

# **Job Stability, Earnings, Marital Stability: How Are They Related?**

Avner Ahituv  
University of Haifa and Urban Institute

Robert Lerman  
American University and Urban Institute

August, 2003

## **Abstract**

This study examines the interplay between job stability, earnings, and marital instability. We analyze the sequence of jobs, marriages, divorces, and remarriages among young men and ask: 1) Do job stability, high wages, and the career advancement of young men promote marriage and marital stability? 2) What are the consequences of marriage and marital stability for achieving high levels of job stability and occupational success? We develop a Dynamic Selection Control model in which young men make sequential choices about work and family, and estimate the model using a dynamic maximum likelihood (ML) approach that takes account of self-selection, simultaneity and heterogeneity. The data come from the 1979-1994 National Longitudinal Survey of Youth (NLSY79). We find job change and job stability are associated with lower wages and that both reduce the likelihood of getting married and remaining married. While taking account of labor market impacts on job stability and wages, we find robust evidence running from marriage to higher job stability and higher earnings. The evidence of a marriage premium on wages is robust.

The authors thank the National Institute for Child Health and Human Development for financial support for this research.

## **I. Introduction**

The duration of marriages decreased sharply in the past century. Marriage takes place at older ages and lasts fewer years. Equally important, the sources of marital dissolution shifted dramatically from less widowhood to more divorce. Today, marital instability is common. By age 28, 17 percent of men are separated or divorced;<sup>1</sup> by age 35, 20 percent of women have experienced a second divorce; and about 20 percent of marriages are dissolved during the first 5 years. One of the consequences of this instability is high and rising rates of single parenthood. Between 1960 and 1996, the share of children not living with two parents more than tripled from 10 to over 30 percent. As of 1999, only about 60 percent of children lived with both biological and/or adoptive parents (Lerman 2001). The evidence is strong that growing up in one-parent families and unstable families is closely associated with long-term economic and social difficulties (Waite and Gallagher 2001; McLanahan and Sandefur 1994).

The high levels of marital instability in the U.S. have been taking place in the context of high levels of job instability. Leaving one employer and taking a job with another employer involves millions of workers every month. It takes young workers a long time to enter a stable career and a long-term relationship with an employer. Between the ages of 18 and 30, high school graduates with no college have already worked with an average of eight employers. Even during their late 20s, nearly half of male high school graduates experienced at least one spell of unemployment between ages 25-29 (U.S. Bureau of Labor Statistics 2000). Moreover, job instability is increasing among young men (Berhardt et al. 1998).

Researchers have long pointed to the potential connections between job market problems, marriage, and divorce. Wilson (1987) and others tried to link the weakening of job market options

---

<sup>1</sup> These tabulations come from the author's of the 1979 National Longitudinal Survey of Youth. In subsequent sections, we do not distinguish between separation and divorce, and use the terms divorce or dissolution.

for young men, especially young black men, to the decline in marriage rates. The impact of unemployment on divorce has been studied for decades. Yet, important gaps remain, both from a substantive and methodological standpoint. Existing studies have typically focused on impacts running in a single direction—from a job market outcome to a marital status or vice versa. They often follow individuals through a specific transition, say into marriage or out of marriage. In general, researchers have not extended the analysis to cover linkages between the long-term pathways in the job market and in marriage. As a result, existing approaches do not capture the time path of joint job-marriage decisions.

This study examines the connections between employment instability, and marital instability in a sequential, simultaneous framework. We analyze the entire sequence of annual job and marriage outcomes among young men by asking: 1) Do job stability, high wages, and the career advancement of young men promote marriage and marital stability? 2) What are the consequences of marriage and marital stability for achieving high levels of job stability and occupational success? 3) How do labor market shocks affect the career and marital pathways of young men? We develop a model in which young men make sequential choices about work and family and estimate the model using a dynamic maximum likelihood (ML) approach that takes account of self-selection, simultaneity and heterogeneity. The data come from the 1979 National Longitudinal Survey of Youth (NLSY79). We find job change and job stability are associated with lower wages and that both reduce the likelihood of getting married and remaining married. While taking account of labor market impacts on job stability and wages, we find robust evidence running from marriage to higher job stability and higher earnings. The evidence of a marriage premium on wages is robust.

The study improves our understanding of job and marital pathways and the linkages between them. It also demonstrates how new econometric tools can estimate sequential job and marriage outcomes. This paper is part of a broader research project to analyze the pathways of young adults,

particularly the connections between job stability, occupational success, and marital/family stability. In future work, we will analyze parenting, training and schooling and examine early life cycle events and their consequences for young women.

The next section reviews some of the relevant literature. Section III describes the data set and the definition that we use for the various indicators for marital and job stability. Section IV lay out and explains in details the optimization model and the empirical strategy that we use. The results are presented in Section V, and Section VI concludes.

## **II. Background and Literature**

Largely separate literatures have emerged on job stability and its determinants, marital stability and its determinants, and the interactions between labor market and marital status outcomes. Few have looked at the bi-directional causal links between job stability and marital stability and how these linkages affect pathways of individuals in their work and family relationships. This section provides a brief review of the extensive literatures on these topics, but focuses in some depth on two recent publications—one dealing with job stability and the other dealing with early career effects on marriage.

The facts about job stability reveal a patterns of high turnover of workers as well as long-term, worker-employer relationships. Millions of hires and separations take place every month in the United States. Young workers experience especially high levels of job instability even through their 20s.<sup>2</sup> On the other hand, many workers are in long-term jobs; over one-third of employed 35-44 year-olds were in jobs lasting 10 years or more (Farber 1995). Reconciling these facts involves

---

<sup>2</sup> Bernhardt et al. (1998) reports that 30 percent of 23-31 year-old workers in 1988 had separated from their employers one year later.

recognizing that turnover statistics count some workers several times, but the duration data count a worker only once.<sup>3</sup>

Some observers have voiced the concern that long duration employment with a single employer is dying out in the U.S. job market.<sup>4</sup> While the evidence of a decline in long-term employment is mixed, job tenure has declined modestly among some groups of male and young workers (Neumark 2000; Berhardt et al. 1998). The upward trend in job instability might have contributed to the observed increase in marital instability. However, it is not clear that job changes have negative consequences for workers and thus for their attractiveness as spouses.

Economists frequently distinguish between unproductive turnover or churning and mobility that optimizes the worker-job match (Jovanovic, 1979; Mincer and Polachek, 1974). High turnover may represent an employer strategy to minimize labor costs by paying low wages and hiring or firing workers in response to short-term changes in demand. However, like most human capital investments, high rates of job mobility can be productive if job changes, including those involving unemployment, ultimately increase the efficiency of the employer-worker match. Topel and Ward (1992) conclude that “rather than being *wasteful and inefficient*, high turnover among young workers may be critical to the development of stable work careers”.

Job search theory suggests that average turnover rates will decline as adolescents mature because most “learning” takes place in the initial matches, and because both the benefits and costs of subsequent job changes diminish. Both Topel and Ward (1992) and Klerman and Karoly (1994) find empirical evidence for the high concentration of job changes among youth. In analyzing job mobility for young white men (during the 1960s), Topel and Ward estimated that a typical worker

---

<sup>3</sup> Workers moving in and out of employment might not be counted at all in the duration data (if they are not employed at the time of the survey) but might nevertheless account for some of the job turnover. See Neumark (2000) for a discussion of recent literature on trends in job stability and job duration.

<sup>4</sup> See references to Time magazine articles about declining job stability in Farber (1995).

will hold seven jobs during his first 10 years in the labor market, but this period will represent over two-thirds of his total career jobs. Similarly, Klerman and Karoly find that by age 22 or 23, rates of turnover slow and by that point over half of all high school graduates will have held a job that lasts more than three years. These generalizations do not apply to all youth. The Topel-Ward analysis excludes non-whites and Klerman and Karoly recognize that high school dropouts experience long periods of job instability.

The competing idea—that turnover is wasteful for society and often for the individual— is held by other researchers. They see frequent job changes and unemployment spells as evidence of a labor market in which young people have trouble finding long-term jobs in the primary labor market, career jobs that might allow them to support a family (Osterman, 1980). The informal U.S. system for integrating young people into careers may lead to unnecessarily high search costs and to a prolonged period in which young people are concentrated into youth jobs characterized by high turnover, low wages, and little or no training (Hamilton, 1990). High rates of instability may, in turn, lower the marriage rates of young people.

In a recent analysis, Neumark (2002) estimates the impact of early job stability on wages of young adult workers. Although Neumark provides an array of results, the key finding is that early job stability increases earnings, mostly by helping individuals maintain a steady job.

The literature on trends and patterns of marital and family stability has developed on a different track from the job stability literature. Bramlett and Mosher (2001) use life table methods to examine the duration of marriages and remarriages with data from the 1995 National Survey of Family Growth (NSFG). Although our focus is on men, information on marriages and divorces is more commonly reported for women. Bramlett and Mosher estimate that 20 percent of women's first marriages become disrupted (involve a separation or divorce) by five years after the marriage, 33 percent by ten years after the marriage, and 50 percent by twenty years after the marriage. The

probability of a disruption rises from 2.8 percent in the first year, to 5.1 percent in the third year, and gradually declines to about 2.4-3.5 percent per year. Most but not all disruptions end in divorces. Two years after separation, 25 percent of separating couples have not yet divorced. Remarriages are common; over half the women in first divorces remarry within five years after their first divorce. While second marriages of women break up at slightly higher rates than do their first marriages, 80 percent of these second marriages remain intact for at least 4 years. Comparisons with life table analysis of 1973 data reveal substantial increases in the rates of marital dissolution. Among white women, the cumulative share of first marriages disrupted within ten years was 18 percent based on the 1973 data and 32 percent based on the 1995 data. The ten-year probability of second marital disruption was 28 percent in 1983 and 39 percent in 1995.

Although age-specific marriage rates and the duration of marriages have declined, the share of women who ever marry remain near 90 percent (U.S. Census Bureau, 2001). Alongside the relative constant share of women ever marrying are important differences in trends for subgroups (Heaton, 1991). Among white women, the proportion ever marrying is projected to rise for those who have graduated college but decline for those who do not graduate college. Black women have experienced a sharp drop in marriage, with the proportion ever marrying falling from 85 percent for the 1945-49 cohort to 64 percent for the 1960-64 cohort.

An extensive literature deals with the interaction between labor market outcomes and marital status.<sup>5</sup> Most of these studies examine causation from one direction and estimate a simple single equation model. They ask how employment, unemployment, or wage levels affect marital or cohabitation status or how a marital/family status influences employment, unemployment, or wages. The research often involves duration analysis. In a recent example of this literature, Oppenheimer

---

<sup>5</sup> See, for example, Manning and Smock (1995), Call and Teachman (1996), Presser (2000), Smock and Manning (1997), Teachman, Call, and Carver (1994), and Weiss and Willis (1997).

(2003) examines the impacts of work experience, earnings, educational attainment, and other variables on two transitions of young men: 1) from non-cohabiting status to cohabitation or marriage; and 2) from never-married, cohabitation to marriage or separation. The results indicated significant but varied roles for earnings, work experience, and education. Among non-cohabitators, very low earnings significantly reduced entries into marriage and high earnings and college diplomas significantly increased marriage rates. In a recent study of the 1961 birth cohort of whites in Detroit, Xie, Raymo, Goyette, and Thornton (2003) examined whether an individual's earnings potential exerted different effects on entries into cohabitation versus entries into marriage. They used an array of earnings variables, from current earnings, to earnings over the subsequent five years, past earnings, and lifetime earnings. The authors found that higher earnings among men significantly raised the entry into marriage but not the entry into cohabitation. Of all the earnings variables, past earnings showed the highest impact.

Despite several solid studies of individual impacts, the literature is limited in dealing with long-term job and marital pathways. In particular, the studies generally do not recognize the likely simultaneity between job and marital stability and the possibility that declines in marital and job stability are connected. Despite evidence that marriage affects earnings and labor market activity of men, studies of entries into marriage rarely develop a simultaneous framework that incorporates both directions of causation. One might expect individual differences help explain stability in marriage and jobs. After all, worker-employer and husband-wife relationships have some elements in common. Both involve working together in production. In each case, the two parties expect loyalty and responsibility from the other party. When one party fails to live up to these expectations, the relationship often breaks down.

A second problem with existing studies is that few follow individuals beyond a single transition. This can limit our understanding since job-marital outcomes at a point in time likely



depend on the accumulation of past job and marital interactions. Rarely if ever do the studies capture the simultaneity between current and past job and marital outcomes. Finally, little research connects the role of early and continuing occupational success with satisfactory family formation and stability.

In this study, we extend the literature by examining the job and marital pathways of young men from the teenage years through the mid-30s. We focus on young men because of time and budget constraints, but recognize the value of pursuing a similar approach to examine pathways of young women. Our approach builds on theories and empirical results linking the success of men in the job market as both a cause and effect of marriage and marital stability. It is natural to extend the theory to recognize possible path dependencies. Consider a positive economic shock that suddenly increases the number of good jobs in certain communities. Suppose that the higher quality jobs increase the number and/or stability of marriages. These changes may herald a sequence of positive, reinforcing outcomes; for example, the added marriages might plausibly raise wages and subsequently increase marital stability. On the other hand, the sequence may not be mutually reinforcing. The added marriages induced by more good jobs may be marginal and more subject to instability than marriages in communities that did not experience the initial gains in employment. If so, the pathways may involve fewer reinforcing positive linkages between jobs and marriages.

What makes our pathway analysis feasible is our use of the Dynamic Selection Control model (Hotz *et al.*, 2002) for estimating behavioral relationships involving simultaneous equations while controlling for potential selection bias. In this paper, we estimate sequential equations for: 1) marital outcomes (single, married, divorced, remarried); 2) work/schooling and/or job stability; and 3) wages or occupational status. In future work, we include simulations to show potential impacts of employment shocks, improved occupational options, and other shifts on early careers and marital outcomes.

Certainly, the pathways young people take are critical not only to their own futures, but also to the health, income security, and upbringing of their children. The results from our study have a potential importance to researchers and policymakers who wish to understand the linkages between work and family patterns. Such results can be used to forecast the likely long-term impacts of selected policy initiatives.

### **III. The Data and Descriptive Results**

#### A. The Data

The primary data source, the NLSY79, provides extensive data on marital status, parenthood, and living arrangements, including the timing of marriages and births, cohabitation and selected characteristics of a partner, and detailed codes showing the respondent's relationship to all other household members. The NLSY79 is a national probability sample of 12,686 individuals ages 14 to 21 as of January 1, 1979 who were re-interviewed annually until 1994 and semi-annually through 2000. This study uses only the data through 1994 to insure that annual information is available for the joint analyses of work instability and marital stability. The NLSY79 is attractive because detailed data on respondents' family background, schooling, job histories, military experiences, marital and cohabitation status are available. Oversampling of African-Americans and Hispanics makes possible comparisons across race and ethnic groups, which are valuable to our type of analysis.

Given evidence of low or zero returns to work-while-in-school (Hotz *et al.* 2002), and given the fact that less than one percent of 18 year-old are married, we start to follow the labor market careers and marital history of the respondents from age 18 or 19. Although information about jobs held prior to 1978 is available, this information is not always complete. To minimize this problem, we restrict the analyses to individuals who were aged 13 to 18 as of 1978. For these cohorts, we

observe precisely all jobs and family histories up to age 32 (for the younger cohorts, we observe through 1994, at which time the youngest respondents would have completed their 29<sup>th</sup> birthday).

Our analyses include three dependent variables that represent job stability, marital/family changes and earnings. Several issues arise regarding the definition of the indicators for these outcomes. One may define employment instabilities as either a change in labor force/schooling status or a job change. A change in labor force status is a transition among the states of schooling, employment, unemployment, and nonparticipation. Job turnover is a change in work arrangements that involve a change of employer. Using the first indicator is more appropriate for ages 17-23 and for socioeconomic groups with low attachment to the labor force, while the second is more appropriate for analyzing stability patterns men who are continuously employed during their adult years.

Our indicator for job stability includes a combination of both definitions. The dependent variable (Job2) is zero if a man continues to work (or study) at the same job, and one if he changes jobs, labor force status or schooling. Using the detailed job histories, Table 2 displays whether job transitions involve upward or downward wage changes. Work experience and job tenure are continuous variables, as measure in years or fractions of years (e.g. 0.2 is 10 weeks).

Changes in marital status are precisely recorded by the NLSY. The survey records the exact date of changes in formal living arrangements (marriage, birth) and changes in informal arrangements, such as cohabitation. This allows us to employ several definitions of family structural formation in the analyses. After considerable review of alternatives, we opt to use the formal definition for singles and the informal definition for separations, mainly because most cohabitation leads to separation without children, while most marriage separations lead to formal divorces.

The empirical model employs a distinctive multi-stage definition of continuation or change in marital status, as follows:

- 1) Singles who never married,
- 2) Those who married for the first time during this calendar year,
- 3) Those married in the current and prior year (including second marriages),
- 4) Those who divorced or separated during this year,
- 5) Those who were divorced or separated in the current and prior year, and
- 6) Those who remarried during this calendar year

Using this classification, we estimate the effects of the observable variables and the unobservable factors on the transition rates from being single to marriage, from marriage to divorce/separation, and from divorce/separation to remarriage. In equations predicting labor market outcomes, these six variables appear as right hand side endogenous variables, thus yielding estimates of the labor market returns to each marital status.

The indicator that we use for earnings is the hourly rate of pay in the main job during the last annual year. We choose this indicator because we want to focus on the potential earning of a continuously held job or in a new job. Other indicators, such as annual or weekly earnings, would combine hourly pay with the amount of hours the respondent work.

### Descriptive Results

The goals of this section are to familiarize the reader with our data and to motivate the formal analysis by presenting a series of interesting facts about age patterns and correlations among marital status, earnings and work histories.

Table 1 shows that *the marriage differential* is pronounced. No matter how we break the sample, married men have higher wages than single men. Interestingly, men in their first marriage have higher wages than those in their second marriage and divorced men have higher wages than do single men. The *differentials* increase with age, are similar across race and ethnic groups and among

men with different education backgrounds. The differentials involving annual wage growth are uneven, but follow the same pattern.

In evaluating the marriage differential, it is crucial to distinguish between the selection of more able or more motivated men into married life and the effect marriage may have on men's performance in the labor force. Our ability to follow men through periods of divorce and remarriage will allow us to distinguish between these effects. We will see that the results suggest a genuine marriage effect not primarily due to selection.

Table 2 replicates Table 7 from Topel and Ward (1992) and shows the differences in the wage rates and wage growths of men that keep the same job and men that have changed their job during the last year. For each comparison, workers that keep the *same job* have higher wages than those workers that *changed their job*. At the same time, the annual wage growth is often higher among workers who changed jobs. The wage gap by job change increases with age, is higher among whites, but interestingly decreases with education. This combination of findings differs somewhat from the results of Topel and Ward (1992).

Among the possible explanations are (1) that the movers had relative (to their statistical group) low wages in the former job and this is why they choose to quit (bad absolute match); (2) that job changes improve wages only for men who were unsuccessful with their former employer (bad relative match); (3) that employers offer above productivity wage to attract movers (and cut their wage growth later); and (4) that the new firm has less information about the poor productivity of these movers. In the first two cases, movers increase efficiency, while the other two explanations indicate market failure that causes firm to lose money.

Interestingly, wage growth is faster at age 23 (11 percent) than at age 19 (5.5 percent) or age 27 (3.5 percent). The wage growth of Hispanics who change jobs at age 28 is faster than whites by 1.3 percent, although their absolute wage is lower than those of whites by about 10 percent. Again,

this contradictory fact begs for explanation. As known, wage and wage growth increase with education. Interestingly, wage growth for men with BA increases dramatically when they change jobs (8.3 percent compare to almost zero for HS and less than HS). This suggests that men with different education background work in segregated markets.

The results presented in Table 3 show how labor market performance varies by marital status at age 28. In general, we find strong suggestive evidence for our hypotheses on the interrelationship between job market performance and stable family status. Married men perform better than others in all the five categories. Moreover, this fact is true also for all the subgroups. Separated or divorced men perform about the same as single men in terms of wages and weeks worked, despite having more work experience than single men. Remarried men do better than the single, separated, and divorced groups, but less well than married men. These men allow for some controls for selection since they have spent time in the other family statuses before they remarried. To sum up, the table suggests a relationship between labor market performance and marriage. In subsequent sections, we pursue the analysis with an appropriate regression model that controls for observable differences and takes account of causality and self-selection issues.

In other interesting data from the table, we find that Blacks changed jobs fewer times than Hispanics, potentially implying more job stability, but actually showing continued time outside of the labor market. This result is in addition to the fact (Appendix A) that blacks tend not to quit jobs, but to face high layoff rates. Separated or divorced men with BA tend to have more jobs than the average and only 39 percent of this sub-group held the same job.

Table 4 presents the age profile of the number of jobs and the number of marital status changes. Starting from age 22, when most men are still single, men that have unstable married lives (two and more changes) also tend to switch jobs more often. By age 25, a new phenomenon becomes visible, with married men accumulating fewer job changes than single men. The stability

margins widen over time and by age 28, married men have (on average) almost one job less than singles, and 1.7 jobs less than divorced men. Men in their second marriages have similar patterns to those of divorced men, but men with more than three marital changes show even more job changes.

At age 22, 22 percent of the men are married, a relatively high number compared to their European counterparts. However, at age 32, a relatively high 44 percent are not married. This high share of men not in a married state is the result of two factors. Almost third of the men are still single and others are moving in and out of marriage. The number of men with unstable marital life is especially worrisome. By age 24, 8 percent of the men already divorced at list once, and by age 30, 3 percent already divorced twice.

The facts from the descriptive tables suggest on positive relation between jobs and marital status changes. Moreover, the results show a negative relation between marital status changes and earnings. We now turn to a formal model that structures how we examine the main forces behind these relationships.

#### **IV. The Formal Model**

This section describes our empirical strategy to evaluate the effect of marriage status on labor market performance and the effect of job instability on marriage stability. The discussion explains the modifications imposed on applications of the model to available data. The model is based on utility maximization, modified for dynamic discrete-choices and discrete-time. We let each period represent one year, such that  $t=0$  when the individual is 17. During each year, the individual chooses his marital status and whether to continue at the same job. As we discuss below, the econometric specification of the model draws on the *Dynamic Selection Control* method used in other applications by Cameron and Heckman (1998), Hotz *et al.* (2002), and Ahituv and Tienda (2003).

Starting with marital decisions, we assume that a person marries when his expected utility from marriage exceeds the expected utility from remaining single (Becker, 1974). A couple separates when the expected utility in a married state falls below expected utility in an unmarried state for at least one member of the couple. Formally, at the beginning of each period, the person chooses between two options: to continue in his present marital status or to change that status (e.g., marry if single, separate if married, and so on). Each individual chooses the alternative that maximizes his expected present value of utility, based on the information that he possesses. Accordingly, at age  $t$ , he chooses to change his family structure if

$$F_{itk}(\text{change}) > F_{itk}(\text{continue}), \quad (1)$$

where  $F_{itk}$  denotes the expected lifetime value of individual  $i$  who chooses one of the two alternatives at age  $t$ , given that he is presently at marital status  $k$ . The reward from choosing a marital state has two implicit components: (a) present utility and (b) the option value from choosing this state on the future streams of utilities. Hence, the choices of the individuals are governed by dynamic decision rules. In addition, the factors that determine creation of a union generally differ from those that determine dissolution. To capture this element, our estimation approach allows different sets of parameters for each type of marital status change.

In addition to marital decisions, at age  $t$  individual  $i$  chooses whether to continue working for the same employer or to change his jobs. Following Topel and Ward (1992), an individual changes his job if

$$V_{it}(w^0, z, 0) > V_{it}(w, z, \mathbf{t}), \quad (2)$$

where  $V_{it}$  denotes the expected lifetime value of individual  $i$  at age  $t$ ,  $w^0$  is an external wage offer,  $w$  is his present wage,  $z$  is total experience and  $\mathbf{t}$  denotes tenure in present job. Note that the employment decision at age  $t$  depends on external wage offers as well as previous employment



decisions and in particular on his tenure and much quality with his present employer. Similarly, the outcome of his decision at age  $t$  will determine his future labor force prospects.

For simplicity, we consider linear specifications of the  $F_{it}$ 's and the  $V_{it}$ 's that depend on: (1) indicators of group membership and birth cohort, family background variables, AFQT, and local market conditions ( $X$ ); (2) a vector of age-related variables measuring, at the beginning of each period, the accumulated amounts of schooling, children, work experience, and tenure in present job ( $Z$ ); (3) the total history of marital status changes ( $F$ ); and (4) a state-specific unobservable variable ( $\mathbf{e}$ ,  $\mathbf{m}$  and  $\mathbf{n}$ ). For identification reasons, the variables in the  $X$ 's and the  $Z$ 's will vary across equations. That is:

$$F_{itk} = X_{it}^F \mathbf{b}_k^X + Z_{it-1}^F \mathbf{b}_k^Z + F_{it-1}^F \mathbf{b}_k^F + \mathbf{e}_{itk}, \quad (3)$$

and

$$V_{it} = X_{it}^V \mathbf{g}^x + Z_{it-1}^V \mathbf{g}^Z + F_{it-1}^V \mathbf{g}^F + \mathbf{m}_{it}, \quad (4)$$

where  $\mathbf{b}$ 's and  $\mathbf{g}$ 's are vectors of parameters to be estimated for each equation, and where the coefficients, in both equations, of “to remain at the same state” are constrained to be zero.

However, the coefficients across marital statuses  $k=2,4,6$  are not constrained to be the same.

Because we are interested in estimating the returns (in the form of wage growth) of earlier work experience, unstable job spells and marital instability, we also specify econometric representations of the wage processes associated with the two alternative work states (continue to work at the same job, or change job). Furthermore, because the choice in Equation 2 is based on unobserved (for us) wage offers, we expect that sample selection is important issues regarding the

first two factors.<sup>6</sup> As with the value function above, the econometric representation of log-wages is linear. That is, the two discrete-choice equations are estimated jointly with a log-wage equation,

$$W_{ijt} = X_{it}^W \mathbf{d}_j^x + Z_{it-1}^W \mathbf{d}_j^z + F_{it-1}^W \mathbf{d}_j^F + \mathbf{n}_{ijt}, \quad (5)$$

for each  $j = 1, 2$ , and where  $W_{ijt}$  is the log of annual income (or hourly wage) adjusted for inflation. As explained below, the parameters of the model are identified with the assistance of exclusion restrictions on the  $X$  and  $Z$  matrices in equations (3) to (5).

Both wage growth within jobs and between jobs should be upward biased. This is because workers choose the option with higher values. Thus, a key feature of estimating the model correctly is to control for this type of self-selections.

Each of the state-specific unobservable variables has several components. Some are exogenous to the individual, some are related to the person characteristics, and others are related to the surroundings in which he lives. Important to the focus of our model is that we can identify two sources of unobserved heterogeneity. First, the outcome of marital status that we observe is also a decision of the spouse and the outcome of job turnover is also a decision of the employer. Hence, in some cases, the outcome that we observe is not due only to the sole decision of the respondent. The NLSY does not provide adequate information on spouses and employers, and thus, we (the researchers) are unable to observe the decisions of the partners. Nevertheless, we recognize that we must control for these types of *match quality* and unobserved (for us) decisions by partners. Second, unobserved characteristics of the individual, such as social norms, motivation, and behavioral problems, also effect his decisions. These give rise to nonzero correlations between  $\mathbf{e}_{it}$ ,  $\mathbf{m}_t$  and  $\mathbf{n}_{ijt}$ .

Given the above endogeneity and unobserved heterogeneity, estimating the parameters in equations (3) to (5) by using the data on the observed choices is subject to bias, and in particular to

---

<sup>6</sup> The author diagnostic shows that marital statuses do not have effect on the parameter of the wage equation, and thus, the wage equation is estimated jointly across the six marital states.

selection bias. To deal with such problems, we must account for the correlation structure of stochastic elements in the estimation of equations (3) to (5) and control for the correlation between these elements and our experience variables ( $Z_{it}$ 's and  $F_{it}$ 's) at each age. Following the approach of Heckman and Singer (1984), and Hotz *et al.* (2002), we estimate the model by a conditional maximum likelihood (ML) strategy in which the likelihood function is conditional on the estimated distribution of the unobserved individual factor.

We assume that the stochastic elements can be written as the following functions of a (common) person-specific stochastic component and idiosyncratic errors:

$$\mathbf{e}_{itk} = \mathbf{a}_k^F \mathbf{x}_i + \mathbf{w}_{itk}^F \quad (6)$$

$$\mathbf{m}_{itk} = \mathbf{a}_k^V \mathbf{x}_i + \mathbf{w}_{itk}^V \quad (7)$$

and

$$\mathbf{u}_{itk} = \mathbf{a}_k^W \mathbf{x}_i + \mathbf{w}_{itk}^W \quad (8)$$

In this set of equations  $\xi_i$  denotes a person-specific disturbance (or factor),  $\alpha_j$ 's are specific factor loadings for marriage, work and wage, and  $\omega_{isj}$ 's denote idiosyncratic disturbance terms assumed uncorrelated with  $\xi_i$ . Given the stochastic structure in (6)-(8), it follows that the  $\varepsilon_{isj}$ 's and  $\mu_{isj}$ 's will be correlated across time and across states, i.e.,

$$\begin{aligned} \text{Cov}(\mathbf{e}_{itj}, \mathbf{e}_{it\ell}) &= \mathbf{a}_j^F \mathbf{a}_\ell^F \text{Var}(\mathbf{x}_i), \quad \text{for } t = t', j = \ell \\ \text{Cov}(\mathbf{e}_{itj}, \mu_{it\ell}) &= \mathbf{a}_j^F \mathbf{a}_\ell^V \text{Var}(\mathbf{x}_i), \quad \text{for } t = t', \text{ and for all } j \\ \text{Cov}(\mu_{itj}, \mu_{it\ell}) &= \mathbf{a}_j^V \mathbf{a}_\ell^V \text{Var}(\mathbf{x}_i), \quad \text{for } t = t', j = \ell. \end{aligned} \quad (9)$$

The above expressions indicate that the signs of the covariances between the  $\varepsilon_{isj}$ 's and  $\mu_{isj}$ 's are determined by the products of the corresponding factor loadings, a property we use to classify the factors representing unobserved heterogeneity. Given the stochastic structure in (6)-(8), the

correlations between the  $\varepsilon_{isj}$ 's and  $v_{itj}$ 's, and between  $v_{isj}$ 's and  $\mu_{itj}$ 's will have similar properties. Hence, the distribution of  $\xi_i$  (the unobserved heterogeneity) is identified from the correlation of marital status, job choices and wages within and across time periods (and education stages) using maximum likelihood (ML) methods. Assuming that the idiosyncratic disturbance terms ( $\omega_{isj}$ ) are normally distributed with  $E(\omega)=0$ , the finite distribution of  $\xi$  is estimated non-parametrically (Heckman and Singer, 1984). Specifically, we use a four-point discrete distribution for  $\xi$ , and estimate the intermediate point as well as the probability mass at each point (the two extreme points are normalized to 0 and 1).

## **V. Results**

This section presents results from four specifications. The first two focus only on the interaction between job stability and wage rates and treats the marital status variables as exogenous (Table 5). The estimates of job change in Table 5 use probit equations. Model 1 is the most straightforward approach and takes no account of unobserved heterogeneity. Model 2 incorporates corrections for unobserved heterogeneity. These initial models are similar to the Topel and Ward (1992) model in focusing on job turnover and wage growth. For each model, there are two wage regressions in Table 5, one for those who stayed in prior year's job and one for those switched jobs.

The second set of specifications incorporates the simultaneity between marital status and labor market outcomes (Tables 6A-6C). The labor market outcomes appear in Table 6A while the marital transitions are in Table 6B. The equations for job and marital status transitions equations are linear probability equations. Again, we include two models within this specification. Model 3 deals with the marital status-job market simultaneity but controls only for observable variables and not the unobservable variables. Model 4 is the complete model, controlling both for simultaneity and

unobserved heterogeneity. The use of four models reveals the nature of any biases introduced from either simultaneity and/or heterogeneity.

The analysis focuses on the evaluation of the long-term effect of job changing on wage rates and on the interrelation between marital status and labor market performance. Thus, an important issue in this analysis is to identify the casual relationship between marital status and job stability. Earlier research consistently finds strong positive correlation between being married and wage rates (e.g., Daniel (1995) and Corwell and Rupert (1997) ). Yet, studies rarely take account of the nature of the two outcomes and the theory (Becker, 1974) suggesting that causal effects run in both directions. An object of this study is to identify causal effects by controlling carefully for the person observed and unobserved characteristics.

We now turn to the findings, organized by the three main outcomes: job change, hourly wages, and marital transitions.

#### *5.1. Determinants of Change in Jobs or Job Status*

Beginning with our central focus, the effects of marital status, we find clear and significant impacts. According to Models 1 and 2 (Table 5), which treats marital status as exogenous, job stability increases with years of marriage, a new marriage, and a continuing marriage, but not with a remarriage. Divorced men tend to change jobs more frequently than singles and the longer they are in that status the more often they tend to change jobs. Married men have a more stable job profile than all other groups and the longer they are married the more stable is the job profile. Somewhat surprisingly, controlling for unobserved heterogeneity has little effect on the values of these marital status coefficients. Apparently, selection bias is not an important issue in this case. Hence, there is robust evidence that marital instability is associated with increased job instability.

The effects of marital transitions on job change remain significant in the simultaneous models, as shown in Table 6A. Again, marrying during the year or remaining married lowers the

probability of job change. As in Table 5, continuing in a divorced or separated state increases job change, while becoming divorced or remarrying exerts no significant effect on job change relative to remaining single. One difference between the two models is the impact of years of marriage. After accounting for the simultaneity between marital and job transitions, added years of marriage is no longer significant. The Table 5 and Table 6A results are similar in that neither is sensitive to controls for heterogeneity.

The effects of the control variables are interesting. Blacks are more likely to change jobs or job status than whites, but no significant differences emerged between Hispanics and whites. Higher AFQT scores, higher grade completed and higher parental income lower job change, apparently indicating that more advantaged young men are more likely to stay on the same job. Work experience and age each show a U-shape pattern. However, the bottom of the age function is at age 22, while the work experience function does not reach a minimum until about 550 weeks (or 10.6 full years) of experience. Thus, in much of the range of this sample, changing jobs (or job status) increases with age and decreases with experience. Military experience also lowers the probability of job change. Prior income reduces job change, while workers with many past job changes are more likely to change jobs in the coming year. Apparently, job history is important in determining the job mobility in the future. Thus, a successful match between a worker and employer can have cumulative effects, raising job tenure and ultimately earnings. In contrast, time out of the labor force or changing many jobs has cumulative effects in the direction of low tenure.

Among the other interesting findings, favorable employment conditions apparently encourage job change. Higher employment growth in the county of the respondents and lower unemployment rates increase job change, indicating that when the aggregate demand for workers goes up, young workers take the opportunity to move to new jobs. Also urban residents change jobs more often, while those in counties with high average income are less likely to change jobs.

## 5.2. *Effects on Wages*

The wage regressions captured in Table 5 allow different set of coefficients based on job change states. Table 6 presents results from a restricted specification in which coefficients are restricted to be the same for job stayers and job movers.

The patterns of marital status impacts are similar though not identical for Tables 5 and 6. Returns to marriage are significantly positive and significant and they increase significantly with the duration of the marriage. However, unlike the job change results, divorced and separated men differ significantly from single men in the same direction as married men. Both earn higher wage than singles, though less than married men. Another difference with the job change results is among remarried men. These men show no higher job stability than single men, but sharply higher wages. When marital status is exogenous in Table 5, controls for heterogeneity often but not always lowers the wage gains from marriage, remarriage, and divorce.

In the preferred specification (Model 4 in Table 6) that takes account of simultaneity and heterogeneity, the gains to marriage and remarriage are large and statistically significant. Continuing in marriage and having been married for eight years raises wage rates by 14 percent over an otherwise comparable single man. This marital status differential is equivalent to a difference of 2.6 years of schooling. While men who become separated or divorced or remain in that state also show wage gains over single men, their increment to wages falls well short of the wage gains associated with marriage.

The equation includes several variables that account for work and job histories. The wage gains to actual weeks of work experience vary widely. In all specifications, the returns to actual work experience are non-linear, with a positive coefficient on years of work experience and a negative coefficient on the square of years of work experience. The profile varies for job stayers and job movers. The stayers start with gains of 9 percent in the first year but it decreases to zero after 13

full-years of experience (which is nearly out of the sample for most men). Job movers show 2 percent per year gains from work experience but the gains are steady over time. The simultaneous specification in Table 6A that includes all workers yields gains between those found for stayers and movers. Returns start at 5.7 percent and fall to zero after 16 years.

The returns to age have a similar pattern. But the age and age squared term together imply no wage return to age (holding work experience constant) between the ages of 20 to 30.

The effects of job stability are robust and indicate wage gains from increases in job tenure and stability. However, the size of the impacts is moderate. On the basis of the results in Model 4, having an additional four jobs reduces wage rates by only about 2 percent while having an additional four years of job tenure raises wages by about 3.5 percent. Changing jobs in the prior year lowers wages by about 1.5 percent. In this case, controls for unobserved heterogeneity matter; they generally reduce the wage returns to job stability in Table 5 though not substantially in the case of the simultaneous models in Table 6.

The results on the wage impact of job change are the reverse of the tabulation results reported in Table 2. Apparently, the wage growth observed in Table 2 for job movers is not due to the new jobs, but to characteristics of these workers and/or to their work experience. The implications are different from those drawn by Topel and Ward that young men should search for better matches by changing jobs often. Our findings suggest that in equilibrium young men lose by additional changes in jobs.

The effects of the personal characteristics are similar to those found elsewhere, but sometimes vary with the specification. The wage coefficient for blacks is negative in all specifications, even those that control for heterogeneity and marital status. However, for Hispanics, the positive coefficient in the uncontrolled regressions becomes negative, once we take account of heterogeneity and simultaneity. The pattern is reversed for foreign-born workers. Their wage



coefficient is negative in the uncontrolled analysis, but becomes positive and significant in the Model 4 complete specification. High AFQT, high parental income, more schooling, urban residence, number of children, and healthy employment conditions raise wage outcomes in all specifications. In the preferred specification, the return to education is about 5 percent, a level similar to those found in other regressions that use AFQT as control (Neumark, 2002). The estimated returns to schooling actually increase slightly when we control for unobserved heterogeneity.

### *5.3. Marital Status Equations*

There are many ways to define marital status and thus marital transitions. The two main questions are how to treat cohabitation and separations. Should we treat cohabitation as married or single? Should we treat separated couples as married or divorced or add a third category? After reviewing the data, we chose to treat cohabitated men as single and separated men as divorced because most cohabitation ended in separation without children and most separations ended in formal divorce.

#### **Table 6 about here**

Our methodology resembles duration analysis in estimating the transition rates from one marital status to another or to remaining in the initial status. However, it differs in that we follow men through each marital state and not simply from one status to another (e.g., single to married or from married to divorce). Hence, we estimate the effects of the observable variables and the unobservable factors on the exit-rate from singles to marry, from married to divorce, and from divorced to re-marry. Using the above six variables as right hand side endogenous variables allows us to estimate the labor market return to the duration of being in each marital status. At the same time, we jointly estimate the impact of job mobility on marital transitions and report these results in Table 6B.

Job instability generally leads to negative marital outcomes. Changing jobs reduces the likelihood that single men will marry in the following year by 6 percent, raises the likelihood of divorce by 12 percent, and lowers the likelihood of remarriage by 12 percent. However, the total number of jobs has no significant effect on marriages nor on remarriages, though job instability does raise the likelihood of divorce. These results differ somewhat from the unconditional tabulations showing a negative correlation between marriage and numbers of jobs (Table 4). Overall, these results suggest that modest effects of job change on marriage, but large effects on divorce or separation.

High wages raise sharply the likelihood of men becoming and remaining married. The wage impacts are large and significant for entering marriage and for becoming divorced or separated. The effects on remarriage are positively signed but the high standard errors suggest no statistically significant effect. Holding wages constant, work experience exerts a positive and significant effect on entering marriage but not on remaining married or remarrying.

Interestingly, the independent effects of education vary. Higher education has no effect on entry into marriage, but does lower rates of marital dissolution and raise rates of remarriage. Among the possible explanations for the absence of an education effect on entering marriage is the increased desirability of an educated man is already reflected in higher wages or that staying in school delays marriage, offsetting the likelihood that uneducated men are less attractive to women. Urban residents stay single longer as do residents of counties with relative high income. Surprisingly, both variables do not affect the later stages.

Differences in initial characteristics have a variety of effects. Black show a much lower connection to marriage than other groups, even after taking account of labor market outcomes, the county job market, age, work experience, and family background. In sharp contrast, the only effect of Hispanic background is to increase the likelihood of remarriage. The heterogeneity-adjusted

results show no significant effect of AFQT scores (holding education and wages constant).

Growing up in a female-headed family reduces entries into marriage but has no significant impact on divorce or remarriage.

The religion variables show some surprising effects. Although, as expected, the frequency of religious attendance reduces entry into divorce or separation, it exerts no significant effect on marriage. Catholic status significantly reduced entry into marriage and into remarriage and exerted no significant effect on divorces.

Only rarely did the controls for heterogeneity make a difference. Still, these controls, together with the simultaneous estimation method, allow us to have confidence in the impacts of job change and earnings on marital transitions by reducing the possibility of reverse causation.

#### *5.4. Analysis of Unobserved Common Factors*

The model in Table 5 uses one dimension of heterogeneity with three points of support and the ones in Tables 6A and 6B have seven support points. The convergence and the distribution of the points and the mass are robust. In both cases, the *likelihood-ratio* test shows that Model 2 improves the power of the regression. The strongest effect in term of the values of the coefficients is in the wage equations and the smallest variation is in the re-marriage equation. This is also the order of the significant level of the *factor loading* in each equation.

Regarding the interpretation unobservable characteristics, the *factor loading* has positive effects on job turnover equations, meaning that it captures bad matches. Supporting this result is the fact that the coefficients on number of jobs and tenure in the wage equations (both in Table 5 and 6A) become less significant. The fact that *factor-loading* coefficients have the same signs as AFQT in the wage and first marriage equations suggests that the unobservable is a characteristic that associates

with talent. Finally, the fact that Model 2 changes the coefficient of divorce and remarried shows how complicated it is to predict this outcomes on an individuals basis.

## **VI. Conclusions and Next Steps**

Job stability and marital stability are no doubt connected in complicated ways. *A priori*, leaving a job may take place for reasons positively or negatively related to marriage. An individual may leave a job because of the desire to move to another location and accommodate a new partner or spouse. On the other hand, moving jobs may put a strain on relationships, including marriage, and may lead to divorce or separation. Job stability might also be connected to marital status through its impact on wages. But, here too, there are many possibilities. Job stability may improve wage prospects or might limit opportunities that arise from switching positions. Finally, marital status may encourage job stability, just as it encourages stability in family relationships and in other behaviors (Waite and Gallagher, 2000). Thus, causation may run from job success to marital success or from marital success to job success.

This paper grapples with causation in an effort to understand the dynamic patterns of job change, earnings, and marital transitions. Using data covering a cohort of young men as they age from 18 through 32, the analysis yields some robust findings about causation and dynamics. Overall, the results show clear connections between marital stability, job stability, and earnings. First, job changing and a large number of jobs contribute to lower earnings and less marriage. The finding that job instability lowers earnings runs contrary to the conclusions of Topel and Ward (1992). Although differences in samples and time periods might explain differences in results, a more compelling explanation is the fact that our model is more complete, incorporates marital stability simultaneously and uses adjustments for heterogeneity.

A second key finding is that the positive effects of marriage on job stability are clear even after taking account of the positive effects of job stability and earnings on marriage. The presence of a marriage premium in the context of adjustments for heterogeneity and simultaneity is a strong signal that projects that promote healthy marriages might indirectly improve job market outcomes as well.

The next step in our work will involve simulating the pathways of young men under alternative scenarios. The idea will be estimate how a shock to earnings or to marriage attitudes (that end up increasing marriages and/or the stability of marriages) affects an entire sequence of decisions and outcomes. For example, a sudden increase in local employment is likely to raise job stability, wages and ultimately, might make marriages more stable. This effect, in turn, might lead to a marriage-induced positive effect on earnings, which, in turn, might reinforce the improvement in earnings. In our next paper, we plan to provide a set of revealing simulations that reveal how pathways of young men might be altered in the context of this sequence.

One important reason to continue pursuing questions about job change and marital instability is that both may generate externalities. Workers changing jobs to gain a higher wage take no account of the possibility that his behavior will reduce employer willingness to invest in the human capital of all other workers. Parents may be unable to calculate the fact that remaining single or getting a divorce may reduce earnings and lead to a reduction in child welfare (Becker, 1974).

A second rationale is to understand the potential role of marriage policies in reducing poverty and inequality. A combined job and marriage initiative might help the country reach these goals by reinforcing the changes along one dimension (say, work) and ultimately lead to a stable family life and, in turn, a higher income.

## References

- Avner Ahituv and Marta Tienda. 2004 "Employment Activity, Motherhood and School Continuation Decisions of Young White, Black and Hispanic Women." *Journal of Labor Economics*, Forthcoming.
- Avner Ahituv and Ayal Kimhi. 2002. "Off-Farm Work and Capital Accumulation Decisions of Farmers over the Life-Cycle: The Role of Heterogeneity and State-Dependence." *Journal of Development Economics*, August.
- Becker, Gary S. 1974. "A Theory of Marriage," In *Economics of the Family*, edited by T.W. Schultz, Chicago University Press, Chicago.
- Becker, Gary and Landes, Michael. 1977 "An Economic Analysis of Marital Instability," *Journal of Political Economy*, p. 1141.
- Ben-Porath, 1982. "The F-Connection: Families, Friends and Firms, and the Organization of Exchange," *Demography*.
- Bernhardt, Annette, Martina Morris, Marc Handcock, and Marc Scott. 1998. *Trends in Job Instability and Wages for Young Adult Men*, Institute on Education and the Economy no. IIEE Working Paper 8. New York, New York: Teachers College, Columbia University.
- Bramlett, Matthew, and William Mosher. 2001. *First Marriage Dissolution, Divorce, and Remarriage: United States. Advance Data from Vital and Health Statistics*, National Center for Health Statistics no. 323. Hyattsville, Maryland.
- Chiappori and Yoram Weiss. 2001, "Marriage Contracts and Divorce: An Equilibrium Analysis," December.
- Clark, Kim B. and Lawrence H. Summers. 1979. "Labor Market Dynamics and Unemployment: A Reconsideration." *Brookings Papers*, 1:13-72.
- Cameron, Steven and James Heckman. 1998. "Life Cycle Schooling and Dynamic Selection Bias: Models and Evidence for Five Cohorts of American Males." *Journal of Political Economy*. 106, 262-333.
- Call, Vaughn, and Jay Teachman. 1996. "Life-Course Timing and Sequencing of Marriage and Military Service and Their Effects on Marital Stability." *Journal of Marriage and the Family*, 58 (February): 219-26.
- Cornwell, Christopher, and Peter Rupert. 1997. Unobservable individual effects, marriage, and the earnings of young men. *Economic Inquiry*, 35 (April): 285-94.

- Daniel, Kermit. 1995. The marriage premium. In *The New Economics of Human Behavior*, edited by Mariano Tommasi and Kathryn Ierulli, 113-25. Cambridge, England: Cambridge University Press.
- Farber, Henry. 1995. *Are Lifetime Jobs Disappearing? Job Duration in the United States, 1973-1993*, National Bureau of Economic Research no. Working Paper 5014. Cambridge, Massachusetts.
- Hamilton, Stephen. 1990. *Apprenticeship for Adulthood: Preparing Youth for the Future*. New York, New York: The Free Press.
- Heaton, Tim. 1991. "Time-Related Determinants of Marital Dissolution." *Journal of Marriage and the Family*, May: 285-95.
- Heckman, James J., and B. Singer. 1984. "A Method for Minimizing the Impact of Distributional Assumptions in Econometric Models of Duration Analysis." *Econometrica* 52:217-320.
- Hsueh, Sheri, and Marta Tienda. 1996. "Gender, Ethnicity, and Labor Force Instability." *Social Science Research*, 25, 73-94.
- Hotz, V. Joseph, Lixin Xu, Marta Tienda and Avner Ahituv. 2002 "Are There Returns to the Wages of Young Men from Working While in School?" *Review of Economics and Statistics*, 84(1), May: 221-236.
- Ichimura, Hidehiko and Christopher. 2002. "Semiparametric Reduced-Form Estimation of Tuition Subsidies." *American Economic Review*. 286-92. May.
- Jovanovic, Boyan. 1979. "Job Matching and the Theory of Turnover." *Journal of Political Economy*, 87(5): 972-990.
- Klerman, Jacob Alex, and Lynn A. Karoly. 1994. "Young Men and the Transition to Stable Employment." *Monthly Labor Review*, 117, no. 8, August: 31-48.
- Lerman Robert. 2001. "Marriage As A Protective Force Against Economic Hardship." The Urban Institute.
- Lerman Robert and Caroline Ratcliffe. 2001 "Are single mothers finding jobs without displacing other workers?" *Monthly Labor Review*. Vol. 124. No. 7. July 3-12.
- Light Audrey and Kathleen McGarry. 1998 "Job change patterns and the wage of young men." *Review of Economics and Statistics*, 80(2): 276-286.
- Light Audry and Manuelita Ureta. 1995 "Early-Career Work Experience and Gender Wage Differentials." *Journal of Labor Economics*, 13(10): 121-154.
- Manning, Wendy D., and Pamela Smock. 1995. "Why Marry? Race and the Transition to Marriage Among Cohabiters." *Demography*, 32, no. 4, November: 509-20.

- Mincer, Jacob and Solomon Polachek. 1974. "Family Investments in Human Capital: Earnings of Women." *Journal of Political Economy* (March/April): S76-S108.
- Neumark David, 2002 "Youth Labor Markets in the United States: Shopping Around or Staying Put," *The Review of Economics and Statistics*, 84(3): August, 462-482.
- Neumark, David. 2000. *Changes in Job Stability and Job Security: A Collective Effort to Untangle, Reconcile, and Interpret the Evidence*, National Bureau of Economic Research. Working Paper 7472. Cambridge, Massachusetts.
- Oppenheimer, Valerie. 2003. "Cohabiting and Marriage During Young Men's Career Development Process." *Demography*. February. 127-149.
- Osterman, Paul. 1980. *Getting Started: The Youth Labor Market*. Cambridge, Massachusetts: MIT Press.
- Presser, Harriet. 2000. "Nonstandard Work Schedules and Marital Instability." *Journal of Marriage and the Family*, 62 (February): 93-110.
- Smock, Pamela J. and Wendy D. Manning. 1997. "Cohabitation Partners' Economic Circumstances and Marriage." *Demography*, Vol 34, 3:331-341.
- Teachman, J.D., V.R.A. Call, and K.P. Carver. 1994. Marital Status and the Duration of Joblessness Among White Men. *Journal of Marriage and the Family*, Vol. 56 (May):. 415-428.
- Topel, Robert H. and Michael P. Ward. 1992. "Job Mobility and the Careers of Young Men." *Quarterly Journal of Economics*, 196:339-479.
- U.S. Bureau of Labor Statistics. 2000. *Number of Jobs Held, Labor Market Activity, and Earnings Growth Over Two Decades: Results from a Longitudinal Survey*. Washington, DC.
- U.S. Census Bureau. 2001. "Living Arrangements of Children." *Household Economic Studies*. Washington, DC.
- Waite, Linda J. and Maggie Gallagher. 2000. *The case for marriage*. New York: Doubleday.
- Weiss, Yoram and Robert J. Willis. 1997. "Match Quality, New Information, and Marital Dissolution." *Journal of Labor Economics*, Vol 15, 1:S293-S329.
- Wilson, William J. 1987. *The Truly Disadvantaged*. Chicago: University of Chicago Press.
- Xie, Yu, James M. Raymo, Kimberly Goyette, and Arland Thornton. 2003. "Economic Potential and Entry Into Marriage and Cohabitation." *Demography*. 351-368.



**Table 1: Hourly Rate of Pay and Wage Growth by Marital Statuses**

6/1/2003

**Panel A: full sample at certain ages**

| Age                   | Hourly Rate of Pay |         |          |            | Annual Wage Growth |         |          |            |
|-----------------------|--------------------|---------|----------|------------|--------------------|---------|----------|------------|
|                       | Single             | Married | Divorced | Re-Married | Single             | Married | Divorced | Re-Married |
| 19                    | 4.6                | 5.3     | NA       | NA         | 5.8%               | 10.8%   | NA       | NA         |
| 23                    | 6.2                | 7.1     | 6.3      | NA         | 10.1%              | 12.3%   | NA       | NA         |
| 27                    | 7.6                | 8.9     | 6.9      | 8.5        | 2.7%               | 4.1%    | -1.0%    | 9.4%       |
| 31                    | 7.6                | 9.7     | 7.2      | 8.8        | 2.6%               | 2.8%    | 1.0%     | 7.1%       |
| <i>Number of Obs.</i> | 6,184              | 3,149   | 758      | 343        | 6,184              | 3,149   | 758      | 343        |

**Panel B: by race and ethnic groups, age 28-30**

| Age                   | Hourly Rate of Pay |         |          |            | Annual Wage Growth |         |          |            |
|-----------------------|--------------------|---------|----------|------------|--------------------|---------|----------|------------|
|                       | Single             | Married | Divorced | Re-Married | Single             | Married | Divorced | Re-Married |
| Hispanic              | 7.6                | 8.7     | 7.2      | 7.6        | 0.6%               | 2.3%    | 0.7%     | 1.0%       |
| Black                 | 6.5                | 7.9     | 6.4      | 7.4        | -0.4%              | -1.2%   | -0.7%    | 4.4%       |
| White                 | 8.7                | 9.8     | 8.9      | 8.3        | 3.2%               | 2.1%    | 2.8%     | 2.1%       |
| <i>Number of Obs.</i> | 3,219              | 3,781   | 1,084    | 574        | 3,219              | 3,781   | 1,084    | 574        |

**Panel C: by education groups, age 28-30**

| Age                   | Hourly Rate of Pay |         |          |            | Annual Wage Growth |         |          |            |
|-----------------------|--------------------|---------|----------|------------|--------------------|---------|----------|------------|
|                       | Single             | Married | Divorced | Re-Married | Single             | Married | Divorced | Re-Married |
| Less than HS          | 5.6                | 6.8     | 6.8      | 6.8        | -3.4%              | -3.0%   | -1.9%    | 0.4%       |
| HS                    | 6.8                | 8.3     | 7.3      | 7.6        | 1.1%               | 2.0%    | 0.8%     | 1.4%       |
| Some College          | 8.4                | 9.6     | 9.9      | 9.6        | 3.1%               | 0.6%    | 8.5%     | 5.4%       |
| BA and more           | 10.4               | 12.0    | 10.3     | 9.8        | 4.1%               | 4.2%    | -1.1%    | 6.1%       |
| <i>Number of Obs.</i> | 3,219              | 3,781   | 1,084    | 574        | 3,219              | 3,781   | 1,084    | 574        |

**Table 2: Hourly Rate of Pay and Wage Growth by Job Transaction Status****Panel A: full sample at certain ages**

| Age                   | Hourly Rate of Pay |         | Annual Wage Growth |         |
|-----------------------|--------------------|---------|--------------------|---------|
|                       | Same Job           | New Job | Same Job           | New Job |
| 19                    | 4.8                | 4.6     | 4.2%               | 7.3%    |
| 23                    | 6.7                | 6.2     | 7.7%               | 14.2%   |
| 27                    | 8.6                | 7.1     | 2.8%               | 4.1%    |
| 31                    | 9.2                | 6.9     | 2.7%               | 3.2%    |
| <i>Number of Obs.</i> | 5,860              | 4,574   | 5,860              | 4,574   |

**Panel B: by race and ethnic groups, age 28**

| Age                   | Hourly Rate of Pay |         | Annual Wage Growth |         |
|-----------------------|--------------------|---------|--------------------|---------|
|                       | Same Job           | New Job | Same Job           | New Job |
| Hispanic              | 8.2                | 7.6     | -2.0%              | 8.7%    |
| Black                 | 7.3                | 6.5     | 0.8%               | -7.1%   |
| White                 | 9.3                | 8.2     | 3.3%               | 7.5%    |
| <i>Number of Obs.</i> | 2,083              | 951     | 2,083              | 951     |

**Panel C: by education groups, age 28**

| Age                   | Hourly Rate of Pay |         | Annual Wage Growth |         |
|-----------------------|--------------------|---------|--------------------|---------|
|                       | Same Job           | New Job | Same Job           | New Job |
| Less than HS          | 6.8                | 5.9     | -4.8%              | 2.1%    |
| HS                    | 7.9                | 6.7     | 1.7%               | 0.7%    |
| Some College          | 9.0                | 8.6     | 3.1%               | 3.3%    |
| BA and more           | 11.0               | 10.9    | 4.4%               | 8.3%    |
| <i>Number of Obs.</i> | 2,083              | 951     | 2,083              | 951     |

**Table 3: Indicators of Labor Market Performance by Family Status at Age 28****Panel A: Percent keeping the same job over last calendar year**

| Family Status         | All | Blacks | Whites | HS  | BA and more |
|-----------------------|-----|--------|--------|-----|-------------|
| Single                | 56% | 48%    | 65%    | 56% | 61%         |
| Married               | 71% | 65%    | 73%    | 71% | 74%         |
| Separated or Divorced | 50% | 39%    | 55%    | 52% | 39%         |
| Re-Married            | 60% | 55%    | 62%    | 62% | 73%         |

**Panel B: Cumulative number of jobs**

| Family Status         | All | Blacks | Whites | HS  | BA and more |
|-----------------------|-----|--------|--------|-----|-------------|
| Single                | 8.8 | 8.1    | 9.4    | 8.5 | 8.9         |
| Married               | 8.0 | 7.7    | 8.0    | 7.4 | 8.1         |
| Separated or Divorced | 9.6 | 8.8    | 10.1   | 9.5 | 9.1         |
| Re-Married            | 9.8 | 7.9    | 10.1   | 9.6 | 13.0        |

**Panel C: Weeks work last calendar year**

| Family Status         | All  | Blacks | Whites | HS   | BA and more |
|-----------------------|------|--------|--------|------|-------------|
| Single                | 39.5 | 35.0   | 44.3   | 38.2 | 45.4        |
| Married               | 45.1 | 42.0   | 46.0   | 44.1 | 48.1        |
| Separated or Divorced | 39.1 | 35.9   | 42.9   | 39.7 | 47.5        |
| Re-Married            | 43.1 | 37.2   | 44.1   | 43.4 | 42.0        |

**Panel D: Cumulative weeks of work experience**

| Family Status         | All | Blacks | Whites | HS  | BA and more |
|-----------------------|-----|--------|--------|-----|-------------|
| Single                | 358 | 314    | 405    | 355 | 384         |
| Married               | 426 | 375    | 442    | 429 | 421         |
| Separated or Divorced | 381 | 346    | 410    | 389 | 415         |
| Re-Married            | 425 | 341    | 443    | 436 | 375         |

**Panel E: Hourly rate of pay** (same as Table 1b and 1c)

| Family Status         | All   | Blacks | Whites | HS    | BA and more |
|-----------------------|-------|--------|--------|-------|-------------|
| Single                | 7.7   | 6.8    | 8.5    | 6.9   | 10.5        |
| Married               | 9.0   | 7.5    | 9.5    | 8.1   | 11.5        |
| Separated or Divorced | 7.3   | 6.6    | 8.1    | 7.6   | 9.3         |
| Re-Married            | 8.2   | 7.3    | 8.4    | 7.7   | NA          |
| <i>Number of Obs.</i> | 3,428 | 1,050  | 1,707  | 1,610 | 568         |

**Table 4: Number of Job and Marital Statuses Changes by Age**

| Age | <b>Number of Marital Statuses Changes</b> |                       |                                     |                                    |                                     |
|-----|---|-----------------------|-------------------------------------|------------------------------------|-------------------------------------|
|     | <b>Single, Never Married</b>              | <b>First Marriage</b> | <b>First Separation (2 Changes)</b> | <b>Second Marriage (3 Changes)</b> | <b>Four or More Marital Changes</b> |
| 22  | 5.2<br>(75%)                              | 5.3<br>(21%)          | 6.3<br>(3%)                         | 7.1<br>(1%)                        | 8.3<br>(0%)                         |
| 23  | 5.9<br>(67%)                              | 5.9<br>(27%)          | 6.8<br>(5%)                         | 6.8<br>(1%)                        | 11.8<br>(0%)                        |
| 24  | 6.6<br>(61%)                              | 6.4<br>(31%)          | 7.4<br>(6%)                         | 8.2<br>(2%)                        | 11.1<br>(0%)                        |
| 25  | 7.2<br>(54%)                              | 6.9<br>(36%)          | 8.1<br>(7%)                         | 8.1<br>(2%)                        | 11.3<br>(1%)                        |
| 26  | 7.8<br>(49%)                              | 7.3<br>(39%)          | 8.6<br>(8%)                         | 8.7<br>(3%)                        | 10.6<br>(1%)                        |
| 27  | 8.4<br>(45%)                              | 7.7<br>(40%)          | 9.1<br>(10%)                        | 9.4<br>(4%)                        | 11.1<br>(1%)                        |
| 28  | 8.9<br>(41%)                              | 8.0<br>(41%)          | 9.7<br>(11%)                        | 9.4<br>(5%)                        | 11.3<br>(2%)                        |
| 29  | 9.3<br>(38%)                              | 8.4<br>(43%)          | 10.0<br>(11%)                       | 10.0<br>(6%)                       | 11.5<br>(2%)                        |
| 30  | 9.7<br>(35%)                              | 8.5<br>(43%)          | 10.3<br>(11%)                       | 10.3<br>(7%)                       | 11.4<br>(3%)                        |
| 31  | 9.8<br>(32%)                              | 8.6<br>(45%)          | 10.5<br>(12%)                       | 9.7<br>(7%)                        | 11.9<br>(3%)                        |
| 32  | 9.9<br>(30%)                              | 8.7<br>(46%)          | 10.2<br>(12%)                       | 9.2<br>(8%)                        | 11.4<br>(3%)                        |

*Notes:* The percentage of the observations per age are in brackets.

**Table 5: Determinants of Job Change and Ln of Hourly Wage Rates, Marital Status Exogenous**

|   | Job Change              |                         | Ln Hourly Wages<br>Model 1 |                         | Ln Hourly Wages<br>Model 2 |                         |
|---|-------------------------|-------------------------|----------------------------|-------------------------|----------------------------|-------------------------|
|   | Model 1                 | Model 2                 | Kept Job                   | New Job                 | Kept Job                   | New Job                 |
| Factor Loading  |                         | 0.0845***<br>(0.0226)   |                            |                         | -0.9079***<br>( 0.0053)    | -0.6250***<br>(0.0074)  |
| Intercept   | 2.5991***<br>0.2121     | 2.5758***<br>(0.2137)   | 0.3164**<br>( 0.1234)      | 0.2334**<br>( 0.1130)   | 0.8075***<br>( 0.0972)     | 0.6412***<br>( 0.1041)  |
| Age   | -0.1529***<br>( 0.0180) | -0.1538***<br>( 0.0182) | 0.0249**<br>( 0.0101)      | 0.0541***<br>( 0.0097)  | 0.0162**<br>( 0.0079)      | 0.0396***<br>( 0.0090)  |
| Age Squared   | 0.0037***<br>( 0.0004)  | 0.0037***<br>( 0.0004)  | -0.0007***<br>( 0.0002)    | -0.0014***<br>( 0.0002) | -0.0005***<br>( 0.0002)    | -0.0011***<br>( 0.0002) |
| Black   | 0.0706***<br>( 0.0140)  | 0.0674***<br>( 0.0141)  | -0.0228***<br>( 0.0044)    | -0.0503***<br>( 0.0054) | -0.0419***<br>( 0.0057)    | -0.0589***<br>( 0.0067) |
| Hispanic  | -0.0121<br>( 0.0149)    | -0.0123<br>( 0.0149)    | 0.0292***<br>( 0.0048)     | 0.0018<br>( 0.0069)     | 0.0408***<br>( 0.0065)     | 0.0174*<br>( 0.0090)    |
| Foreign-Born  |                         |                         | -0.0060<br>( 0.0064)       | -0.0123<br>( 0.0095)    | -0.0571***<br>( 0.0087)    | -0.0387**<br>(0.0127)   |
| AFQT  | -0.0213***<br>( 0.0032) | -0.0217***<br>( 0.0032) | 0.0236***<br>( 0.0009)     | 0.0104***<br>( 0.0014)  | 0.0153***<br>( 0.0013)     | 0.0038**<br>( 0.0016)   |
| Family Income, 1979   | -0.8390**<br>( 0.3525)  | -0.8537**<br>( 0.3506)  | 2.7265***<br>( 0.0949)     | 0.8817***<br>( 0.1312)  | 2.1762***<br>( 0.1275)     | 0.9087***<br>( 0.1594)  |
| Missing Family Income,<br>1979                              | -0.0104<br>( 0.0143)    | -0.0147<br>( 0.0143)    | 0.0956***<br>( 0.0042)     | 0.0383***<br>( 0.0058)  | 0.0134**<br>( 0.0057)      | 0.0092<br>( 0.0072)     |
| Mother's Education  | 0.0031*<br>( 0.0019)    | 0.0032*<br>( 0.0019)    | 0.0006<br>( 0.0006)        | -0.0007<br>( 0.0008)    | -0.0005<br>( 0.0009)       | -0.0009<br>( 0.0010)    |
| Years of work<br>experience based on<br>actual weeks worked | -0.4105***<br>( 0.0052) | -0.4089***<br>( 0.0052) | 0.0948***<br>( 0.0025)     | 0.0249***<br>( 0.0031)  | 0.0884***<br>( 0.0024)     | 0.0284***<br>( 0.0033)  |
| Experience squared  | 0.0160***<br>( 0.0004)  | 0.0159***<br>( 0.0004)  | -0.0039***<br>( 0.0002)    | 0.0003<br>( 0.0003)     | -0.0036***<br>( 0.0002)    | -0.0001<br>( 0.0003)    |
| Years of military<br>experience                             | -0.1234***<br>( 0.0024) | -0.1226***<br>( 0.0024) | -0.0130***<br>( 0.0010)    | -0.0014<br>( 0.0018)    | -0.0008<br>( 0.0011)       | 0.0054**<br>( 0.0018)   |
| Job Tenure  |                         |                         | 0.0019**<br>( 0.0009)      | 0.1110***<br>( 0.0119)  | 0.0009<br>( 0.0009)        | 0.1000***<br>( 0.0113)  |
| Number of Jobs  | 0.1071***<br>( 0.0011)  | 0.1072***<br>( 0.0011)  | -0.0072***<br>( 0.0006)    | -0.0033***<br>( 0.0007) | -0.0030***<br>( 0.0007)    | -0.0008<br>( 0.0008)    |
| Log of the Likelihood Function                              |                         |                         | -60,350                    |                         | -55,302                    |                         |
| Number of Cases   |                         |                         | 3,507                      |                         | 3,507                      |                         |
| Number of estimates parameters                              |                         |                         | 91                         |                         | 97                         |                         |

**Table 5: Continue**

|                                  | Job 2                   |                         | LHRP- Model 1           |                         | LHRP - Model 2          |                         |
|----------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|                                  | Model 1                 | Model 2                 | Kept Job                | New Job                 | Kept Job                | New Job                 |
| Years Married                    | -0.0090**<br>( 0.0038)  | -0.0089**<br>( 0.0038)  | 0.0099***<br>( 0.0015)  | 0.0138***<br>( 0.0029)  | 0.0078***<br>( 0.0013)  | 0.0115***<br>( 0.0029)  |
| New Marriage                     | -0.1694***<br>( 0.0303) | -0.1693***<br>( 0.0303) | 0.0622***<br>( 0.0166)  | 0.0801***<br>( 0.0184)  | 0.0538***               | 0.0706***<br>( 0.0167)  |
| Continuing Marriage              | -0.2024***<br>( 0.0241) | -0.2001***<br>( 0.0241) | 0.0877***<br>( 0.0099)  | 0.0792***<br>( 0.0173)  | 0.0884***<br>( 0.0086)  | 0.0839***<br>( 0.0169)  |
| New Divorce or Separation        | 0.0563<br>( 0.0466)     | 0.0578<br>( 0.0466)     | 0.0563**<br>( 0.0258)   | 0.0765**<br>( 0.0295)   | 0.0530**<br>( 0.0211)   | 0.0703**<br>( 0.0266)   |
| Continuing Divorce or Separation | 0.0585**<br>( 0.0232)   | 0.0602**<br>( 0.0231)   | 0.0430***<br>( 0.0098)  | 0.0565***<br>( 0.0109)  | 0.0522***<br>( 0.0099)  | 0.0549***<br>( 0.0127)  |
| New Remarriage                   | -0.0173<br>( 0.0706)    | -0.0181<br>( 0.0707)    | 0.1298***<br>( 0.0349)  | 0.1219***<br>( 0.0359)  | 0.0973***<br>( 0.0285)  | 0.1036**<br>( 0.0350)   |
| Number of children               | 0.0312***<br>( 0.0060)  | 0.0301***<br>( 0.0060)  | 0.0232***<br>(0.0048)   | 0.0044<br>( 0.0065)     | 0.0138**<br>( 0.0050)   | -0.0062<br>( 0.0074)    |
| Residence in Urban Area          | 0.0339**<br>( 0.0139)   | 0.0347**<br>( 0.0139)   | 0.0808***<br>(0.0041)   | 0.0084<br>( 0.0072)     | 0.0744***<br>( 0.0045)  | 0.0120*<br>( 0.0079)    |
| Highest Grade Completed          | -0.0116***<br>( 0.0029) | -0.0098**<br>( 0.0030)  | 0.0366***<br>( 0.0010)  | 0.0383***<br>( 0.0012)  | 0.0516***<br>( 0.0012)  | 0.0458***<br>( 0.0014)  |
| In School                        |                         |                         | -0.1697***<br>( 0.0069) | -0.1225***<br>( 0.0077) | -0.1370***<br>( 0.0062) | -0.1069***<br>( 0.0073) |
| GED Level                        |                         |                         | 0.0289***<br>( 0.0062)  | -0.0211**<br>( 0.0067)  | -0.0246***<br>( 0.0070) | -0.0352***<br>( 0.0085) |
| County per capita Income         | 0.0025*<br>( 0.0016)    | 0.0029*<br>( 0.0016)    | 0.0185***<br>( 0.0005)  | 0.0197***<br>( 0.0006)  | 0.0163***<br>( 0.0005)  | 0.0190***<br>( 0.0006)  |
| County employment growth         | 0.9582***<br>( 0.1952)  | 0.9307***<br>( 0.1954)  | 0.2821***<br>( 0.0520)  | 0.1815***<br>( 0.0350)  | 0.1020**<br>( 0.0398)   | 0.1399***<br>( 0.0315)  |
| Job change prior year            |                         |                         | -0.0073<br>( 0.0085)    | -0.0297***<br>( 0.0081) | -0.0070<br>( 0.0064)    | -0.0249**<br>( 0.0074)  |
| Ln Annual earnings prior year    | -0.1608***<br>( 0.0170) | -0.1863***<br>( 0.0179) |                         | -0.1586***<br>( 0.0170) |                         | -0.1853***<br>( 0.0179) |

**Panel B: Estimates of Common Unobserved Factors**

|               |   |                       |                  |   |                       |
|---------------|---|-----------------------|------------------|---|-----------------------|
| Support Point | 1 | 0.0000                | Prob Mass for Pt | 1 | 0.2145***<br>(0.0084) |
| Support Point | 2 | 0.4897***<br>(0.0035) | Prob Mass for Pt | 2 | 0.6097***<br>(0.0099) |
| Support Point | 3 | 1.0000                | Prob Mass for Pt | 3 | 0.1758                |

**Table 6A: Determinants of Job Stability and Wage Rates, Simultaneous Models**

|   | Dependent Variable is Job2 |                        | Dependent Variable is LHRP |                        |
|---|----------------------------|------------------------|----------------------------|------------------------|
|   | Model 3                    | Model 4                | Model 3                    | Model 4                |
| Factor Loading  |                            | 0.0779***<br>(0.0113)  |                            | 1.3790***<br>(0.0073)  |
| Constant  | 2.3476***<br>(0.0698)      | 2.3117***<br>(0.0699)  | 0.4526***<br>(0.0784)      | -0.3678***<br>(0.0648) |
| Age   | -0.0462***<br>(0.0058)     | -0.0458***<br>(0.0058) | 0.0265***<br>(0.0066)      | 0.0228***<br>(0.0053)  |
| Age Squared   | 0.0011***<br>(0.0001)      | 0.0011***<br>(0.0001)  | -0.0008***<br>(0.0001)     | -0.0007***<br>(0.0001) |
| Black   | 0.0233***<br>(0.0044)      | 0.0223***<br>(0.0044)  | -0.0363***<br>(0.0029)     | -0.0576***<br>(0.0055) |
| Hispanic  | -0.0017<br>(0.0047)        | -0.0031<br>(0.0047)    | 0.0164***<br>(0.0032)      | -0.0210**<br>(0.0065)  |
| Foreign Born  |                            |                        | -0.0071*<br>(0.0044)       | 0.0179**<br>(0.0087)   |
| AFQT  | -0.0066***<br>(0.0010)     | -0.0064***<br>(0.0010) | 0.0171***<br>(0.0006)      | 0.0115***<br>(0.0012)  |
| Family Income, 1979   | -0.2284**<br>(0.1107)      | -0.1844*<br>(0.1117)   | 1.8813***<br>(0.0637)      | 2.0563***<br>(0.1268)  |
| Missing Family Income, 1979                                       | -0.0024<br>(0.0044)        | -0.0003<br>(0.0045)    | 0.0679***<br>(0.0028)      | 0.0845***<br>(0.0058)  |
| Mother's Education  | 0.0011*<br>(0.0006)        | 0.0010*<br>(0.0006)    | -0.0001<br>(0.0004)        | -0.0035***<br>(0.0008) |
| Years of work experience based on actual weeks worked from age 17 | -0.1377***<br>(0.0022)     | -0.1369***<br>(0.0022) | 0.0648***<br>(0.0016)      | 0.0585***<br>(0.0018)  |
| Experience squared  | 0.0056***<br>(0.0001)      | 0.0056***<br>(0.0002)  | -0.0020***<br>(0.0001)     | -0.0018***<br>(0.0001) |
| Years of military experience                                      | -0.0390***<br>(0.0007)     | -0.0383***<br>(0.0007) | -0.0116***<br>(0.0007)     | 0.0034***<br>(0.0008)  |
| Job Tenure  |                            |                        | 0.0088***<br>(0.0008)      | 0.0085***<br>(0.0008)  |
| Number of Jobs  | 0.0342***<br>(0.0004)      | 0.0342***<br>(0.0004)  | -0.0061***<br>(0.0004)     | -0.0044***<br>(0.0005) |

**Table 6A: Determinants of Job Stability and Wage Rates, Simultaneous Models**

|                                     | Dependent Variable is Job2 |                        | Dependent Variable is LHRP |                        |
|-------------------------------------|----------------------------|------------------------|----------------------------|------------------------|
|                                     | Model 3                    | Model 4                | Model 3                    | Model 4                |
| Years Married                       | -0.0003<br>(0.0012)        | -0.0004<br>(0.0012)    | 0.0104***<br>(0.0013)      | 0.0046***<br>(0.0010)  |
| New Marriage                        | -0.0612***<br>(0.0107)     | -0.0604***<br>(0.0106) | 0.0743***<br>(0.0141)      | 0.0657***<br>(0.0100)  |
| Continuing Marriage                 | -0.0734***<br>(0.0075)     | -0.0712***<br>(0.0076) | 0.0952***<br>(0.0088)      | 0.0989***<br>(0.0069)  |
| New Divorce or Separation           | 0.0154<br>(0.0172)         | 0.0158<br>(0.0171)     | 0.0636**<br>(0.0209)       | 0.0450**<br>(0.0151)   |
| Continuing Divorce/Separation       | 0.0182**<br>(0.0081)       | 0.0181**<br>(0.0080)   | 0.0481***<br>(0.0081)      | 0.0319***<br>(0.0083)  |
| New Remarriage                      | -0.0087<br>(0.0257)        | -0.0095<br>(0.0259)    | 0.1300**<br>(0.0397)       | 0.0892**<br>(0.0303)   |
| Number of children                  | 0.0119**<br>(0.0042)       | 0.0111**<br>(0.0042)   | 0.0123***<br>(0.0034)      | 0.0146***<br>(0.0038)  |
| Residence in Urban Area             | 0.0139**<br>(0.0043)       | 0.0137**<br>(0.0043)   | 0.0496***<br>(0.0032)      | 0.0341***<br>(0.0045)  |
| Highest Grade Completed             | -0.0042***<br>(0.0009)     | -0.0037***<br>(0.0009) | 0.0388***<br>(0.0007)      | 0.0521***<br>(0.0010)  |
| In School                           |                            |                        | -0.1475***<br>(0.0048)     | -0.1275***<br>(0.0046) |
| GED Level                           |                            |                        | 0.0003<br>(0.0037)         | -0.0604***<br>(0.0059) |
| County per capita Income            | -0.0009**<br>(0.0004)      | -0.0007*<br>(0.0004)   | 0.0190***<br>(0.0003)      | 0.0179***<br>(0.0004)  |
| County employment growth            | 0.0925***<br>(0.0270)      | 0.0897**<br>(0.0270)   | 0.2142***<br>(0.0287)      | 0.1244***<br>(0.0245)  |
| Job change prior year               |                            |                        | -0.0154**<br>(0.0060)      | -0.0144**<br>(0.0048)  |
| Ln Annual earnings prior year       | -0.0487***<br>(0.0046)     | -0.0639***<br>(0.0050) |                            |                        |
| County Unemployment Rate            | -0.0015**<br>(.0005)       | -0.0016**<br>(.0005)   | -0.0024***<br>(.0004)      | -0.0026***<br>(.0005)  |
| Sigma(U <sub>2</sub> ) <sup>2</sup> |                            | -0.1892***<br>(0.0209) |                            | 0.1727***<br>(0.0061)  |



**Table 6B: Determinants of Marital Status Transitions, Simultaneous Models**

| Independent Variables        | Entry into marriage    |                        | Entry into divorce/separation |                        | Entry into remarriage |                       |
|------------------------------|------------------------|------------------------|-------------------------------|------------------------|-----------------------|-----------------------|
|                              | Model 3                | Model 4                | Model 3                       | Model 4                | Model 3               | Model 4               |
| Factor Loading               |                        | -0.1410*<br>(0.0842)   |                               | 0.2569*<br>(0.1316)    |                       | 0.2358<br>(0.2463)    |
| Intercept                    | -8.6233***<br>(0.6617) | -8.9233***<br>(0.5617) | -0.7013<br>(1.2559)           | -0.9692<br>(1.2670)    | -2.9708<br>(2.8234)   | -3.2354<br>(2.8398)   |
| Age                          | 0.6203**<br>(0.0473)   | 0.6196***<br>(0.0475)  | 0.0255<br>(0.0999)            | 0.0379<br>(0.1005)     | 0.1475<br>(0.2147)    | 0.1604<br>(0.2148)    |
| Age Squared                  | -0.0125**<br>(0.0010)  | -0.0125***<br>(0.0010) | -0.0012<br>(0.0019)           | -0.0014<br>(0.0019)    | -0.0039<br>(0.0040)   | -0.0041<br>(0.0040)   |
| Black                        | -0.3436**<br>(0.0337)  | -0.3411***<br>(0.0338) | 0.2922***<br>(0.0508)         | 0.2866***<br>(0.0511)  | -0.2099**<br>(0.0971) | -0.2114**<br>(0.0971) |
| Hispanic                     | 0.0284<br>(0.0359)     | 0.0312<br>(0.0360)     | 0.0029<br>(0.0570)            | -0.0020<br>(0.0569)    | 0.2196**<br>(0.0976)  | 0.2174**<br>(0.0981)  |
| AFQT                         | -0.0099*<br>(0.0067)   | -0.0097<br>(0.0067)    | -0.0172*<br>(0.0114)          | -0.0165<br>(0.0114)    | -0.0052<br>(0.0213)   | -0.0046<br>(0.0213)   |
| Family Income, 1979          | -1.0259<br>(0.8356)    | -1.1024<br>(0.8402)    | -1.1323<br>(1.4566)           | -0.9836<br>(1.4561)    | -1.0189<br>(3.0429)   | -0.7959<br>(3.0343)   |
| Missing Family Income, 1979  | 0.0722**<br>(0.0326)   | 0.0675**<br>(0.0328)   | 0.0484<br>(0.0497)            | 0.0538<br>(0.0499)     | 0.0468<br>(0.0937)    | 0.0524<br>(0.0937)    |
| Mother's Education           | -0.0115**<br>(0.0046)  | -0.0112**<br>(0.0046)  | 0.0064<br>(0.0074)            | 0.0057<br>(0.0074)     | 0.0150<br>(0.0128)    | 0.0135<br>(0.0130)    |
| Siblings                     | 0.0033<br>(0.0047)     | 0.0032<br>(0.0047)     | -0.0282***<br>(0.0072)        | -0.0280***<br>(0.0072) | 0.0004<br>(0.0136)    | -0.0002<br>(0.0137)   |
| Female-headed family in 1979 | -0.0622**<br>(0.0302)  | -0.0625**<br>(0.0303)  | 0.0127<br>(0.0486)            | 0.0134<br>(0.0488)     | -0.0184<br>(0.0873)   | -0.0174<br>(0.0876)   |
| Work experience              | 0.0429**<br>(0.0163)   | 0.0420**<br>(0.0163)   | -0.0030<br>(0.0238)           | -0.0033<br>(0.0238)    | 0.0131<br>(0.0433)    | 0.0127<br>(0.0429)    |
| Experience squared           | -0.0005<br>(0.0013)    | -0.0005<br>(0.0013)    | -0.0007<br>(0.0016)           | -0.0007<br>(0.0016)    | 0.0006<br>(0.0029)    | 0.0007<br>(0.0029)    |
| Number of jobs ever reported | 0.0028<br>(0.0034)     | 0.0030<br>(0.0034)     | 0.0207***<br>(0.0046)         | 0.0205***<br>(0.0046)  | 0.0017<br>(0.0068)    | 0.0020<br>(0.0068)    |
| Urban                        | -0.1376***<br>(0.0309) | -0.1376***<br>(0.0310) | 0.0634<br>(0.0465)            | 0.0617<br>(0.0467)     | 0.0465<br>(0.0855)    | 0.0428<br>(0.0852)    |
| Highest Grade Completed      | -0.0023<br>(0.0067)    | -0.0041<br>(0.0067)    | -0.0522***<br>(0.0110)        | -0.0480***<br>(0.0111) | 0.0465**<br>(0.0221)  | 0.0501**<br>(0.0223)  |
| County Per-capita Income     | -0.0114***<br>(0.0029) | -0.0117***<br>(0.0029) | 0.0029<br>(0.0046)            | 0.0038<br>(0.0046)     | -0.0078<br>(0.0078)   | -0.0068<br>(0.0078)   |

**Table 6B: Continue**

| Independent Variables                | Entry into marriage   |                       | Entry into divorce/separation |                       | Entry into remarriage |                      |
|--------------------------------------|-----------------------|-----------------------|-------------------------------|-----------------------|-----------------------|----------------------|
|                                      | Model 3               | Model 4               | Model 3                       | Model 4               | Model 3               | Model 4              |
| Changed Jobs Two Years Ago           | -0.0596**<br>(0.0252) | -0.0587**<br>(0.0253) | 0.1200**<br>(0.0438)          | 0.1140**<br>(0.0439)  | -0.1209*<br>(0.0715)  | -0.1280*<br>(0.0719) |
| Lag Ln Hourly Earnings               | 0.1831***<br>(0.0299) | 0.2092***<br>(0.0321) | -0.1114**<br>(0.0528)         | -0.1742**<br>(0.0587) | 0.0859<br>(0.0867)    | 0.0338<br>(0.0971)   |
| Baptist Religion                     | 0.0188<br>(0.0305)    | 0.0198<br>(0.0306)    | 0.0531<br>(0.0434)            | 0.0516<br>(0.0436)    | 0.1358*<br>(0.0818)   | 0.1367*<br>(0.0816)  |
| Catholic Religion                    | -0.0790**<br>(0.0299) | -0.0783**<br>(0.0300) | 0.0231<br>(0.0495)            | 0.0195<br>(0.0493)    | -0.2359**<br>(0.0878) | -0.2336*<br>(0.0883) |
| Frequency of Church Attendance, 1979 | 0.0100*<br>(0.0067)   | 0.0095<br>(0.0067)    | -0.0280**<br>(0.0103)         | -0.0269**<br>(0.0103) | -0.0027<br>(0.0190)   | -0.0014<br>(0.0190)  |
| Divorce Rate in the County           | 0.0327***<br>(0.0069) | 0.0324***<br>(0.0069) | 0.0166*<br>(0.0108)           | 0.0165*<br>(0.0109)   | -0.0005<br>(0.0189)   | -0.0006<br>(0.0189)  |

**Table 6C: Estimates of Common Unobserved Factors**

|                 |                       |                    |                       |
|-----------------|-----------------------|--------------------|-----------------------|
| Support Point 1 | 0.000<br>(0.000)      | Prob Mass for Pt 1 | 0.0258***<br>(0.0031) |
| Support Point 2 | 0.4337***<br>(0.0035) | Prob Mass for Pt 2 | 0.4308***<br>(0.0110) |
| Support Point 3 | 0.6774***<br>(0.0033) | Prob Mass for Pt 3 | 0.4683***<br>(0.0109) |
| Support Point 4 | 1.000<br>(0.000)      | Prob Mass for Pt 4 | 0.0751<br>(0.000)     |

|                                | Model 3   | Model 4   |
|--------------------------------|-----------|-----------|
| Log of the Likelihood Function | -74,198.8 | -68,801.6 |
| Number of Cases                | 3,507     | 3,507     |
| Number of estimates parameters | 139       | 149       |