CAREER MOBILITY, JOB MATCH, AND OVEREDUCATION

John Robst

State University of New York at Binghamton

INTRODUCTION

Many studies have examined the match between workers and their jobs. A focus of much of the research has been the overeducated worker. A worker is considered overeducated if his education is greater than the job typically requires. Alternatively, if his education is less than typically required for the job, the worker is classified as undereducated. A worker with education just meeting job requirements is considered adequately educated. These definitions have been used to examine several issues, including the effects of overeducation on wages, productivity, and worker mobility.¹

Several hypotheses have been presented to explain overeducation, including matching models developed by Johnson [1978], Jovanovic [1979a; 1979b], and Viscusi [1980]. The matching argument claims overeducation is temporary for any given worker, but potentially a permanent part of the economy. Since job search is not costless, some workers may temporarily accept jobs for which they are overqualified. As time passes, they can be expected to leave such jobs for better positions.

Sicherman [1991] considers two possible explanations for overeducation. If job requirements are based on an individual's total human capital and not simply on years of schooling, an overeducated worker may be compensating for lower levels of on-the-job training. Sicherman finds overeducated workers have less experience, training, and tenure than adequately educated workers. Robst [1995] also provides support for a trade-off between methods of human capital acquisition by finding that overeducated workers who attended college have less ability and attended lower quality colleges than adequately educated workers who attended college. Thus, some workers may have more years of schooling than typically required for their job, but may not be overqualified for their job based on total human capital considerations.

Second, overeducation may be part of a career mobility process. Workers may temporarily enter jobs for which they are overeducated to obtain the experience and training needed to progress upward during their careers.² Consistent with this hypothesis, Sicherman finds overeducated workers are more likely to change firms, change occupations, and move to higher-ranked occupations within the next year than adequately educated workers.³ Thus overeducation may be part of workers' career paths and "while the less educated will stay in the occupation, the more educated will be more likely to be promoted or leave the organization for another higher-paying occupation" [Sicherman, 1991, 108).

FIGURE 1

Hypothesis: The career mobility hypothesis claims overeducated workers will have greater upward mobility than adequately educated workers in similar jobs.

Overeducated in base period

Adequately educated in base period

$$p_2$$
 Mobility — p_2 Increased requirements $p_2 - q_2$ No increase

Case 1: $edu_1 = edu_2$, $req_1 < req_2$ such that individual 1 is overeducated and individual 2 is adequately educated.

Results: $p_1 > p_2$ (replicates Sicherman), $q_1 > q_2$.

Case 2: $edu_1 > edu_2$, req₁ = req₂ such that individual 1 is overeducated and individual 2 is adequately educated.

Results: $p_1 = p_2$, $q_1 > q_2$.

3. Workers with no mobility are assumed to have no increase in required schooling.

This paper reexamines and extends empirical tests of the career mobility hypothesis as an explanation of overeducation. The career mobility hypothesis claims that overeducated workers are more likely to leave a job than adequately educated workers in the same job. However, the empirical specifications used to test the hypothesis compare workers with the same level of education. Comparing overeducated and adequately educated workers with the same level of schooling may not clearly test the hypothesis, since the adequately educated worker must be in a job that requires more schooling than the overeducated worker. On average, workers are less likely to leave jobs that require more schooling because jobs that have greater required schooling usually require more on-the-job training and pay higher wages. Thus Sicherman's findings of greater mobility for overeducated workers may be attributed to the greater average mobility of workers in jobs that require less schooling.

Consequently I compare the mobility of workers in jobs with similar required schooling. Results indicate that overeducated workers are no more likely to change jobs than adequately educated workers in jobs which require the same level of schooling. Thus Sicherman's results are sensitive to the specification of the regressions and merit further attention. These results are summarized in Figure 1. Case 1 compares workers with the same completed schooling and indicates overeducated workers have greater mobility $(p_1 > p_2)$. Case 2 compares workers with the same required schooling and indicates no difference in mobility $(p_1 = p_2)$.

Undereducated workers also merit further examination. While the coefficients are at times only marginally significant, Sicherman finds that undereducated workers are also more likely to change jobs, change occupations, and move to higher-ranked occupations than adequately educated workers. While not addressed by Sicherman, two explanations may account for the greater mobility of undereducated workers. First, undereducated workers may not be qualified for their jobs and thus are the first to be laid off or fired. Second, since the average age of undereducated workers is above the sample average, it may be that undereducated workers are approaching retirement. Many workers nearing retirement have been found to change jobs and occupations, and receive lower wages after the job change. Thus, while undereducated workers are more likely to change jobs than adequately educated workers and may even move to higher-ranked occupations, they are not necessarily moving to better jobs.

To address these issues, I present an alternative test of the career mobility hypothesis that examines changes in required education for individuals across time. A move to a job which requires more schooling may be considered a move to a better job. This has two advantages over looking at moves to a higher-ranked occupation. Occupations have a wide variety of jobs; moving to a better occupation does not necessarily mean a move to a better job. This allows for improved consideration of moves by overand undereducated workers. I also examine a period of time greater than one year to capture career-oriented changes better. Results indicate that overeducated workers are more likely than adequately educated workers to move over time to jobs that require greater schooling. These results are also summarized in Figure 1. In both cases, overeducated workers have greater upward mobility $(q_1 > q_2)$. Also, consistent with expectations, undereducated workers are less likely than adequately educated workers to move to jobs that require more schooling.

DATA

The data used in this study derive from the Panel Study of Income Dynamics (PSID). The 1976, 1978, and 1985 waves of the PSID provide estimates of the required education for each worker's job. Required education is directly measured in the survey: workers were asked "How much formal education is required to get a job like yours?" The responses are coded into seven categories: 0-5, 6-8, 9-11, 12, 13-15, 16, and 17+ years. In the calculations, the mode of actual schooling within each of these brackets is used to represent required schooling. Thus workers in the lowest bracket of required schooling are assigned 5 years of required schooling, the next category 8 years, followed by 10, 12, 13, 16 and 17 years.

^{1.} Variable definitions: edu_i = completed schooling for individual i, req_i = required schooling for individual i's job, p_i = the probabilities of moving to a different job, occupation, or higher ranked occupation, q_i = the probability of moving to a job over time that requires more schooling.

^{2.} Mobility is measured at time t+1; changes in required education are measured over a longer period of time to better capture career-oriented job changes.

TABLE 1 Variable Means^a

Variable Means.				
Variable ^b	All	Over	Adequate	Under
Education	11.48	11.58	11.90	10.00
Required education	10.44	7.24	11.92	10.38
Required training	1.78	1.40	1.87	12.88
Overeducated	.36	_	1.07	2.25
Undereducated	.20	_	_	_
Experience	18.11	16.32	17.10	
Tenure	5.98	4.91	17.13	23.47
Union	.30	.27	5.90	8.05
White	.65	.59	.33	.30
SMSA size	3.89	3.79	.69	.68
Married	.88		3.94	3.98
Disability	.08	.86	.89	.91
Job change	.29	.09	.07	.10
Occupation change	.29	.34	.26	.26
Upward occ change		.31	.27	.31
No. of observations	.15	.16	.14	.16
TO. OF ODSELVATIOUS	6288	2250	2782	1256

a. The sample contains individuals from the 1976, 1978, and 1985 waves of the PSID.

This study examines males between the ages of 18 and 64. Variable means are given in Table 1. Thirty-six percent of the sample are overeducated for their jobs, and 20 percent are undereducated. On average, workers have approximately one year of excess schooling, but the average overeducated worker reports 4.3 years of excess schooling.⁶

The literature does contain other measures of required schooling. Rumberger [1987] measures required schooling from estimates of general educational development required for occupations listed in the Dictionary of Occupational Titles. Verdugo and Verdugo [1989] calculate the mean and standard deviation of education for each occupation. They consider a one standard deviation range around the mean to represent required schooling. In both cases, required schooling is occupation specific and not job specific. Since most occupations include a wide variety of jobs, a worker classified as overeducated by either of these definitions may simply have a very good job within the occupation. The PSID measures are free of these problems. They are not, however, beyond criticism: they rely on worker estimates and are therefore subjective in nature.

I examine job and/or occupation changes between 1976 and 1977, 1978 and 1979, and 1985 and 1986. Approximately 29 percent of the sample changed positions in the following year, while 29 percent of the sample changed occupations, and 15 percent of workers moved to higher-ranked occupations. Means are reported separately for overeducated, adequately educated, and undereducated workers. Consis-

TABLE 2
Ranking of Occupations

Rank	Occupation	Mean Required Schooling	Percent Overeducated	Percent Undereducated
15 16 17 18 9 0 (1 1 (2 3 7	Physicians Judges, lawyers Teachers, college Teachers, noncollege Engineers, scientists Accountants Public advisors Other professional Other medical Managers Technicians Foremen Secretaries Sales Farmers Managers, self-employed Protective services Other craftsmen Armed forces Other clerical Operatives Other services Iransport operatives	16.96 16.95 16.47 15.49 15.31 15.48 13.86 12.50 14.91 12.41 12.75 10.84 13.11 11.45 9.94	3.8 4.8 10.5 36.6 19.1 14.3 19.6 40.5 18.2 23.4 21.0 21.1 33.3 36.9 36.7 42.4 14.4 34.8 18.0 28.8 39.2 46.1 46.4	Undereducated 11.5 14.3 10.5 12.2 30.5 28.6 37.3 28.6 0.0 28.7 27.5 26.3 22.2 20.7 25.0 21.9 24.3 20.5 13.1 19.3 17.9 15.0
	Inskilled laborers Farm laborers	8.14 6.76	52.1 61.1	15.2 13.4 9.7

tent with previous studies, I find overeducated workers have less training, experience, and tenure than adequately educated workers. Without controlling for other factors, I also find overeducated workers are more likely to change positions, change occupations, and move to higher-ranked occupations than adequately educated workers.

Over- and undereducation varies considerably between occupations. Table 2 provides levels of over- and undereducation by occupation, as well as the ranking for each occupation. In general, white-collar occupations are ranked higher than blue-collar occupations, and also have a smaller percentage of workers who are overeducated.

METHODOLOGY

The first issue I address is whether overeducated workers have greater mobility than adequately educated workers in similar jobs. Logit estimation is performed with a dichotomous dependent variable indicating job mobility:

b. Units: education, required education, required training, experience, and tenure are reported in years; overeducated, undereducated, union, white, married, disability, job change, occupation change, and upward occupational change are proportions; SMSA size is coded in categories ranging from 1 (smallest) to 6 (largest).

where X is a vector of variables including required education, experience, experience squared, required training, SMSA size, and dummy variables for over- or undereducated, race, disability, marital, and union status.

Several alternative specifications are tested. First, since the PSID codes required education in categories and not single years, specifications are tested where required schooling is represented by six dummy variables. Second, years of over- and undereducation are used in place of the dummy variables. Third, one-digit occupational dummy variables are added to the specifications. Fourth, county unemployment rates and regional dummy variables are added to control for local labor market conditions. In each case the results support those reported below.

I also examine the movement of individuals to jobs which require more schooling. Again logit estimation is performed where the dependent variable indicates whether a person moved to a job which required more schooling between two points in time:

(2)
$$Log[Prob(Inc\ Req\ Edu)/Prob(No\ Increase)]_i = \mathbf{X}_i \beta + \epsilon_i$$
.

Two time-frames are considered: 1976 and 1978, and 1976 and 1985. Changes in required schooling may occur for reasons other than a change in jobs. For example, conditions in local labor markets may influence job requirements. Workers may also change their assessments as they acquire more information about a job. Thus I redefine the dependent variable to equal one only if the worker reports both an increase in required schooling and a level of tenure which is consistent with a job change between the two points in time. Again, the results are consistent with those reported below.

RESULTS

Table 3 presents the extent of mobility by level of required schooling. While the relationship is not monotonic, in general, mobility decreases as required schooling increases. Thus Sicherman's results may be the result of overeducated workers being in jobs which require less schooling than adequately educated workers with the same education.

Table 4 presents logit results comparing workers in jobs which require the same amount of schooling. The results reported here are quite different than those found when controlling for completed schooling. As anticipated, a significant negative relationship is found between required schooling and the likelihood of job mobility. Results also indicate overeducated workers do not have significantly different probabilities of changing positions, occupations, or moving to higher occupations than adequately educated workers. However, results for undereducated workers indicate a substantial mobility differential between under- and adequately educated workers.

Results considering changes in required schooling across time are presented in Table 5. Regardless of whether required schooling or completed schooling is used as an independent variable, overeducated workers are more likely to move to jobs requiring more schooling. In addition, in three of the four regressions, undereducated workers are significantly less likely than adequately educated workers to move to

TABLE 3 Levels of Mobility by Required Schooling^a

Data: PSID 1976, 1978, and 1985

Required Education	Position Change	Occupational Change	Upward Move	<u>.</u>
0 - 5	.3482	.3254	.1740	
6 - 8	.2980	.3013	.1552	
9 - 11	.2744	.3118	.1445	
12	.2734	.2870	.1535	
13 - 15	.2811	.3221	.1831	
16	.2178	.2454	.0910	
17 +	.2270	.1286	.0357	
Fotal	.2881	.2930	.1521	

a. The figures represent the proportion of workers who changed positions, changed occupations, or moved to a higher occupation in the following year. Weighted means produced similar trends.

better jobs. Thus while undereducated workers are more likely to change jobs, their movement is to similar or lower-level jobs.

Since an upward occupational change is considered to be an improvement in jobs, brief consideration of why results differ when considering changes in required schooling across time is merited (particularly when controlling for required schooling). Many workers reporting increased required schooling do not appear to move to higher-ranked occupations. Of the 1621 people in the 1976-1978 sample, 117 report increased schooling requirements and also move to a higher-ranked occupation. 223 individuals report increased schooling requirements, but do not move to a higher-ranked occupation. In addition, 161 workers moving to higher-ranked occupations do not report increases in the required schooling for their new job. Thus while a high correlation between the occupational ranking and mean required schooling in the occupation exists (.94), this does not indicate that every job in a higher-ranked occupation is a better job.

Two questions available in the PSID provide some additional insight into the career mobility hypothesis. In 1976, workers were asked "Do you feel you are learning things in your job that could lead to a better job or to a promotion?" According to the career mobility hypothesis, workers are acquiring training and experience in order to move upward during their career, thus we would expect overeducated workers to answer yes to the above question. However, as reported in Table 6, overeducated workers are not more likely to respond affirmatively than adequately educated workers. In fact, when comparing workers with the same educational attainment, overeducated workers are significantly less likely to answer yes than adequately educated workers. Thus, overeducated workers are not more likely than adequately educated workers to feel their current job will help them move upward during their career.

In 1985, workers are asked "Have you been thinking about getting a new job, or will you keep the job you have now?" Responses to this question may indicate whether the movement of overeducated workers is voluntary or involuntary. The results show

TABLE 4 Logit Results

Data: PSID 1976, 1978 and 1985 Standard errors are in parentheses

Variable	Position Change	Occupational Change	Upward Move	
Intercept	.8872ª	.3111	6074 ^a	
-	(.189)	(.190)	(.241)	
Required education	0525 ^a	0564 ^a	0714 ^a	
-	(.012)	(.012)	(.016)	
Overeducated	.1084	1084	1481	
	(.086)	(.087)	(.111)	
Undereducated	.2830 ^a	.3956 ^a	.3781 ^a	
	(.083)	(.080.)	(.102)	
Experience	1248ª	0489 ^a	0363 ^a	
-	(.010)	(.010)	(.013)	
Experience squared	.0021a	.0006a	.0003	
	(.0002)	(.0002)	(8000.)	
Disability	.4546 ^a	0152	.0056	
	(.101)	(.109)	(.139)	
Required training	.0139	0268 ^b	0340 ^b	
1 3	(.014)	(.014)	(.019)	
White	.0952	0850	.1100	
	(,066)	(.064)	(.081)	
SMSA size	.0243	.0399 a	.0501 ^a	
	(.016)	(.016)	(.021)	
Union	6638ª	2023 ^a	1524 ^b	
	(.069)	(.065)	(.082)	
Married	1470 ^b	- 0473	0651	
	(.089)	(.092)	(.113)	
Log likelihood	-3516.1	-3547.6	-2507.9	
N _	6268	5993	5993	
∂Prob/∂Over ^b	.022	022	019	
∂Prob/∂Under	.058	.082	.049	

a. significant at the 5 percent level;

that overeducated workers are more likely to intend to quit their jobs. The responses to the two questions are consistent with alternative explanations of overeducation, such as matching models, rather than the career mobility hypothesis.

CONCLUSION

Potential reasons for the existence of overeducation have received increasing attention. One explanation is that workers may temporarily accept jobs for which they

TABLE 5 Logit Results

Data: PSID 1976, 1978 and 1985

Dependent var: 1 if the individual moves to a job which requires more schooling during the time period, 0 otherwise.

Standard errors are in parentheses.

Variable	1976 - 1	978	1976 - 1	.985
	(1)	(2)	(3)	(4)
Intercept	-2.064 ^a	-1.336ª	.4986	1.005 b
	(.452)	(.425)	(.574)	(.552)
Required education	_	1967 ^a	_	2828 ^a
		(.026)		(.038)
Education	1113 ^a	_	2181 ^a	_
	(.030)		(.041)	
Overeducated	2.057 a	1.196 a	1.860 a	.5420 a
	(.152)	(.190)	(.171)	(.248)
Indereducated	6786 ^a	2794	-1.223a	6225a
	(.274)	(.275)	(.303)	(.297)
Experience	.0386 ^b	.0460 ^a	.0356	.0517
	(.023)	(.023)	(.033)	(.034)
Experience squared	0008	0010	0008	0010
	(.0005)	(.0006)	(.0009)	(.0009)
Disability	0387	1163	2632	3989
	(.261)	(.267)	(.344)	(.359)
Required training	.0659 ^b	.0847 ^a	.0939 a	.1026 a
	(.035)	(.036)	(.045)	(.046)
Vhite	.3246 ^a	.3951 ^a	.0355	.0350
	(.151)	(.151)	(.186)	(.187)
SMSA size	.1004 a	.1215 a	.0708	.0824 b
	(.037)	(.038)	(.046)	(.047)
Jnion	3198 a	2957 ^a	2301	2048
	(.146)	(.148)	(.175)	(.179)
Married	.2405	.2620	.1291	.1643
	(.233)	(.239)	(.295)	(.303)
og likelihood	-736.7	-714.0	-485.5	-469 .3
1	1621	1621	918	∕ 918
Prob/∂Over	.376	.219	.434	.126
Prob/∂Under	124	051	285	145

a. significant at the 5 percent level;

All regressors are taken from the base year (1976). Observations with missing values are deleted. Derivatives are calculated as: $\beta(P)(1-P)$.

b. significant at the 10 percent level.

All regressors are taken from the base year (1976, 1978, or 1985). Observations with missing values are deleted. Derivatives are calculated as: $\beta(P)(1-P)$.

b. significant at the 10 percent level.

TABLE 6 Logit Results

Data: PSID 1976 and 1985

Dependent vars: Better Job - 1 if the worker feels he is learning things in his job that could lead to a better job or a promotion; 0 otherwise Quit Intentions - 1 if the worker has been thinking about getting a new job; 0 otherwise.

Standard are errors in parentheses.

Variable	Better Job		Quit Intentions	
	(1)	(2)	(3)	(4)
Intercept	.9840ª	.7198ª	.1493	.0093
	(.348)	(.337)	(.388)	(.322)
Required education		.1052 ^a		.0072
		(.022)		(.021)
Education	.0759 ^a		0062	-
	(.023)		(.029)	
Overeducated	6252 ^a	1497	.4229 ^a	.4532 ^a
	(.115)	(.154)	(.117)	(.148)
Undereducated	.2476	.0035	.1524	.1557
	(.161)	(.162)	(.148)	(.144)
Experience	0428 ^a	0461 ^a	0799 ^a	0808 ^a
	(.017)	(.017)	(.020)	(.020)
Experience squared	00000	.00004	.0004	.0004
	(.0004)	(8000.)	(.0005)	(.0005)
Disability	1618	1473	.2372	.2384
	(.190)	(.190)	(.190)	(.190)
Required training	$.0772^{a}$.1745 ^a	0416 ^b	0438 ^b
	(.029)	(.029)	(.025)	(.025)
White	6381ª	6535 ^a	4610 ^a	4693 ^a
	(.125)	(.123)	(.113)	(.112)
SMSA size	.0349	.0314	$.0719^{a}$.0689 ²
	(.029)	(.029)	(.030)	(.030)
Union	2624 ^a	2762^{a}	4757 ^a	4763 ^a
	(.112)	(.112)	(.130)	(.130)
Married	.4472 a	.4458 ^a	- 1284	1309
	(.179)	(.179)	(.142)	(.142)
og likelihood	-1118.3	-1111.9	-1128.1	-1128.0
Ŋ	2048	2048	2283	2283
∂Prob/∂Over	127	030	.077	.082
∂Prob/∂Under	.050	.001	.028	.028

a. significant at the 5 percent level;

are overqualified in order to gain training and experience they need to progress upward during their career. While the overeducated worker will leave the job and occupation, the adequately educated worker will remain in the job. Previous research has found overeducated workers are more likely to change firms, change occupations, and move to higher-ranked occupations than adequately educated workers. This paper reexamines some of the evidence used to support this hypothesis.

Several conclusions can be drawn from the results. First, previous tests of the career mobility hypothesis as an explanation of overeducation are sensitive to specification. Second, alternative tests which examine the mobility of workers to jobs requiring more schooling across time support the idea that overeducated workers are more likely to move to better jobs. In addition, undereducated workers are less likely than adequately educated workers to move to jobs which require more schooling. Third, consistent with previous studies, overeducated workers have greater quit intentions than adequately educated workers. Finally, contrary to the career mobility hypothesis, overeducated workers are not more likely than adequately educated workers to feel their current job provides training which will lead to a better job.

Further research might attempt to distinguish between the several possible explanations of overeducation. This paper concentrates on the career mobility hypothesis and does not explicitly test other explanations of overeducation. Also, the mobility of over- and undereducated women is an important issue which has not been addressed. This is a more complex issue since married women may be overqualified for their jobs due to geographic constraints [Frank, 1978]. Thus the mobility patterns of overeducated married women may be very different than those of overeducated men or single women.

NOTES

An earlier version of this paper was presented at the 1994 Eastern Economic Association Meetings in Boston, Massachusetts. I wish to thank conference participants, three anonymous referees, the editor of this *Journal*, Kathleen Cuson-Graham, Glenn Graham, and Jon Vilasuso for many helpful comments.

- For example Duncan and Hoffman [1981], Rumberger [1987], Verdugo and Verdugo [1989] among
 others examine the wage effects of excess schooling. Tsang, Rumberger, and Levin [1991] and Hersch
 [1991] study how overeducation influences job satisfaction and quit intentions. Sicherman [1991]
 examines the relationship between overeducation and actual worker mobility.
- Several additional possible explanations of overeducation are discussed in the literature, including a
 disequilibrium approach [Freeman, 1976]. The job market signaling model [Spence, 1973] is cited by
 Hersch [1991], while the job competition model [Thurow, 1975] is suggested by Verdugo and Verdugo
 [1989].
- Occupations are ranked based on the average human capital needed to enter the occupation. The 1976 and 1978 waves of the PSID provide two-digit occupational codes. The three-digit codes from 1985 are converted to the two-digit level. See Sicherman [1991] for a complete description of the ranking process.
- Jovanovic [1979b] and Polachek and Horvath [1977] develop models that predict a negative relationship between training and mobility and between wages and mobility.
- 5. See Ruhm [1990] for a discussion of mobility by workers approaching retirement.
- Duncan and Hoffman [1981], using the 1976 wave of the PSID, find approximately 42 percent of workers are overeducated, while 13 percent are undereducated. Sicherman uses the 1976 and 1978 waves, and finds 40 percent of workers are overeducated while 16 percent are undereducated. The inclusion of the 1985 wave lowers the percent overeducated in this paper. Only 27 percent of workers

b. significant at the 10 percent level.

Observations with missing values are deleted. Derivatives are calculated as: $\beta(P)(1-P)$.

- in the 1985 wave are overeducated, while 25 percent are undereducated. Levels of over- and undereducation similar to Sicherman's are found when limiting the sample to the 1976 and 1978 waves.
- 7. This is somewhat surprising since the number of position changes should be greater than the number of changes in occupations. Thus either workers did not report all position changes or occupational changes were reported that did not actually occur.
- 8. Since current schooling requirements are reported in the PSID, workers may be classified as over-or undereducated because job requirements may have changed from when workers entered the job and the survey year. Thus I look at variable means for a sub-sample of workers under age 35 to minimize the impact of changing job requirements. Again, undereducated workers report the most required training and experience, while overeducated workers have the least training, experience, and tenure. However in this sample of younger workers, the undereducated have less tenure than adequately educated workers.
- 9. Logit specifications are also estimated when controlling for completed schooling. The results are generally similar to those found by Sicherman. One exception is a stronger positive relationship between undereducation and worker mobility than that found by Sicherman.
- 10. The ranking of occupations found in this paper and the ranking found by Sicherman are both tested with very similar results for both orderings. I also estimate the logit specifications using the 1976 and 1978 waves only. The results are similar to those reported in this paper.

REFERENCES

- Duncan, G. J. and Hoffman, S. The Incidence and Wage Effects of Overeducation. *Economics of Education Review*, Winter 1981, 75-86.
- Frank, R. Why Women Earn Less: The Theory and Estimation of Differential Overqualification. American Economic Review, June 1978, 360-73.
- Freeman, R. B. The Over-educated American, New York: Academic Press, 1976.
- Hersch, J. Education Match and Job Match. Review of Economics and Statistics, February 1991, 140-44. Johnson, W. R. A Theory of Job Shopping. Quarterly Journal of Economics, May 1978, 261-78.
- Jovanovic, B. Job Matching and the Theory of Turnover. Journal of Political Economy, October 1979a, 972-90.
- Firm-specific Capital and Turnover. Journal of Political Economy, December 1979b, 1246-
- Polachek, S. W. and Horvath, F. W. A Life Cycle Approach to Migration: Analysis of the Perspicacious Peregrinator. in Research in Labor Economics, edited by R. G. Ehrenberg. Greenwich, CT: JAI Press, Inc., 1977, 103-50.
- Robst, J. College Quality and Overeducation. Economics of Education Review, forthcoming.
- Ruhm, C. Bridge Jobs and Partial Retirement. Journal of Labor Economics, October 1990, 487-501.
- Rumberger, R. W. The Impact of Surplus Schooling on Productivity and Earnings. *Journal of Human Resources*, Winter 1987, 1-50.
- Sicherman, N. Overeducation in the Labor Market. Journal of Labor Economics, April 1991, 101-22.
- Spence, M. Job Market Signalling. Quarterly Journal of Economics, August 1973, 355-74.
- Thurow, L. Generating Inequality, New York: Basic Books, 1975.
- Tsang, M. C., Rumberger, R. W., and Levin, H. M. The Impact of Surplus Schooling on Worker Productivity. *Industrial Relations*, Spring 1991, 209-28.
- Verdugo, R. R. and Verdugo, N. T. The Impact of Surplus Schooling on Earnings. Journal of Human Resources, Fall 1989, 629-43.
- Viscusi, W. K. A Theory of Job Shopping: A Bayesian Perspective. Quarterly Journal of Economics, May 1980, 609-14.