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The purpose of this paper is to explore the effect of transitional work on the duration of an individual's search spell. A transitional job is one that begins and ends during a reported search spell. While transitional employment may lengthen a person's search through a reduction in time and energy available for finding a permanent job, taking a transitional job may provide the searcher with increased employer contacts and allow the searcher to distance him- or herself from the stigma of unemployment.

The theory of search unemployment (Clark and Summers, 1979) implies that part of the observed unemployment rate is a result of searchers holding out for a desirable job offer; the level of "true" unemployment, that which reflects job searchers' inability to find *any* job, is lower than reported unemployment statistics suggest. A necessary condition for search unemployment to be consistent with rational behavior is that searching for a job while unemployed is somehow more efficient than searching while employed. Recent research (Blau and Robins, 1990), however, finds that employed searchers have a slightly higher probability of finding a job than unemployed searchers, suggesting, *prima facie*, that searchers should accept their first job offer and continue to look as employed searchers; a suggestion which challenges the validity of search unemployment.

This paper contends that the typical comparison of search outcomes for individuals who begin searching while unemployed ("unemployed searchers") with the outcomes for individuals who begin searching while employed ("employed searchers"), as in Blau and Robins (1990), is inappropriate. Searchers in both of these categories may be observed with a transitional job sometime during their search spell, and it is the impact of this transitional employment, not the initial condition of search, that is sought here.

The Duration of Search

Standard search theory results in four main predictions related to the duration of search. These predictions are (see Mortensen, 1986): (a) a reduction of the cost of search (k) increases expected duration; (b) an increase of the searcher's time horizon (n) increases expected duration; (c) an increase of the searcher's skill level (s) has an ambiguous effect on duration; and (d) an increase of the searcher's discount rate (r) decreases expected duration. These predictions are made holding the demand side of the labor market constant.

Having a transitional job while searching could affect search duration either through the cost (k) or through the (perceived) skill level (s) of the searcher. Taking a transitional job increases income during the search, thus reducing the monetary cost of search, and thereby *increasing* the expected duration of search. Taking a transitional job eliminates the stigma associated with unemployment, allows the person to accumulate more experience, and potentially increases the number of employer contacts through work, thus *decreasing* the expected duration of search. The net effect on search duration of taking a transitional job, therefore, is ambiguous.

The duration of an individual's search spell is expressed in log-linear form as follows:

$$\ln D_i = X_i\beta + u_i \qquad \text{if } X_i\beta + u_i < \text{MAXDUR}_i,$$

$$\ln D_i = \text{MAXDUR}_i \qquad \text{if } X_i\beta + u_i \geq \text{MAXDUR}_i,$$

where MAXDUR_i is equal to the number of days between individual i's interview date and the day that individual's search spell began. This is an individual-specific upper bound on the observed length of a search spell. "ln" refers to the natural logarithm, D is the duration of search in days, X_i are explanatory variables (these include the k, n, s, and r variables described above, as well as others to control for some demand-side influences, such as the unemployment rate), and β is a vector of parameters to be estimated. Duration spells (D_i) are assumed to be distributed as a Weibull to allow for straightforward calculation and determination of duration dependence. The likelihood function for the above specification is:

$$L(\beta,c,a \mid D_i,X_i,\text{MAXDUR}_i) = \prod_{i=1}^{N_u} f(\ln D_i \mid X_i\beta) \cdot$$

$$\prod_{i=1}^{N_c} [1 - F(\text{MAXDUR}_i \mid X_i\beta)],$$

where the first term is the contribution to likelihood made by the N_u individuals who experienced complete search spells, and the second term is the contribution made by the N_c individuals whose spells are censored. Not accounting for the possibility of right-censored spells results in a systematic underestimate of the spell length.

Data

The sample used for this analysis is constructed from the Employment Opportunity Pilot Project (EOPP) baseline household survey. About 30,000 familes from 11 states across the United States were interviewed. Surveys were conducted between April and October 1980, and contain information on labor market activity dating back to January 1979. Unlike more recent surveys, the EOPP asks job search questions of both unemployed and employed respondents (see Hotchkiss, 1989).

Monthly state unemployment rates were obtained from various issues of *Employment and Earnings,* a publication produced by the Department of Labor. State level unemployment insurance formula parameters were obtained from tables published by the Employment and Training Administration, made available by UBA legislative specialists.

The sample of individuals to be analyzed are those searching for a job. Within this sample, there are those who begin searching while unemployed and those who begin searching while employed. Among both groups of searchers there are some who take transitional employment while searching. A transitional job is one that falls *completely within* a person's spell of searching. About 16 percent of all individuals included have two search spells. Estimations performed using only the most recent spell of search produce essentially the same results.

In terms of mean demographics, searchers taking a transitional job are similar to searchers not taking a transitional job. Those in the transitional-employment category, however, have twice the representation of employed searchers (25 percent) than in the no-transitional job category (12 percent). In addition, employed searchers have more education (12.48 years) and more labor market experience (11.19 years) than unemployed searchers (11.31 years and 7.91 years, respectively), on average, and are twice as likely to take a transitional job than unemployed searchers. Employed searchers and those with transitional jobs are almost twice as likely than their counterparts to have a right-censored search spell. This will be taken into account in

specifying an appropriate empirical model. The average recorded durations of search of those with transitional jobs last more than twice as long (373 days vs. 121 days) as the spells of those who do not experience transitional employment. In addition, employed searchers' spells last almost two and a half months longer, on average, than unemployed searchers' spells.

Empirical Analysis

Parameter estimates for a number of specifications of the duration equation are found in Table 1. Specification (1) estimates the duration model assuming the work decision is exogenous. Specifications (2) through (4) treat the work decision as endogenous by instrumenting out the dummy variable. Exogeneity of WORK was rejected via a Hausman (1978) test. (The results from the estimated Probit used to instrument out WORK are available upon request.) The estimation results are consistent across specifications in sign and magnitude and coincide with results reported in other empirical analyses of the determinants of search duration (see, for example, Lancaster, 1979; Burdett et al., 1985; and Blau and Robins, 1986).

Using the parameter estimates from specification (4), a person who takes a transitional job during search can expect his or her search spell to last about five weeks longer than a searcher who did not take a transitional job (see Maddala, 1983, for derivation of the conditional expectation of a random variable). An employed searcher can also expect to have a search spell lasting about five weeks longer than an unemployed searcher. If a person is both employed at the beginning of his or her search and takes a transitional job sometime during the search spell, he or she can expect to be searching about seven weeks longer than an unemployed searcher who does not take a transitional job. In addition, a person receiving unemployment insurance (UI) will experience a search spell less than a month longer than non-UI recipients.

It is of interest to note that endogenizing the work decision (or accounting for correlations between the work decision and the length of search duration) has the effect of reducing the impact of taking a transitional job on the length of search. This suggests that heterogeneity between those who take transitional jobs and those who do not plays an important role in the measured impact of transitional employment on search duration; accounting for individual decision making reduces the direct impact of transitional employment.

TABLE 1

Duration Equation Estimates

Variable	Model Specification			
	(1)	(2)	(3)	(4)
Intercept	2.6442°°°	3.5543°°°	3.4951°°°	3.2903°°°
	(0.1062)	(0.1969)	(0.1999)	(0.1918)
Age	0.0272°°°	0.0288°°°	0.0288°°°	0.0303°°°
	(0.0026)	(0.0028)	(0.0028)	(0.0027)
Education (years)	−0.0438°°°	−0.0537°°°	−0.0540°°°	−0.0517°°°
	(0.0055)	(0.0061)	(0.0061)	(0.0058)
Female = 1	−0.1294°°°	−0.0902°°°	−0.0889°°°	−0.0715°°
	(0.0289)	(0.0325)	(0.0325)	(0.0314)
Nonwhite = 1	0.2053°°°	0.2011°°°	0.2018°°°	0.1789°°°
	(0.0282)	(0.0300)	(0.0300)	(0.0288)
Single = 1	0.1568°°°	0.1212°°°	0.1212°°°	0.1358°°°
	(0.0274)	(0.0302)	(0.0302)	(0.0287)
Number of children less	0.0422°°°	0.0270°°	0.0266°°	0.0358°°°
than 14	(0.0105)	(0.0111)	(0.0111)	(0.0106)
Nonwage income ($000)	−0.0228	0.0452	0.0452	0.0433
	(0.0345)	(0.0389)	(0.0398)	(0.0385)
Unemployment rate at	0.2980°°°	0.3324°°°	0.3321°°°	0.2989°°°
end of search	(0.0103)	(0.0113)	(0.0113)	(0.0105)
Unemployment	0.2979°°°	0.3324°°°	0.3316°°°	0.3438°°°
insurance = 1	(0.0452)	(0.4985)	(0.0497)	(0.0477)
Years of labor market	−0.0145°°°	−0.0171°°°	−0.0171°°°	−0.0183°°°
experience since age 18	(0.0030)	(0.0032)	(0.0032)	(0.0031)
Driver's license = 1	−0.1890°°°	−0.1637°°°	−0.1643°°°	−0.1805°°°
	(0.0328)	(0.0346)	(0.0346)	(0.0330)
Work limiting	0.2104°°°	0.2070°°°	0.2077°°°	0.2071°°°
disability = 1	(0.0453)	(0.0481)	(0.0481)	(0.0455)
Number of search	0.1291°°°	0.1525°°°	0.1527°°°	0.1340°°°
methods used	(0.1489)	(0.0155)	(0.0155)	(0.0150)
EMP (employed	0.8927°°°	0.7336°°°	1.4353°°°	1.5258°°°
searcher) = 1	(0.0488)	(0.0667)	(0.3097)	(0.2905)
(began search with job)				
WORK = 1	1.6718°°°	—	—	—
(had a transitional job)	(0.0772)			
WÔRK	—	0.6166°°°	0.5760°°°	0.4117°°°
		(0.0960)	(0.0983)	(0.0950)
EMP × WÔRK	—	—	0.6310°°	0.6990°°
			(0.2668)	(0.2500)
HRS × WÔRK	—	—	—	0.0320°°°
(HRS = hours/week of				(0.0015)
trans job)				
Sigma	1.1252°°°	1.1778°°°	1.1776°°°	1.1283°°°
scale parameter	202.02	210.08	210.08	202.02
shape parameter	0.89	0.85	0.85	0.89
Log-likelihood	−13,402	−13,817	−13,814	−13,418
No. of observations	9,808	9,808	9,808	9,781

Notes: Standard errors are in parentheses. °°° = > significant at the 1% level. °° = > significant at the 5% level. ° = > significant at the 10% level.

This issue of heterogeneity is an important consideration highlighted by Blau and Robins (1990). Once we determine that those with transitional jobs have longer search spells than those without transitional jobs, we are left with the question of whether that difference is a result of the effect of transitional employment itself, or whether the measured effect results from the unmeasured heterogeneity of the two groups. This issue is common to all multisector models, however decomposition of the difference in expected outcome used to distinguish between endowment and treatment effects (Oaxaca, 1973; Blinder, 1976) is not appropriate for this empirical model specification. The significance of the difference in parameter coefficients between separate duration equation estimations for workers and nonworkers also yields insight into the role heterogeneity plays in determining the different search spell lengths. The null hypothesis of equal parameter coefficients across the two regressions is the same as a null hypothesis of heterogeneity between the samples; if the mechanism through which the explanatory variables affect duration is the same within the two groups (identical coefficients), the observed difference in search duration must be driven by differences in the characteristics of the two groups (heterogeneity). A Wald test statistic of 0.65 corresponding to a test of equality between parameter estimates for those with and those without transitional jobs does not allow a rejection of the null hypothesis of heterogeneity. (The parameter estimates are available upon request.) This rejection implies that the measured longer search duration is more a function of the individual characteristics of those who choose transitional employment than it is a function of the impact of transitional employment on the way those characteristics affect search duration (measured by differences in the coefficients). Consequently, there is no evidence that the positive influence of a person's education level or labor market experience on reducing search duration will be adversely affected by that person taking a transitional job. In addition, transitional employment does not appear to exacerbate the negative influence of receiving unemployment insurance or being nonwhite on lengthening the search duration.

Concluding Remarks

This paper provides the first comprehensive analysis of the impact of taking a transitional job on the duration of a person's search spell. A log-linear duration model is estimated via maximum likelihood in order to account for the censoring of search spells. The results indicate that a person who takes a transitional job while searching can expect

their search spell to last about five weeks longer than someone not taking a transitional job. This suggests that in the interest of keeping one's search spell to a minimum, taking a transitional job is not the best strategy. However, for those facing transitional employment as a financial necessity, the possibility of lengthening their search spell by only five weeks, on average, should be somewhat of a relief.

Separate duration equation estimates for those who do and those who do not take a transitional job suggest that heterogeneity plays an important role in the measured difference in search spell lengths. In other words, while those who take transitional jobs experience moderately longer search spells, transitional employment does not affect the positive impact labor market experience and education (for example) have on shortening a person's spell.

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