003	−.01**	−.005**	.005	.002	.003	−.03*	.01*	.01
	(.5)	(2.61)	(2.4)	(.6)	(1.16)	(1.3)	(1.8)	(1.72)	(.6)
Married	−.01	−.003	.002	−.01	−.01**	−.01**	−.07**	−.02**	−.02**
	(1.1)	(1.48)	(1.1)	(.7)	(2.80)	(3.0)	(4.48)	(5.15)	(7.1)
Urban	−.02	.002	.002	.02	.01*	.01*	.02	.02**	.02**
	(.6)	(.42)	(.4)	(.6)	(1.7)	(1.8)	(.3)	(2.89)	(3.2)
Year	.002	.005**	.004**	.001	.002	.002	.01	.009**	.01**
	(.5)	(4.70)	(4.6)	(.3)	(1.55)	(1.6)	(1.3)	(6.47)	(6.5)
North Central	−.03**	.01**	.01**	−.02	−.00001	−.001	.03	−.005	−.003
	(2.6)	(4.03)	(4.6)	(1.5)	(.01)	(.5)	(1.59)	(1.33)	(.8)
South	.001	−.01**	−.01**	.01	−.00004	−.001	−.01	−.02**	−.01**
	(.1)	(2.6)	(2.4)	(1.5)	(.18)	(.5)	(.9)	(4.62)	(3.6)

West	.01	−.01**	−.005**	.0001	.001	.001	.02	.002	.002
	(1.0)	(2.54)	(2.13)	(.01)	(.60)	(.4)	(1.0)	(.66)	(.6)
High School	−.01	−.01**	−.01**	−.001	−.02**	−.02**	−.06**	−.04**	−.05**
	(.2)	(4.54)	(4.2)	(.1)	(7.75)	(7.4)	(4.68)	(13.76)	(15.1)
Professional	−.02	−.01**	−.01**	−.02	−.01**	−.01**	−.03	−.03**	−.03**
	(1.2)	(3.55)	(3.9)	(1.51)	(2.38)	(2.7)	(.97)	(5.33)	(6.0)
Administration	−.01	−.01	−.01**	.002	−.02	−.01	−.11**	−.02**	−.02**
	(.5)	(2.24)	(2.4)	(.06)	(1.25)	(1.3)	(2.20)	(2.91)	(3.9)
Sales	.0006	−.007**	−.01**	−.02	−.01**	−.01**	−.05	−.02**	−.02**
	(.03)	(1.99)	(2.0)	(1.22)	(2.03)	(2.3)	(1.45)	(2.71)	(3.5)
Clerical	.0007	−.006*	−.004	−.02*	−.01*	−.01**	−.03	−.02**	−.02**
	(.6)	(1.76)	(1.3)	(1.7)	(1.85)	(2.3)	(1.26)	(3.50)	(3.8)
Crafts	−.001	−.002	−.002	.004	−.01**	−.01**	−.02	−.01**	−.02**
	(.1)	(.97)	(.9)	(.39)	(2.80)	(2.7)	(.85)	(3.07)	(4.0)
Operative	−.0001	.01**	.01**	−.004	−.004	−.004	−.02	.0001	−.003
	(.1)	(4.48)	(4.4)	(.36)	(1.49)	(1.6)	(1.17)	(.03)	(.8)
Transport	.006	.004	.004	−.004	.003	.003	.01	−.001	−.001
	(.5)	(1.08)	(1.1)	(−.31)	(.96)	(.8)	(.03)	(.25)	(.2)
Private Household	.01	−.004	−.002	−.01	−.02	−.02	.02	−.03	−.03
	(.1)	(.20)	(.1)	(.07)	(.93)	(.9)	(.13)	(1.00)	(1.0)
Farm Worker	.001	−.005	−.01	.02	−.002	−.001	−.06	−.001	−.01
	(.1)	(.81)	(.8)	(.56)	(.27)	(.1)	(1.13)	(.15)	(.5)

Table 3.12 (continued)

Independent Variable	Layoff			Quit			Discharge		
	Blacks	Whites	Pooled	Blacks	Whites	Pooled	Blacks	Whites	Pooled
Agriculture	.005	−.0003	.001	−.02	−.01	−.01	.05	−.03**	−.03**
	(.2)	(.03)	(.1)	(.03)	(.94)	(1.1)	(.98)	(2.69)	(2.5)
Mining	.01	.01	.01	−.01	.01*	.01*	.06	−.03**	−.03**
	(.2)	(1.26)	(1.5)	(.30)	(1.76)	(1.7)	(.71)	(2.60)	(2.5)
Construction	.01	.02**	.02**	−.004	.002	.002	.09**	.01	.01
	(.8)	(3.86)	(4.1)	(.21)	(.42)	(.4)	(2.87)	(.93)	(1.4)
Manufacturing	.06**	.02**	.02**	.003	.0003	.001	.02	−.01	−.01
	(3.8)	(3.65)	(4.6)	(.18)	(.06)	(.1)	(.56)	(.92)	(.8)
Transport	.01	.02**	.02**	.001	−.01	−.005	−.04	−.01	−.02*
	(.5)	(2.74)	(2.8)	(.03)	(.76)	(.7)	(.94)	(1.34)	(1.8)
Utility	−.0005	.00004	.001	.06**	.005	.01	−.02	−.02*	−.02*
	(.02)	(.01)	(.1)	(2.1)	(.64)	(1.2)	(.45)	(1.76)	(1.8)
Trade	.01	.002	.002	.01	.002	.003	.02	−.02**	−.02**
	(.7)	(.29)	(.01)	(.56)	(.38)	(.5)	(.76)	(2.36)	(2.2)
Finance	.01	−.003	−.001	.01	−.01	−.003	−.01	−.03**	−.02**
	(.4)	(.39)	(.1)	(.61)	(.76)	(.5)	(.13)	(2.39)	(2.3)
Service	.01	.002	.003	−.01	.001	.001	−.003	−.01*	.01*
	(.6)	(.41)	(.6)	(−.44)	(.25)	(.1)	(.11)	(1.83)	(.8)
SSR	40.8	375.9	417.4	47.4	382.8	430.7	151.4	829.8	987.3
$\bar{R}^2$	.02	.02	.02	−.001	.004	.003	.03	.02	.02
Chow Test			66.66			58.0			167.0

Note: **Significant at the 5 percent level in a two-tailed test. *Significant at the 10 percent level in a two-tailed test. Asymptotic t-statistics in parentheses.

demographic or occupational profile of blacks. For example, quits, which are presumably a worker-initiated decision, are not influenced by any of the human capital variables, including education. Moreover, industry and occupational choices have almost no influence either.

Finally, in the discharge equations, age, marital status, and education significantly affect black workers' likelihood of being fired. And again, occupational and industry variables have almost no effect on the likelihood of discharge.

3.4 Summary and Conclusions

The results from the different estimates using the NBER, NLS, and CPS data sets suggest that differences in layoff or job-loss experiences between blacks and whites cannot be explained simply by differences in schooling or the geographic and age distributions of the respective populations. Increases in schooling appear to reduce white job-loss rates but do not affect black layoff or job-loss rates. Being in school significantly reduces the probability of job loss among both blacks and whites. The aggregate importance of this effect in explaining the black-white differential, however, is probably small given the relatively small differences in dropout rates that exist between black and white teens. Of the conventional human capital variables, only tenure was consistently found to reduce job loss, layoffs, and discharges among blacks or to reduce the black-white differential in these rates. Either because of firm-specific human capital or seniority-based layoff rules, lack of tenure seems to play an important role in the high rate of job loss among blacks. Lower mean levels of tenure among blacks also help account for differences in the probability of job loss between blacks and whites.

Our estimates indicate that the distribution of employment across industries and occupations is important in understanding layoff and discharge rates among white youths. The results from the three data sets differ, however, as to the importance of these variables in determining black labor market outcomes. The CPS results showed that these parameters had no explanatory power, whereas the NLS and NBER results indicated some power.[16] Despite these differences across data sets, industry and occupation were found to be less important in explaining black layoff and discharge rates than in explaining white outcomes in all the surveys.

Unionism was found not to be a significant contributor to high rates of job loss among blacks. In fact, the NLS results indicate that blacks actually benefit from the formal layoff and discharge rules that are prevalent in unionized establishments. Thus, the higher level of unionism among blacks does not explain their high incidence of job loss.

Finally, Chow tests indicated that the structure of the model generating black layoff or job-loss behavior is different from that generating white outcomes. We obtained this result using both the NLS and CPS surveys. Further, differences in the mean levels of our measured variables accounted for only a small portion of differences in labor market outcomes between blacks and whites. It is conceivable that differences in unmeasured personal or job characteristics may explain all or part of this result. Nonetheless, the role of discrimination should not be ignored in any attempt to explain the high rate of job loss and unemployment among black youths.

Notes

1. Nonemployment refers to discouraged and other potential workers who are not seeking work. In this paper we make no attempt to measure the number of nonemployed. For a discussion of the technical aspects of movement between unemployment and nonemployment, see Clark and Summers (1982).

2. Flanagan (1978) showed that the proportion of blacks who quit in a year is equal to that of whites (0.209 versus 0.206), but the proportion of blacks who are laid off is twice as high (0.074 to 0.041).

3. See Freeman and Medoff (1982b) or Clark and Summers (1982).

4. This model borrows heavily from one developed by Altonji and Shakotko (1983) to explain layoff behavior. Their model, however, relied on the assumption that productivity evolves as a first-order autoregressive process.

5. See Freeman and Medoff (1982*a*).

6. See Flanagan (1978).

7. The transport and wholesale-retail sales sectors had significant coefficients, as did the operative and service occupations. The industry and occupation coefficients are available from the authors upon request.

8. The t-statistic for the restriction that the coefficients are different was 4.56.

9. See Leighton and Mincer (1982, 245).

10. See Medoff (1979).

11. The results for industry and occupation dummy variables are available from the authors upon request.

12. The F-statistics were 3.63 for the layoff equation and 4.73 for the job-loss equation.

13. The F-statistics were 5.51 for the job-loss equation and 6.49 for the layoff equation.

14. The complete sample contained over 30,000 cases; however, the results presented in this section are restricted to the experienced labor force: our reduced sample does not include people who had never worked. Thus, we have restricted the unemployed population to losers and leavers.

15. In 1979, the CPS collected union-membership data only on employed workers.

16. For a discussion of differences in the CPS and NLS surveys that may account for this discrepancy, see Freeman and Medoff (1982*a*).

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Comment James L. Medoff

The paper by Jackson and Montgomery is a valuable discussion of job-loss unemployment among young black and white members of the labor force. Although the study provides a great deal of evidence on this subject, I believe it needs still more to resolve completely the issues at hand. In addition, the analysis would benefit from a bit more theory.

It is well known that the probability of becoming unemployed because of either a layoff or a discharge depends on both the probability of being laid off or discharged and the mean completed spell of unemployment of those who have been laid off or discharged. The authors focused on the probability of being laid off or discharged, ignoring the question of the length of spells of unemployment. Although that focus can be justified, it would be very helpful to know more about the relative importance of job-loss incidences and the mean completed spells of unemployment of job losers in explaining the very different implications.

One way the authors might shed some light on this issue is by looking at the information on mean weeks of unemployment as of a given CPS survey, which is available in the CPS data file. I recognize that mean weeks of unemployment as of a CPS survey date is not the same thing as the mean duration of completed spells of unemployment, but nevertheless the black-white ratio for the former would reflect the likely ratio for the latter. The authors could also make use of longitudinal data to draw some inferences about the relative importance of incidences and spells of job loss.

The paper would further benefit greatly from a more careful theoretical discussion of layoffs and discharges. In discussing layoffs, more attention should be paid to the importance of product-demand variation and how that variation occurs across industries. Moreover, differences in the treatment of blue- and white-collar workers must be addressed at greater length, as should the role of seniority and unions in decisions about which workers will be laid off. In discussing discharges, the theory should fully account for the fact that this form of job loss occurs with greatest frequency among new hires who undergo either explicit or implicit probationary periods in both union and nonunion settings. In the case of discharges, product-demand variation plays only a modest role. By positing these propositions the authors would provide a better understanding of the facts that layoffs and discharges are very different animals and that the probability of each depends greatly on the industrial setting and the characteristics of workers independent of either their race of human capital. It is worthwhile to discuss theoret-

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ically why we expect race to have different implications for layoff probabilities than for discharge probabilities.

In light of this theoretical analysis, I would like to see a careful decomposition of the authors' results. First, exactly how much of the differentials in the probability of being unemployed due to the various forms of job loss can be explained by the human capital attributes of young blacks and whites and how much by differences in the effects of these attributes? As the authors state, in analyzing the role of human capital in a layoff equation, it is essential that the wage also be included, since what ultimately determines whether a firm decides to let go of a particular employee is the difference between the worker's value-marginal product and his wage. Nonetheless, the authors did not include the wage in any of their regressions, and they should address this omission. I would also like to see an analysis of the relative role of locational and institutional factors in explaining why the attributes of young blacks and young whites seem in some instances to mean different things in the job-loss process. We cannot tell from the results presented whether the authors' equations performed differently for black and white youths because of the youngsters' race or because they hold different types of jobs. From a policy point of view, this information would be very useful.

In sum, like the archetypical discussant, I have spent most of my time criticizing and very little time praising. Let me therefore end by saying that I learned much from Jackson and Montgomery's contribution and hope to learn still more from their future efforts.