

What Researchers Have Learned from the National Longitudinal Surveys About Youth Unemployment



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Preface

Data from the National Longitudinal Surveys of Labor Market Research (NLS) are used extensively by private and government researchers and the academic and business communities. This report summarizes some of that research, with special reference to the employment problems of minority and disadvantaged youth. The NLS are a collection of five surveys. They are: Young Men who were 14-24 years old in 1966, Older Men who were 45-59 in 1966, Mature Women who were 30-44 in 1967, Young Women who were 14-24 in 1968, and Youth who were 14-21 in 1979 which includes both sexes.

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Introduction

Unemployment rates of youth typically greatly exceed those of other workers. Therefore, it is interesting to examine the characteristics of unemployed youth, the length and frequency of their spells of unemployment, and the importance of the unemployment experience on them, both in the short run and the long run.

This report summarizes some of the research that uses the National Longitudinal Surveys of Labor Market Experience (NLS), with special reference to the employment problems of minority and disadvantaged youth.¹ The National Longitudinal Surveys of Labor Market Experience are a collection of five surveys. They are: Young Men who were 14-24 in 1966, Older Men who were 45-59 in 1966, Mature Women who were 30-44 in 1967, Young Women who were 14-24 in 1968, and Youth who were 14-21 in 1979, which includes both sexes.

Because of the large samples of youth and because NLS respondents have been surveyed once every year or two over an extended period, these data are well-suited to examining the long-run consequences of youth labor market experiences. In particular, the 1979 NLS Youth Cohort (NLSY) contains weekly work histories detailing each respondent's labor force status, hours worked, and employment at more than one job, permitting analyses that are

not possible with other data series. (Note: The words "survey" and "cohort" are used interchangeably in this report.)

All of the younger respondents were asked about their work experiences, their family income and assets, their parents' education, as well as various attitudinal and demographic characteristics. The NLSY includes week-by-week work histories as well as great detail on other topics.

The surveys oversampled several groups of particular interest. The original NLS surveys during the 1960's oversampled blacks. The NLSY oversampled blacks, Hispanics, and economically disadvantaged whites.² Few studies using the NLS focus on poor youth, although many examine blacks and whites separately.

The first section of this report gives an overview of the general characteristics of unemployed youths. The next section discusses issues relating to the duration and incidence of joblessness among youth. The third section surveys the literature on the consequences of youth joblessness. Section four discusses the longer term consequences of youth unemployment. In the fifth section, job search strategies of the young are discussed. Section six provides a brief conclusion.

Youth Unemployment: General Characteristics

In 1980, unemployment among 16-24 year olds was 13.9 percent, while those over 24 sustained rates of only 5.1 percent. In 1990, the comparable figures were 11.1 percent and 4.4 percent, respectively.³ The NLS allows researchers to examine the demographic traits of youth experiencing difficulties in the labor market.

Many factors limit youths' ability to work. Schooling, of course, makes full-time employment difficult, at least outside of the summer months. Those who have left school can find the transition between school and work rather daunting. Some of the difficulties are outlined by Rees (1986): Many youths have not developed an extensive network of job contacts, and some are unfamiliar with the limits of acceptable behavior on the job. This failing can result in a youth's early dismissal.⁴ Voluntary quits are also higher.

"The higher rate of voluntary quits has two quite separate sources. First, youth are still trying to discover what they want to be when they grow up, and in the process try many different jobs, some of which do not prove congenial... Second, youth living with employed parents often work to earn money for a specific purpose—to buy a car or to take a trip—and often leave the labor force for a time when this short-term goal has been reached."⁵

This weak attachment to the labor market leads economists to pay considerable attention to the question of distinguishing different labor market situations. These include the following:

The unemployed are persons who are not working but are actively looking for work and are available for work. Those *out of the labor force* are persons who are neither working nor actively searching for work. The *nonemployed or jobless* are those without a job. This category is more inclusive and includes those out of the labor force. The latter group includes *discouraged workers*, those who would like employment but are no longer actively seeking it.⁶

The *labor force participation rate* equals the sum of the employed and the unemployed divided by the relevant population.

Since attempts by youth to find work are often sporadic, the distinction between being unemployed and out of the labor force is not as clear as it is for mature adults. Thus, much of the recent literature uses the more inclusive measure of nonemployment rather than unemployment. Flinn and Heckman (1982), however, emphasize that

there are behaviorally meaningful differences between those out of the labor force and the unemployed, even for youth. Nevertheless, they note that, "...job search activity occurs in both states...the difference between the two states is only a matter of degree...."⁷

The 1979 NLSY (16-21 year-old subsample) reveals much about the group's labor market behavior. Table 1 provides data on the employment status of various groups. Blacks and Hispanics have lower labor force participation and higher unemployment than whites. Young women also experience relatively low participation and high unemployment. Table 2 shows the transition into the working world as youths age: Not surprisingly, as young people become older more of them find jobs and unemployment rates decrease.⁸

Table 1. Employment status by sex, race, and Hispanic origin Spring 1979

Sex	Labor Force participation rate	Percent unemployed	Employment/population ratio
Total	70.8	19.1	57.3
Female	67.6	20.7	53.6
Male	74.1	17.6	61.1
Black	65.3	38.5	40.2
Female	60.1	41.2	35.4
Male	71.0	36.0	45.4
Hispanic origin	61.8	23.2	47.5
Female	53.4	24.7	40.2
Male	70.7	22.0	55.1
White	72.4	15.9	60.9
Female	70.0	17.5	57.7
Male	74.9	14.4	64.1

Universe: Civilians, age 16-21 on interview date. (N=24,580,000).

Source: Santos (1981a).

Table 3, from Santos (1982), describes the share of 16-to-21-year-olds reporting unemployment in 1979.⁹ Almost half of the unemployed are high school students; 80 percent live with their parents. Minorities suffer disproportionately from unemployment—a black youth is more than twice as likely to be unemployed as a white—but, since the majority of the population is white, less than half of the unemployed are members of a racial minority. Of those whose family income is known, 22 percent of the unemployed are poor, compared to 15 percent of the youth population.

Table 2. Employment status by age, Spring 1979
(in percent)

Age	Employed	Unemployed	Out of Labor Force
Total	57	14	29
16-17	44	17	39
18-19	61	13	26
20-22	68	10	23

Source: Calculated from Santos (1981a), tables 2.1 and 2.2.

Economists such as Freeman and Wise (1982), Feldstein and Ellwood (1982), and Rees (1986) have found that unemployment is only a serious problem for the small proportion of youth who stay out of work for extended periods of time. Half of male teenage unemployment, for example, occurs among those who are out of work for over 6 months: This group consists of less than 10 percent of the youth labor force. *Nonemployment* spells tend to be longer and vary by race: Holzer (1986a) reports the average duration to be over 10 months for whites and over 13 months for blacks.

In an effort to shed light on the truly disadvantaged, Borus (1984) separated out a subsample of "hard-core unemployed," whom he defined as those who (1) were out of school, (2) lived on their own or lived with parents whose income was below the poverty level and (3) had been unemployed for at least 10 weeks. By that definition (which Borus acknowledges as necessarily arbitrary) approximately 1 in 11 of the unemployed youth were "hard-core" in the spring of 1981. They tended to be "...older, more likely to have participated in training, to be married, to have children, to live in the central city of an SMSA, and to live in an area of high unemployment than was true of all unemployed youth."¹⁰

Unemployment spells: Too often or too long?

Differences in joblessness or unemployment rates can be analyzed by distinguishing between two factors: *Duration*—how long spells of joblessness last—and *incidence*—how often they occur. Researchers disagree on which aspect is more important. Their examination of different periods and use of different measures (unemployment as opposed to nonemployment) makes comparison of their results problematic.

Leighton and Mincer (1982) emphasize incidence. Using the data from the 1966-71 NLS surveys, they report that high job turnover explains why unemployment rates among male youths are higher than those among men 42 to 62 years old. Duration actually reduces the age differential: Older men tend to have longer unemployment spells. This explanation applies to the difference in unemployment rates between adults and both students and non-students, whether white or black. Black youths were found

to have higher unemployment rates than white youths, mostly due to higher turnover, although longer duration also plays a role.

Among whites, lower tenure at a given job seems to explain why younger whites have higher probabilities of unemployment than older whites according to Leighton and Mincer. When tenure is taken into account, age plays a less important role. Young white males who have been employed by a firm for up to 5 years have similar chances of unemployment as older white males with the same tenure. Young blacks, however, retain a high incidence of unemployment (compared with older blacks) even after tenure is taken into account, especially among those who have spent less than a year with their employer.

Table 3. Selected characteristics of unemployed youth by Hispanic origin and race, Spring 1979
(in percent)

Characteristic	Unemployed			
	Total	Hispanic	White	Black
Sex				
Female	53	47	54	51
Male	47	53	46	49
Age				
16-17	44	46	45	40
18-19	34	29	34	35
20-21	23	25	22	26
Enrollment status				
High school dropout	24	36	23	22
High school student	45	44	45	46
College student	10	10	10	9
Nonenrolled high school graduate	21	11	22	22
Household status				
At home, with parents	80	81	78	86
Away at college, in dormitory	3	1	4	2
Has own dwelling	17	18	18	12
Poverty status				
Poor	17	34	10	33
Nonpoor	61	50	67	46
Not available	22	17	23	21

Universe: Civilians aged 16-21 who were unemployed on interview date (N = 3,300,000).

Source: Santos (1982).

Table 4. Percent distribution of employment during the survey year by race, weeks worked, and number of jobs held, 1971 and 1980

Total number of weeks/jobs	1971		1980	
	Black	White	White	Black
Total employed (thousands)	267	1,503	296	1,955
Total (percent)	100.0	100.0	100.0	100.0
Weeks				
1-38	31.2	18.1	40.8	22.6
39+	68.8	81.9	59.2	77.4
Jobs				
1	47.4	61.4	60.5	52.8
2+	52.6	38.6	39.5	47.2
Weeks/jobs				
1-38				
1	3.8	5.8	20.9	8.9
2+	27.4	12.2	20.0	13.7
39+				
1	43.6	55.6	39.6	43.9
2+	25.2	26.4	19.5	33.5

Universe: Males, ages 18-21 as of the beginning of the survey year, who were not enrolled in school, not in the military, and who were employed at least 1 week during the survey year.

Source: Pollard (1984).

Comparing the older NLS cohorts with the Young Men and Young Women's cohorts, Frank and Freeman (1978) report that the higher unemployment of the younger cohorts results from greater job turnover. Within the younger cohorts, however, the authors emphasize the importance of duration in explaining unemployment.

Earlier NLS surveys were compared with the 1979 NLSY by Pollard (1984). Both white and black youths experienced rising unemployment and joblessness between the two surveys. For whites, Pollard concludes that increases in joblessness resulted from rising turnover. Black joblessness, on the other hand, resulted from longer non-employment spells; if anything, turnover among young blacks declined over the decade. (See table 4).

Recent studies using NLSY data have tended to focus on duration. A group of NBER studies in 1986 compared the NLSY data with a specially commissioned survey of black inner-city youth—what we will call the NBER sample.¹¹ In one of the studies, Ballen and Freeman (1986) selected a subset that was not in school; they found extensive evidence of lengthy nonemployment spells. Twenty percent of their subsample had been without work for a year or longer; those *never* employed accounted for over half of the sample's weeks of total nonemployment. Duration is thus the dominant factor, both in comparisons between NBER blacks and NLSY whites and between NLSY blacks and whites. An implication of these results is that a varying propensity to lose jobs does not drive the black-white employment differential so much as the difficulty young blacks have in finding an acceptable job in the first place.¹²

Table 5 summarizes the literature surveyed in this section. It is tempting to conclude that while incidence seemed to produce most of the results for the original cohorts of young men and young women, duration became the key factor by the time the 1979 NLSY was conducted. Such a conclusion is not completely warranted, however, since earlier studies used *unemployment* data from the NLS as a measure while more recent studies tend to use nonemployment data from the NLSY as a measure.

Consequences of youth unemployment: Searching and scarring

For youth in general, there are a variety of ways in which early joblessness can affect their future prospects in the labor market.¹³ Three economic theories, each borrowed from the broader unemployment literature, identify these effects. *The human capital model* suggests that the knowledge, skills, and discipline associated with working should enhance prospects for both higher wages and lower unemployment. Using the Young Men's Cohort, Lazear (1976) estimated that approximately one-third of a young worker's total compensation was delivered in the form of human capital. This reason alone might make early joblessness especially unfortunate, as early work experience is thought to entail extensive on-the-job training. If opportunities to acquire early human capital are fleeting, the effects of youth unemployment would be especially persistent.

Dual labor market theorists believe that unemployment "scars" its victims, leading first to discouragement and ultimately to declining work habits and a succession of jobs with little pay or upward mobility. Thus, early entry into the primary sector (the one with desirable jobs) is critical if one is to stay out of the cycle of dead-end jobs associated with the secondary sector. Adherents of this theory note that potential employers make extensive use of job histories when hiring applicants. Those who have experienced substantial unemployment early in their careers risk being tagged as poor workers.

In contrast, *search theory* emphasizes the beneficial aspects of youth unemployment. In this view, youth unemployment allows those new to the labor market to gather valuable information about their job prospects. Seen in this way, job search can be as much as an "investment" as on-the-job training, by allowing workers to switch into more lucrative positions at other firms.

Stevenson (1978a, b, c), Raelin (1980, 1981), Becker and Hills (1980, 1983), Ellwood (1982), Corcoran (1982), Hills (1985), Lynch (1986) and Ballen and Freeman (1986) all address the scarring hypothesis. With the exception of Hills (1985), none of the empirical work in these studies attempts to explicitly distinguish between the human capital and dual labor market/scarring hypotheses. Instead, they simply ask whether youth unemployment depresses wages or future employment prospects and, if not, whether youth unemployment in fact advances labor market op-

portunities. Raelin (1980) uses a subsample focusing exclusively on disadvantaged youth; Ballen and Freeman study black inner-city youth; the other authors distinguish merely between black and white subgroups. All of these studies focus on individuals who are out of school.

These studies imply that those individuals with early labor market difficulties tend to have greater unemployment later in their working lives. This finding does not necessarily imply a causal relationship, however. It is possible (even likely) that some third factor or set of factors (e.g., education or aptitude) causes *both* the early and later problems. In particular, workers who are less productive may have trouble in the labor market all throughout their lives, but that would not necessarily imply a scarring effect: Both early and later employers may simply recognize less productive workers when hiring and firing. If this is the case, early unemployment would be correlated with later unemployment, but it would not follow that the former caused the latter.¹⁴

Both cross-sectional and longitudinal data sets can address this issue by controlling for such characteristics as years of education and psychological indicators that are thought to be correlated with worker quality. But longitudinal data sets in addition have the potential to control for *unobserved* characteristics, since they track the same individuals over time.

Studies using the NLS Young Men's and Young Women's cohorts. Stevenson (1978b) reports that out-of-school whites who were employed during the survey week in 1966 earned approximately \$200 more per year a decade later than out-of-school whites who were unemployed at the time. For out-of-school black males, the improvement amounted to \$700 a year. For out-of-school females, the difference was about \$900 per year.¹⁵ Greater differentials

exist for males who were originally defined as "out of the labor force," i.e., out of school, without a job, and not actively searching for employment.

Using a different method, Raelin (1981) found no relationship between youth unemployment and either future wage rates or occupational status, although unemployment did lead to declines in job satisfaction.¹⁶ Using a subsample of disadvantaged youth, Raelin (1980) reported that a variable summarizing data on occupational status, wages and hours of the respondent's first job significantly affected future wages and occupational status.¹⁷ Unfortunately, the latter study made no attempt to control for other factors.

In contrast to the above results, Becker and Hills (1980, 1983) found support for the search hypothesis. Those experiencing no unemployment but who changed jobs more frequently earned higher wages years later. Longer spells of unemployment, however, did appear to depress wages. These results are broadly consistent with Raelin's finding that part-time status (which allows both search and the acquisition of job skills) is associated with higher future pay rates and occupational status.

Racial breakdowns of data presented by Becker and Hills (1983) are striking. Blacks who experienced no unemployment as teenagers and who changed jobs less than two times had even lower wages than blacks who experienced unemployment spells of 26 weeks or longer. Blacks who remained employed but changed jobs two times or more fared worse than those who had unemployment spells of 5 weeks or fewer, indicating that job search associated with unemployment may be more beneficial than search that occurs while employed. Whites also appeared to benefit from job search, although not as dramatically as blacks. It is also notable that whites who were unemployed for over 25 weeks were paid more than blacks with any

Table 5. Summary of research in duration/turnover section

Author	Measure : (nonemployment/ unemployment)	Database	Phenomenon to be explained	Explanation: (incidence or duration)
Leighton and Mincer (1982)	Unemployment	NLS	White age differential Black age differential Racial differential	incidence incidence incidence
Frank and Freeman (1978)	Unemployment	NLS	Age differential Variation among youth	incidence duration
Pollard (1984)	Principally nonemployment	NLS	Rise in white nonemployment/ unemployment during 1970's: Rise in black non-unemployment during 1970's:	incidence duration
Ballen and Freeman (1986)	Nonemployment	NLSY	Differential: NBER inner city Blacks vs. NLSY whites: NLSY racial differential:	duration duration

level of job mobility. Estimates were based on regressions which controlled for education, experience, and various demographic variables.¹⁸

Two articles by Blau and Kahn (1981a, 1981b) point towards a possible reconciliation of the searching and scarring viewpoints. One article addresses the consequences of quits while the other studies layoffs. This research suggests that voluntary quits lead to improvements in earnings for all race and sex groups. Layoffs lead to lower wages among males, but not for females.

Ellwood (1982) noted that an unobserved factor or set of factors, such as those relating to the worker's raw ability, could act independently on both the earlier and later job experience. There may be qualities of the worker that are observable to the potential employer but not reflected in a household survey. Alternately, early unemployment could indicate weak attachment to the labor force, which in turn might correlate with lower worker productivity.¹⁹

Ellwood exploited the fact that the NLS, like all longitudinal data sets, tracks the *same individuals* over time. Cross-sectional studies, in contrast, select new respondents every survey. In longitudinal data sets, by examining how labor force outcomes change for each individual after a spell of unemployment, one can examine the effect of events such as spells of unemployment without the confounding influence of unobservable traits such as weak attachment to the labor force. Consequently, Ellwood could use the NLS to control for respondents' otherwise unobservable traits to the extent that the traits stayed constant over time.²⁰

After attempting to control for such unobservable characteristics, Ellwood concluded that early unemployment hurt future job prospects only mildly, and only for a short time. "Even a 6 month spell out of work tends to generate only an additional 3 to 4 weeks out of work 1 year later."²¹ In contrast, "Early work experience has a sizable impact on *wages*. Controlling for individual effects, experience in the second, third, or fourth year out of school tends to be associated with wage increases of between 10 and 20 percent a year."²² (*Italics added.*)

Using a similar method, Corcoran (1982) analyzed the consequences of unemployment among young females. She found a stronger relationship between present and future employment than Ellwood did for men, even after controlling for unobservable individual characteristics, while the wage effects of early nonemployment for women are less than they are for men but still appreciable. Unfortunately, her analysis does not take into account marriage or childbirth, each of which could plausibly result in a voluntary exit from the labor force (and which obviously changes over time). Furthermore, the shortness of the panel prohibited Corcoran from estimating how long these "scars" last.

Studies using the NLSY. The NLSY obtained more detail on its respondents' work experiences than earlier surveys.

In addition, due to the economic downturn during the early 1980's, the NLSY allows us to evaluate the effects of unemployment in a weaker labor market.

In general, recent analyses using the NLSY have tended to associate long spells of early nonemployment with subsequent labor market problems. Hills (1985) produced results that appear at odds with his prior work with Becker. While earlier articles had linked longer periods of initial unemployment with lower eventual wages among white males, the later paper revealed the opposite (at least for unemployment spells of 23 weeks or less). Surprisingly, in contrast to the implications of search theory, job changes did not lead to significantly higher earnings among the unemployed. The effect of longer periods of initial unemployment for black males and all females were negative but insignificant.

The difference may be due to the specification of the model in Hills' 1985 paper (though weaker labor markets during the early 1980's may have eroded the advantages of search). In addition to a measure of unemployment during 1979, Hills also included a variable indicating the weeks worked since the respondent turned 18. Thus the unemployment measure used by Hill presumably reflects "scarring" rather than lost human capital. This latter measure was highly significant. One plausible interpretation of Hills's results is that although early joblessness does have long-lasting effects, a given spell of unemployment, if it is reasonably short, does not prove especially crippling. Thus, the 1985 paper is consistent with human capital models, which stress the importance of early work experience, although the impact of lost experience is less severe than some might imagine. The critical factor appears to be lost working experience (joblessness or nonemployment) as opposed to the frustration of searching for new work (unemployment).²³ On the other hand, Hills' evidence is also consistent with the interpretation that long periods of nonemployment can "tag" one as a low quality worker.

In their study of nonemployment duration and labor market turnover, Ballen and Freeman (1986) compared the NBER sample of inner-city blacks with data from the NLSY.²⁴ After controlling for unobserved characteristics, they found that longer spells of nonemployment lowered marginally the inner city blacks' probability of employment, but did not appear to affect either blacks or whites in the NLSY. Interestingly, long periods of employment significantly reduced NLSY blacks' and whites' probability of nonemployment, but did not improve the NBER group's chances. Mixed evidence supporting incidence dependence—large *numbers* of spells of nonemployment leading to subsequent nonemployment—was presented for the NBER sample. Data from the NLSY, however, did not support the existence of incidence dependence.

Limitations of the NBER data set led Ballen and Freeman to pursue more evidence. They interviewed employers in a primarily black district of one city to gain further

insight into the causes of labor market problems of inner-city youth. While 78 percent of those employers who asked about their hires' work record considered it "a strike against the youth if he has a casual work history," only 28 percent considered it bad for youths to have been "out of work for a long period of time before applying for a job."²⁵ The authors interpreted this as evidence of "incidence dependence" among inner-city blacks.

In order to determine why employment duration did not appear to help inner-city blacks as much as it did others, the authors examined jobs held by this group. They found that fewer than 20 percent of these jobs required a high school degree or higher, while just over 15 percent were white-collar. The authors surmised that they were "dead-end jobs," i.e., of the type that provided little human capital.

Finally, Ballen and Freeman used the NLSY data set to study the effects of nonemployment on wages. Among blacks, the number of spells mattered more than spell duration. Results for whites revealed a positive relationship between the number of spells and wages, after controlling for unobserved characteristics.

Aside from the long-term question of "scarring," there is the short-term question of "duration dependence"—whether the longer a person is unemployed, the more likely he or she is to remain unemployed. Lynch (1986) used the NLSY to focus on nonemployment, which she defined as being neither employed, in school, or in the military. After controlling for various demographic factors, she found that longer spells of nonemployment substantially reduced the chances of finding work during the next period. Lynch writes: "The re-employment probability for either a 'typical' male or female who has not been working for 1 week is slightly greater than 30 percent. If they have not been working for 8 weeks this drops to 8 percent and if they have not been employed for 52 weeks their re-employment probability is only 2 percent."²⁶ Results for a subsample of high school dropouts were much the same.

While the papers discussed here differ in many details, the overall picture is reasonably clear. In the short term, nonemployment may lead to further nonemployment, whereas in the long run, early unemployment has little effect on future employment for males although possibly more of an effect for females. Long periods of early unemployment have a negative effect on wages, however. This effect appears to be stronger for blacks and females than for white males. Counteracting the negative effect of unemployment on wages is the positive effect of job search—the job mobility sometimes associated with periods of unemployment.

Search strategies

The question of the methods and strategy that youth use in job search is interesting both theoretically—as a way of explaining unemployment duration—and from a policy perspective since it may be possible to teach youth

search more efficiently. The National Longitudinal Surveys contain numerous questions on various facets of job search. The 1981 NLSY investigated the methods youths used when they looked for employment.

Wielgosz and Carpenter (1987) reported that individuals using multiple job search methods spent less time looking for a job. Informal methods, specifically asking friends or relatives and direct application to the employer, were judged more effective than formal methods such as applying through a State employment agency.²⁷ Among unemployed workers who were not new entrants to the labor market, checking with the local union was particularly effective. Those who were already employed, however, may have found checking with a union counter-productive due to seniority rules. No single method affected subsequent job satisfaction substantially.²⁸

Holzer (1987a) disaggregated the monthly probability of becoming employed into probabilities that are conditional on various search methods. For both whites and blacks, informal methods of job search were found to be the most frequently used and most productive in terms of generating job offers and acceptances.²⁹

Holzer also disaggregated the difference between the probability of a black and white becoming employed into differences between the use of different search methods. All methods of search gave whites a greater chance of receiving a job offer, but differences in direct application to the employer explained a particularly large share of the racial employment differential. In fact, the two informal search methods together explained 87-90 percent of the total black-white differential. "Furthermore, virtually all of this reflects differences in the ability of these methods to produce job offers, as opposed to differences in methods used or job acceptance rates."

One element of a worker's job search strategy that economists have paid special attention to is the reservation wage. A reservation wage is the lowest wage that a worker will accept at a given point in time. The NLSY measures this concept with two categories of variables. The first notes whether a respondent would accept a specified job (for example, washing dishes) at a particular wage level (\$2.50, \$3.50, and \$5.00). The second measures reservation wages by asking what minimum wage the youth would accept in a new job. We refer to this second measure as asking wages.³⁰

Borus, et al. (1981) and Borus (1982) analyzed the determinants of both measures of reservation wages. As one might expect, reservation wages rise with age and are higher among employed workers. Females have lower asking wages than males; those out of school have higher asking wages than students, probably because many of the latter anticipate working in a temporary summer job.³¹

Youths from poor families were more likely to accept jobs at \$2.50 in 1979 than youths from wealthier families. Each job category was sufficiently attractive at \$2.50—a

rate of pay that was 86 percent of the minimum wage at the time of the interview—to elicit at least a 20 percent acceptance rate from the sample of all youths.³²

Racial differences in asking wages were small. However, black youth were more likely to express a willingness to work at the array of hypothetical jobs than whites, even after controlling for various demographic variables.³³

But, while black reservation wages are comparable or lower than white reservation wages, the market wages for blacks are quite a bit worse. Thus, while unemployed whites will ultimately receive wages *greater* than their reservation wages, blacks appear to have to scale down their wage expectations. Two empirical results follow: Blacks have long nonemployment and unemployment spells and the extra search time narrows the black-white wage differential to a degree. Holzer summarizes the situation as follows:

Young blacks seek wages comparable to those sought by young whites but which are less available to them. Because of this, their durations of unemployment rise substantially. As these lengthy durations progress, many young blacks either lower their reservation wages or accept other positions which they consider to be temporary. Others gain no employment at all. Thus, the unemployment durations of young blacks will reflect their high reservation wages while their received wages will do so to a lesser extent. Although not all elements of this scenario have been clearly documented, they are consistent with the evidence that is thus far available.³⁴

Interestingly, results by Borus, et al. (1981) suggest that black employment probabilities are less sensitive to drops in reservation wages than are white employment probabili-

ties. A drop in a white male students' reservation wage from \$0.60 above his (imputed) market wage to his market wage can adjust downwards his probability of unemployment from 96 percent to 10 percent. Comparable black male students experience a 17-percentage point drop in their unemployment probability from 98 percent to 81 percent. Among non-students, the phenomenon is less dramatic.

To summarize, NLS research has shown that blacks and whites appear to search for jobs in similar ways, both with regard to the search methods used and with regards to reservation wages for accepting a job offer. However, whites have more success in generating offers.

Conclusion

The National Longitudinal Surveys have proven to be an invaluable research tool for the study of the labor market experiences of youth. The surveys explore many aspects of labor market behavior, including earnings, and provide unusually detailed information on unemployment and nonemployment, search strategies, and reservation wages. The detail of the surveys and the large sample sizes would by themselves ensure the value of the NLS in understanding the labor market. In addition, the longitudinal nature of the surveys—tracking the same sample members over several years—allows researchers to answer questions about the long-term effects of labor market experiences, and additionally allows researchers to control for traits not directly observable that might bias the results of cross-section studies. This review has attempted to show the contribution that research using the NLS has made in understanding the problem of youth unemployment.

Endnotes

¹ Information on NLS research is provided in Bielby, et al. (1977 and 1979), Leigh (1982), and Daymont and Andrisani (1983). Two collections of NLS abstracts are *The National Longitudinal Surveys of Labor Market Experience: An Annotated Bibliography* and *NLS Bibliography Update 1990*. Borus (1982a) surveys other longitudinal data sets.

² Rees (1986) presents an excellent survey on youth joblessness.

³ Using data on family income, family size, location and a rural/urban variable, youths who lived in families that were below the poverty level in January 1978 were selected as part of the "economically disadvantaged non-Hispanic, non-black" oversample. Results for oversampled respondents are weighted when a representative sample of the larger population is needed. See Frankel, McWilliams and Spencer (1983) and Frankel (1981).

⁴ *Monthly Labor Review*, January, 1983 and March, 1991. Data from Current Population Survey (CPS). NLS figures often vary from CPS estimates: Freeman and Medoff (1982b) note that differences between the two surveys may arise from the fact that while the CPS interviews heads of households, the NLS interviews its youth respondents directly.

⁵ Rees (1986) pp. 617-618.

⁶ Rees (1986) pp. 617. It is also noted that the minimum wage may discriminate against youth by drying up the supply of low wage, low skill jobs. Rees, however, downplays this argument.

⁷ Some of the ambiguities implicit in the notion of involuntary unemployment and, by extension, discouraged workers are discussed in Summers (1986).

⁸ Flinn and Heckman (1982), pp. 19.

⁹ In contrast, the CPS had reported that only about 15 percent of 14-15 year-olds were employed. Santos (1981). Most studies of the labor force overlook 14 and 15 year olds. Michael and Tuma (1984) argue that, "...students ages 14 and 15 acquire substantial employment and that experience is vastly different for black and white youths."

¹⁰ The NLSY produced an unemployment rate of 19.1 percent among 16-21 year-olds. For comparison, CPS data indicate a 16.1-percent unemployment rate among 16-19 year olds in 1979. *Handbook of Labor Statistics*, BLS Bulletin 2217, June 1985.

¹¹ Borus (1984) pp. 30.

¹² Holzer (1986a) notes that "The NBER survey was conducted between November 1979 and May 1980 among 2,400 young black men, aged 16 through 24, who were living in the inner-cities of Boston, Chicago, and Philadelphia. The interviews were limited to inhabitants of city blocks with at least 70 percent black residents and 30 percent families having incomes below the poverty line. The questions in the survey focused on the respondents' daily activities...; their family backgrounds; their job-search behavior and experiences, including reservation wages...; their retrospective work histories for the preceding 12 months... The usefulness of the NBER survey as a supplement to the NLS, which provides the bulk of the black-white comparisons, lies in its focus on northern inner-city blacks...; and the direct comparability of many of the questions in the NBER survey to those in the NLS (after which some of the former were modeled)..."

¹³ Ballen and Freeman (1986) pp. 85.

¹⁴ See Daymont and Andrisani (1983) and Leigh (1982).

¹⁴ Ellwood, pp. 350-351.

¹⁵ Stevenson (1978b), pp. 204.

¹⁶ Raelin ran three regressions using occupational status, 1975 rate of pay, and 1971 job satisfaction as dependent variables. Independent variables included 1971 unemployment, tenure, income, occupation, and various other controls. Stevenson uses "...Multiple Classification analysis, a technique which combines linear regression estimates and analysis of variance to test for significant differences in mean values of a dependent variable after controlling for the effects of other variables included in the model." Stevenson (1978b), pp. 203.

¹⁷ The disadvantaged were defined as those with low socioeconomic status, low levels of education, or minority status.

¹⁸ Results should be interpreted as suggestive only. Becker and Hills' equations suffer from instability, low sample size and modest explanatory power. Becker and Hills (1983) pp. 204-205.

¹⁹ Ellwood, pp. 350-351.

²⁰ Ellwood used another technique (that of instrumental variables) to address the fact that unobserved abilities may, in fact, vary over a person's lifetime.

The assumption that the unobserved characteristics stay constant over time may prove problematic. See Willis (1982), p. 387. Thus, further work with observables could still produce instructive results; potential proxies for worker quality that are measured by the NLS include IQ and certain psychological variables. See Andrisani (1978). The newer NLSY data base has a broader variety of ability variables, including high school transcripts for over three quarters of the respondents, as well as scores from a number of aptitude tests. Detailed job histories also represent an improvement. See also the working papers by Hills (1985) and Lynch (1986).

Small sample sizes plagued many of these studies. For example, Ellwood (1982) and Becker and Hills' (1980, 1983) sample sizes ranged from 91 to 217. See Barnow (1982), pp. 289. Military induction during the Vietnam War worsened attrition rates of the 1966 cohort.

²¹ Ellwood, pp. 383.

²² Ibid.

²³ To distinguish between business cycle and model specification effects, an exact replication of Becker and Hills' (1983) paper, using NLSY data, might prove interesting.

²⁴ Note that "potentially serious" measurement problems and small sample sizes plagued this part of Ballen and Freeman's study. Ballen and Freeman, pp. 89.

²⁵ Ballen and Freeman, pp. 95-96.

²⁶ Lynch (1986), pp. 16-17.

²⁷ Other formal methods include using private employment agencies, school placement offices, labor union hiring halls and newspaper advertisements. Holzer (1986c) produced similar results.

²⁸ Job satisfaction is primarily affected by vocation, earnings, and gender.

²⁹ Job acceptances are measured as the percent of job offers accepted.

³⁰ Freeman (1978) discusses the use of subjective variables in economic analysis.

³¹ Borus (1981c).

³² Borus (1982b).

³³ Borus (1981c, 1982b) Exceptions to this generalization were that blacks tended to be more reluctant to "Clean up neighborhoods" and "Work away from home at a national forest or park" than whites.

³⁴ Holzer (1986b), pp. 173.

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