Estimating Worklife Expectancy: An Econometric Approach

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Abstract

This paper presents new estimates of worklife expectancy and introduces a new methodology for estimating the transition probabilities necessary to derive the worklife estimates. Our procedures incorporate significantly more information into the labor supply decision and result in more precise estimates of worklife expectancy.

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1. Introduction

Interest in worklife expectancies has grown considerably since the Bureau of Labor Statistics (BLS) first published worklife tables in 1950. The use of such tables increased significantly after the BLS published its first set of increment-decrement worklife tables in 1982 (BLS, 1982). In 1986 the BLS revised the tables using a larger data set to account for differences in race and education (BLS, 1986). These 1986 tables have been widely used by many forensic economists to project lost earnings in wrongful death and personal injury cases.

Although these tables have been heavily relied upon and have proved extremely useful, there are several characteristics of the estimates that can be improved. First, the most current (1986) BLS worklife tables are based on the labor force behavior of individuals twenty years ago, in 1979 - 1980. As labor force participation rates have changed significantly since that time, the worklife expectancies likely have changed. The labor force participation rates have fallen for men (aged 16 and above) from 77.4% in 1980 to 74.9% in 1998. However, for women the rate has risen from 51.5% in 1980 to 59.8% in 1998. The largest change has been the increase for women aged 45 to 54, from 59.9% in 1980 to 76.2% in 1998 (Fullerton, 1999).

Second, the BLS worklife tables do not utilize data readily available on a host of factors that affect a given individual's worklife. Labor force attachments over time are affected by many attributes such as age, sex, race, education, children, marital status, health, occupation, etc. (BLS, 1986). The BLS's approach to estimating worklife expectancies precludes the inclusion of such information; attempting to obtain unique worklife expectancies for individuals with different combinations of attributes quickly leads to inadequate sample sizes. For instance, the BLS (1986) provides worklife tables by race and by education (for each gender), but not by race *and* education simultaneously. Finally, by pooling together employed and unemployed individuals, the definition of "worklife" is obscured in the current BLS tables.

Our approach to estimating revised worklife tables differs from the earlier BLS approach in four significant facets. First, we use data from Current Population Survey (CPS) throughout the 1990s. Specifically, we use the 1992 through 2000 March Annual Demographic Surveys in the CPS reports. Pooling together multiple years of data, rather than utilizing a single wave of the CPS, ensures that our worklife estimates are not sensitive to the particular economic conditions that existed the year the data were collected. Second, the methodological approach we use is based upon

an econometric model, rather than a simple relative frequency approach. This allows us to draw upon significantly more information about individual worklife behavior and also permits much more detailed worklife tables to be estimated (e.g., by race and education, occupation, marital status, children, etc.). Third, our approach is the first to explicitly allow three labor force states: employed, unemployed and inactive, as opposed to the heretofore used method that categorized persons as active (in the labor force) or inactive (out of the labor force). Finally, we are the first to explicitly acknowledge the fact that because worklife tables are generated from sample data, sample variation may be important. As such, we utilize the bootstrap technique to obtain standard errors of the estimated worklife expectancies.

Before continuing, in light of the BLS-defined categories of active and inactive individuals, it is important to define what is meant by "worklife." In the BLS two-state model, an individual's worklife at a particular age represents the number of years the individual is expected to remain active (i.e. in the labor force). Since the BLS defines active as either employed or unemployed, the BLS definition of worklife is not synonymous with the expected number of working years remaining in one's life. However, in the three-state model presented in this paper, we explicitly define worklife as the expected number of working years remaining in one's life. The remainder of the paper is organized as follows. In the next section we discuss the BLS approach. In section three we introduce our new approach to estimating worklife expectancy. In section four we present revised BLS tables and our econometrically estimated tables. Section five concludes the study.

2. The Bureau of Labor Statistics Increment-Decrement Model Using Relative Frequencies

In order to explicate the BLS or "relative frequency" approach of estimating worklife expectancy, we follow Alter and Becker (1985), Becker and Alter's (1987, 1988), Nieswiadomy and Slottje's (1988) and Nieswiadomy and Silberberg's (1988) notation. Let q_x represent the probability of death in the year following exact age *x*, let ${}_1l_x$ represent the number of survivors at age *x*, and let ${}^A{}_1l_x$ and ${}^I{}_1l_x$ represent the number of active and inactive survivors at age *x*, respectively. In any given year, as defined by Becker and Alter (1987), there are four relevant conditional probabilities of work force transition:

- ${}^I p_x^A$ = the probability that someone who is inactive at age x will be active at age *x +1*;
- ${}^I p_x^I$ = the probability that someone who is inactive at age x will be inactive at age *x +1*;

- ${}^{A}p_x^{I}$ = the probability that someone who is active at age x will be inactive at age *x +1*;
- ${}^{A}p_x^{A}$ = the probability that someone who is active at age x will be active at age *x +1*.

As the above transitional probabilities are conditional on survival from age *x* to age *x+1*, ${}^{I}p_x^{A} + {}^{I}p_x^{I} = 1$ and ${}^{A}p_x^{A} + {}^{A}p_x^{I} = 1$.

Assuming the probability of death and the probability of transition between work force states are independent, the number of inactive survivors at age *x + 1* ($ {}^{I}1_{x+1}$) and the number of active survivors at age *x + 1* ($ {}^{A}1_{x+1}$) can be defined as:

- ${}^{I}1_{x+1} = (1-q_x)({}^{I}1_x\ {}^{I}p_x^{I} + {}^{A}1_x\ {}^{A}p_x^{I})$;

- ${}^{A}1_{x+1} = (1-q_x)({}^{I}1_x\ {}^{I}p_x^{A} + {}^{A}1_x\ {}^{A}p_x^{A})$

where $1_x = {}^{I}1_x + {}^{A}1_x$ and $1_{x+1} = 1_x(1-q_x)$.

In keeping with Becker and Alter's (1987) assumption, it is assumed that persons who die, become inactive, or become active in a given year do so at midyear. Note the transition probabilities in a Markov process with a one period memory do not depend on previous transition probabilities. Since the BLS calculated the transition probabilities used in its increment-decrement model from the average behaviors of the cohorts at each age, we refer to this as the "relative frequency" approach.

The BLS calculated its 1986 increment-decrement tables by applying this relative frequency process to matched CPS data from the 1979 - 1980 waves. The BLS's worklife estimates adjust for education and race, but not for both at the same time. That is, the process just described would be applied, for example, to women with a high school education or to black women, but would not adjust simultaneously for education, sex, and race (due to insufficient sample size). This approach is obviously not a "full information" method and simply cannot discern between the various factors that ultimately impact the labor supply decisions of any given individual simultaneously. As an example, we know that a woman's number of children impacts her labor supply decision as well as her occupational choice and her marital status. By adjusting for these factors simultaneously, one gets a more refined and realistic view of how any given cohort in the population formulates and ultimately implements its labor supply decisions. We now contrast this relative frequency approach with our methodology.

3. A New Approach to Estimate Worklife Expectancy

As noted above, the BLS or relative frequency approach is essentially a limited information method to estimate a given individual's worklife. That is, the relative frequency approach treats, for example, all women with 15 years of education the same and all men with, for example, a high school degree the same. In fact, there is a rich literature in the labor economics field that notes that individual labor supply decisions depend on a number of factors such as marital status, number of children present in the home, age, sex and various other factors (Killingsworth, 1983). All of this is well known and any standard labor economics text will enumerate these factors (see, e.g., Borjas, 2000). The approach we adopt in this paper is to assume that the transition probabilities—explicated in section two above—can be estimated by incorporating actual economic factors that ultimately determine labor supply decisions into the estimation process. That is, we construct an econometric model akin to a typical labor force participation model to estimate the labor market transition probabilities for particular population sub-groups.

Two-State Model

The first model updates the typical BLS worklife tables using an econometric approach. Thus, we maintain the assumption of two labor market states (active and inactive) and model the transition probabilities using a standard logit framework. Let y_i^* denote a latent variable representing the extent of labor force attachment and be given by

$$y_i^* = \mathrm{Z}_i \beta + \in_i \qquad (1)$$

We observe

$$y_i = \begin{cases} 1 & \text{if } y_i^* > 0 \\ 0 & \text{otherwise} \end{cases}$$

where $y = 1$ indicates that an individual is active (the "A" status); $y = 0$ indicates an inactive individual (the "I" status).

For the purpose of estimating worklife expectancies, we are interested in transitional (or conditional) probabilities. Recalling that we use matched individuals from the CPS, we estimate Eqn. (1) on two mutually exclusive sub-samples. First, we estimate Eqn. (1) using only individuals who

were active when first interviewed. Then, we re-estimate Eqn. (1) using only individuals who were inactive when first interviewed.

To be more formal, we are interested in the model

$$y_{it}^{*} = \mathrm{Z}_{it}\beta + \in_{it} \tag{2}$$

where y_{it}^{*} denotes the latent labor force attachment for individual *i* in survey round *t*, *t=0,1* (discussed further in the following section). We estimate two logit equations conditional on initial labor force status using data only from the second period, where the dependent variable is the labor force status of individuals in the second period. The results enable us to then generate the conditional probabilities $\mathrm{E}[y_{i1} \mid Z, y_{i0} = 1]$ and $\mathrm{E}[y_{i1} \mid Z, y_{i0} = 0]$.[1] The former (latter) yields the transition probabilities for an initially active (inactive) individual.

Specifically, upon estimation of Eqn. (2) for each of the two sub-samples, we construct the predicted transition probabilities for each individual. For persons who are initially active, the estimated transition probabilities are

$$ {}^{A}p_i^{A}(t\ ,\ t\ +1, age, z_1, z_2, ..., z_k) = (1 - q_{age})\left[\frac{\exp(\mathrm{Z}_{i,t+1}\hat{\beta})}{1+\exp(\mathrm{Z}_{i,t+1}\hat{\beta})}\right]$$

$$ {}^{A}p_i^{I}(t\ ,\ t\ +1, age, z_1, z_2, ..., z_k) = (1 - q_{age})\left[\frac{1}{1+\exp(Z_{i,t+1}\hat{\beta})}\right]$$

where q_{age} represents the probability of death. By symmetry, we estimate the transition probabilities for individuals who are initially inactive. Next, we obtain the average predicted transition probabilities at each age:

- $ {}^{A}p_x^{A} = \frac{1}{N_x^{A}} \sum_{i=1}^{N_x^{A}} {}^{A}p_i^{A}$;
- $ {}^{A}p_x^{I} = \frac{1}{N_x^{A}} \sum_{i=1}^{N_x^{A}} {}^{A}p_i^{I}$;
- $ {}^{I}p_x^{A} = \frac{1}{N_x^{I}} \sum_{i=1}^{N_x^{I}} {}^{I}p_i^{A}$;

[1] Our empirical strategy is similar to that of Chan and Stevens (2001) who utilize a probit model to estimate re-employment probabilities of displaced older workers.

- $${}^{I}p_x^I = \frac{1}{N_x^I}\sum_{i=1}^{N_x^I} {}^{I}p_i^I$$

where N_x^A (N_x^I) is the number of active (inactive) individuals in the sample of age *x*.[2] Finally, in keeping with previous practice, we replace the age-specific transition probabilities with a nine-year moving average to reduce sample fluctuations due to small sample size, particularly at the tails of the age distribution (Schoen and Woodrow, 1980).

Once the transition probabilities are obtained, the expected worklife expectancy for a currently active or inactive individual may be estimated recursively. Specifically, given a terminal year *T+1*, after which no one is assumed to be active, the worklife for an active individual of age *T* is given by the probability that an active *T*-year old remains active at *T+1* (call this E_T^A). For an inactive individual of age *T*, the worklife is given by one-half times the probability that an inactive *T*-year old becomes active at age *T+1* (call this E_T^I).[3] The worklife expectancy for an active individual of age *T-1* is given by

$$E_{T-1}^A = {}^{A}p_{T-1}^A\left(1 + E_T^A\right) + {}^{A}p_{T-1}^I\left(0.5 + E_T^I\right) \tag{3}$$

the worklife expectancy for an inactive individual of age *T-1* is given by

$$E_{T-1}^I = {}^{I}p_{T-1}^A\left(0.5 + E_T^A\right) + {}^{I}p_{T-1}^I E_T^I \tag{4}$$

This process is then repeated down to age *T-(T-16).*

Unlike previous worklife estimates, we also explicitly recognize the fact that worklife expectancies (obtained via an econometric or a relative frequency approach) are estimates, based on sample data. To understand the importance of such sample variation, one needs to obtain standard errors of the estimates. Since the worklife expectancies are calculated recursively using the estimated transition probabilities, the exact expression for the standard errors is not straightforward. Hence, we estimate the standard errors via bootstrapping. Specifically, we generate bootstrapped samples of individuals and re-estimate the transition probabilities and implied worklife tables for each sample. We then calculate the standard deviation of the bootstrapped worklife expectancies at each age. In the analysis below, we report bootstrap standard errors based on 500 bootstrap repetitions.

Finally, we note that if our only objective is to update the original BLS tables, there is little difference between the econometric approach and the BLS's relative frequency approach. In a logit

[2] Note, in the actual estimation, weighted averages are obtained, where the weights are the sample weights.
[3] As in the BLS approach and advocated by Alter and Becker (1985), we assume that all transitions occur at mid-year.

model containing an intercept term, the mean of the predicted probabilities is equal to the proportion of observations with $y = 1$ (i.e. the labor force participation rate of the sample). Thus, defining $\bar{y} = (1/n)\sum_i y_i$ and $\bar{p} = (1/n)\sum_i p_i$ as the sample mean labor force participation rate and the same mean predicted labor force participation rate, respectively, it follows that $\bar{y} = \bar{p}$. However, while the logit model guarantees that the overall sample and predicted labor force participation rates are equivalent, there is no similar requirement for the age-specific labor force participation rates. In other words, $\bar{y}_x$ is not necessarily equal to $\bar{p}_x$, where *x* denotes a specific age. Since $\bar{y}$ ($\bar{p}$) is a weighted average of $\bar{y}_x$ ($\bar{p}_x$), where the weights are the sample proportion at each age, say π_x, then it must be the case that $\sum_x \pi_x(\bar{y}_x - \bar{p}_x) = 0$. Consequently, differences between the relative frequency and the econometric approaches will depend on the range of ages over which $\bar{y}_x > \bar{p}_x$ and vice versa.[4]

Three-State Model

The BLS (1986) worklife tables, as well as those produced by the previous model, allow for two types of individuals: active and inactive. The former BLS-defined category includes all individuals in the labor force (i.e. employed and unemployed). The BLS's inclusion of the unemployed in the active category stems from assumption that the unemployed are behaviorally closer to the employed than those out of the labor force. The BLS (1982, p. 2) states, "It has long been recognized that persons who are already in the labor force are more likely to work in the future than are those not currently active." However, pooling together both the employed and unemployed implies that the BLS definition of "worklife" is not equivalent to the number of remaining working years. As such, "worklife" expectancies reported by the BLS (1986) overstate the *actual* worklife (i.e. remaining years of employment) of the currently active, and perhaps drastically overstate the worklife of the unemployed if this group of individuals behaves more in accordance with those out of the labor force.

Not only does the pooling of the employed and unemployed lead to false estimates of worklife expectancy, but it also contrasts with previous studies concerned not with the distinction between the employed and unemployed (which is taken as given), but rather the unemployed and

[4] We are grateful to a referee for pointing out this fact.

inactive. Hall (1970) and Clark and Summers (1979) present an array of evidence suggesting that the line between the unemployed and inactive is quite blurred. For example, many individuals transition between periods of unemployment and being out of the labor force within a given nonemployment spell. In addition, individuals employing only "passive" job search methods (e.g. reading the want ads) and "discouraged workers" are considered out of the labor force in the U.S. and do not comprise trivial numbers (Jones and Riddell, 1999; Benati 2001).

In light of these arguments, one could perhaps justify simply re-computing the standard two-state model from the previous section, including the unemployed in the inactive category. One could also find support for this approach in the empirical results of several additional studies. Clark and Summers (1982) find no difference between unemployed and inactive teenagers. Tano (1991) concludes that there is likewise no distinction for prime age (25 - 44) males and females. On the other hand, Flinn and Heckman (1983) and Tano (1991) find the distinction to be important for males and females in the 16 - 19 and 20 - 24 year age ranges. Gönül (1992) argues that the distinction is meaningful for a sample of young women, but not for young men. Jones and Riddell (1999) also reject the hypothesis that the unemployed and "nonattached" (defined as those out of the labor force and having no desire to work) are not distinct using Canadian data.

Given the ambiguity of these findings, particularly for younger age groups, we compute worklife expectancies admitting three possible labor force states: employed, unemployed and inactive. However, even this more general categorization is not without criticism. Using detailed Canadian data, Jones and Riddell (1999) consider the possibility of more than three distinct states. Specifically, the authors allow for a fourth category, the "marginally attached" (defined as those who wish to work but are not currently seeking employment). As a result, the residual category - the "nonattached - includes those out of the labor force *and* not desiring a job. The authors find evidence that the marginally attached are behaviorally distinct from the nonattached. Furthermore, the authors argue that a subset of the marginally attached—the "waiting" subgroup (defined as those who desire work but are not currently looking because they are waiting for replies, recall, etc.) —are more similar to the unemployed than the remainder of the marginally attached or the nonattached. Thus, with such detailed data, one could argue for the presence of more than three types of individuals.

Because the data we utilize does not enable such disaggregation, at the present time we proceed by estimating a multinomial logit allowing three possible labor market states (employed,

unemployed and inactive).[5] We estimate the model on three distinct subsets of the data: individuals initially employed, initially unemployed and initially inactive. We then use the estimates to estimate the nine relevant age-specific transition probabilities in a manner analogous to the logit case: ${}^{E}p_x^{E}$, ${}^{E}p_x^{U}$, ${}^{E}p_x^{I}$, ${}^{U}p_x^{E}$, ${}^{U}p_x^{U}$, ${}^{U}p_x^{I}$, ${}^{I}p_x^{E}$, ${}^{I}p_x^{U}$ and ${}^{I}p_x^{I}$.

4. Data

The data are obtained from the most recent Current Population Survey (CPS) March annual surveys to create a series of two-period longitudinal data sets. The CPS is one of the most commonly used data sources for information on individual income and employment in the U.S. The CPS is a rotating monthly survey, interviewing households for four consecutive months, waiting for eight months, then surveying the households for four additional consecutive months. Each month new households are added to the survey as old ones finish their interviews.

To create a two-period panel data set, we must match persons in rotation groups 1 - 4 (the entering group) with persons in rotation groups 5 - 8 (the outgoing group) in the following year. From this information on a matched person, we determine the change in labor force status from the prior year for all individuals between the ages of 17 and 86 not in school or disabled. Thus, we assume that no individuals work beyond age 86 or prior to age 16. Consequently, our worklife tables span the ages 16 to 85, whereas the original BLS tables only went up to age 75. The additional years contained in our tables potentially reflects two facts. First, our pooling of multiple years of CPS data results in a larger sample of older workers. Second, since we are using more recent data than the BLS (1986), within any given wave of the CPS we will find greater numbers of older female workers still attached to the labor force, although participation rates for men over age 65 have fallen (Fullerton, 1999).

We use the 1992 to 2000 March annual surveys' detailed information collected about individuals. Inclusion of these years offers two advantages. First, since these are the most recently available data, recent changes in labor force participation will be incorporated into our worklife tables. Second, our data set reflects labor market activity over a nine-year period. Previous worklife tables have relied on only one year of activity, which may not be indicative of historical labor market

[5] Given the ambiguity surrounding the similarity between the unemployed and the employed and those out of the labor force, we focus on a multinomial logit model as opposed to a nested logit model. We do conduct Hausman tests (Greene, 1993, p. 671) of the Independence of Irrelevant Alternatives (IIA) assumption.

norms. The 1992 - 2000 period had an average unemployment rate of 5.5%, comparable to the post WWII (1947 - 2000) rate of 5.6%.

We use a matching algorithm similar to Peracchi and Welch (1995). First, households in rotations 1 - 4 in one year are matched with the same household (using the unique household identification number) the following year in rotations 5 - 8. Second, an individual in a matched household must have the same sex and race, and must be one year older, when interviewed in rotations 5 - 8.

The CPS has benefits and drawbacks. The benefits are the large sample size and its representativeness. The main drawback is that it is a "roof top" survey. There are no attempts to find movers. This may lead to a nonrandom attrition problem. Peracchi and Welch (1995) were able to match approximately two-thirds of their March annual surveys from 1979 to 1991. Similarly, we are able to match approximately 64% of our 1992 - 2000 samples, as shown in Table 1. (Due to changes in survey design, 1993 could not be matched with 1994, and 1995 could not be matched with 1996.) Since the purpose of our study is estimating worklife, there is a concern that labor force transitions may not be independent of the process that determines attrition. Fortunately, Peracchi and Welch (1995), after examining numerous years (1979 - 1991) of CPS data, found that no systematic bias appears in transition estimates after controlling for sex, age, and labor force status at the time of the first survey. Furthermore, the BLS (1986) used the CPS data to construct the worklife tables and did not note any attrition problems.

Since one of our purposes is to update previous worklife tables, we sort the data by sex and education, as the BLS did in its 1986 study. Our three educational categories are similar to those of the BLS: less than a high school degree, high school degree to some college, and a college degree and above.[6] In addition, we collect data on marital status, race, number of children under age 6, number of children under age 18, and occupation. In the actual estimation, the *Z*s include: age, age squared, a race dummy, race interacted with age and age squared, married, married times age, children under 6, children under 18, each child variable interacted with age, occupation dummies, occupation dummies interacted with age and time dummies. The four occupation categories are managerial and professional; technical, sales and administrative; service; and operators and laborers.[7] Finally, we

[6] The BLS's second and third categories were slightly different. Their second category was high school degree to 14 years of schooling and their third category was 15 or more years of schooling.

[7] The occupation dummies only enter the models used predict the probability of exiting or remaining in the state of employment.

note that we utilize the appropriate sampling weights not only when estimating the logit models, but also when obtaining the mean age-specific transition probabilities.

5. Empirical Results

Two -State Results

The empirical results maintaining the BLS's classification of individuals as active (in the labor force) or inactive (out of the labor force) are reported in Tables 2 – 6. Table 2 presents updated BLS results, applying the relatively frequency approach to more recent (1992 - 2000) data. A comparison with the original 1986 published results indicates, as expected, that worklife expectancies for women have increased at all education levels (particularly for college) and at all ages, while they have declined for men (particularly for less than high school). For example, a 30 year-old active female with a college degree has a worklife expectancy of 28.0 years (Table 2), while in the 1986 published tables a roughly equivalent (with 15 or more years of schooling) 30 year-old active female had 25.2 more years of expected worklife. On the other hand, an active 40 year-old male with less than a high school degree has a worklife expectancy of 16.6 years (Table 2) versus 18.1 years using the BLS 1986 calculations. These numbers are consistent with trends in labor force behavior that have been well documented (Fullerton, 1999).

The results presented in Tables 3 (females) and 4 (males) are based upon the logit framework discussed in Section 3. For both males and females the worklife expectancies are extremely close to those presented in Table 2 at all education and age levels. The differences are usually within twice the standard error reported in Tables 3 and 4.[8] This accords with our expectation given the discussion in Section 3 concerning the equivalence of the mean predicted probabilities and the sample labor force participation rates. The actual transition probabilities obtained via the relative frequency and econometric approaches are plotted in Figure 1.

The next set of two-state results are presented in Tables 5 (females) and 6 (males). These tables illustrate the usefulness of the econometric approach over the relative frequency approach in terms of being able to generate worklife expectancies for more narrowly defined population sub-groups. Specifically, we estimate the worklife expectancies not only by gender and education, but

also by race. Even using CPS data from 1992 - 2000, there are not a sufficient number of observations to produce results analogous to those presented in Tables 3 and 4 separately for whites and nonwhites by the relative frequency approach. Upon estimating econometrically the determinants of labor force transitions, however, we are able to predict the necessary conditional probabilities for each race-gender-education sub-group.

To proceed, we estimate separate logit models for each gender-education sub-group conditional on previous status of active or inactive. To focus on the total effects of race, the right hand side variables include only age, age squared, race, and race interacted with the two age variables; we omit other individual characteristics such as children, marital status, and occupation that may differ across races. We then generate the predicted probabilities, fixing the race of individuals as either white or nonwhite. The results are presented in Tables 5 and 6 (excluding the standard errors to conserve space) and indicate some differences in work life expectancies by race (conditional on age and education).

For females, worklife expectancies (conditional on being active or inactive) do not vary greatly by race. Nonwhite women with less than a high school education have slightly higher worklives in their 30s and 40s. For high school and college degreed females, there is very little difference. For men, we find that race has a much greater impact. Worklife expectancies are higher for white men (conditional on being active or inactive), with the discrepancy being more pronounced at younger ages and among the lesser educated. While the gap narrows and even favors minorities at older ages in the bottom two education classes, the worklife expectancy of white, college-educated men remains well above that of similarly educated minorities over the entire life cycle.

To further illustrate the usefulness of our approach in generating worklife tables in cases when sample size precludes the use of the BLS's relative frequency approach, we generate two additional worklife tables for women with a college degree. In the first table, we assume that women never have any children in their lifetime. In the second table, we assume that every woman has three children in her lifetime; the first at age 27, the second at age 28, and the third at age 29. Thus, these women have no children under 18 once they turn 47. In the interest of brevity, we do not present the full tables, but we note that the results conform to one's prior expectations about the effect of children on female labor force participation and illustrate the improved accuracy by including additional attributes of individuals in the computation of worklife expectancies. For example, an

[8] For ages beyond 70, the worklife expectancies in Table 2 exceed those in Table 3. The sample sizes in Table 2 for this age range are quite small, however. Moreover, we do not assume (in Tables 2 – 6) that no individuals enter the

active 30-year old (40-year old) female college graduate who has no children over her lifetime has a worklife expectancy of 29.0 (20.3); an inactive individual with the same attributes has a worklife expectancy of 26.8 (17.2). On the other hand, an active 30-year old (40-year old) female college graduate who had three children at the ages we specified has a worklife expectancy of 27.5 (20.4); an inactive female with the same attributes has a worklife expectancy of 24.9 (17.4). Over the entire life cycle, caring for three children reduces a college-educated woman's worklife expectancy by approximately three years. A quick calculation suggests that caring for three children results in college-educated women foregoing approximately $70,000 in lifetime earnings (in 1999 US$).[9]

Three-State Results

Tables 7 and 8 present the worklife expectancies obtained after permitting three unique labor force states (employed, unemployed and inactive).[10] The corresponding transition probabilities are plotted in Figures 2 and 3 for females and males, respectively. The overall results confirm our intuition; worklife expectancies are highest for the employed and lowest for the inactive. More interesting, however, is the position of the worklife estimates for unemployed individuals within the intervals defined by the worklife expectancies for employed and inactive individuals. For both men and women with less than a high school education, the worklife estimates for unemployed individuals are always closer to the worklife estimates for inactive individuals than employed persons. This pattern holds over the entire life cycle. As education increases for both men and women, the worklife estimates for unemployed individuals approach the worklife estimates of employed individuals. Thus, conditional on age, unemployment tends to be more transitory as education increases.

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labor force after age 75, as the BLS (1986) assumed.

[9] The mean annual salary for a college-educated woman in 1999 was approximately $37,000 (http://www.census.gov/hhes/income/histinc/p18.html). Using a discount rate of 5% and noting that, according to the logit method of estimating worklife expectancy, the primary reduction in worklife occurs during the time when children are under the age of six, our example implies a discounted present value loss of roughly $72,000 ($69,000) for a 21-year-old active (inactive) woman. This figure may be interpreted as a lower bound to the extent that women who experience extended stays outside of the labor force typically never fully recover upon returning to employment (see, e.g., Klerman and Leibowitz, 1999; Waldfogel, 1998). Moreover, the reduction in earnings is not in practice dispersed evenly over one's lifetime; rather, the losses tend to occur at a relatively young age if women tend to exit the labor force for an initial period after childbirth.

[10] According to the Hausman tests, we cannot reject the Independence of Irrelevant Alternative (IIA) assumption in the majority of the multinomial logit models estimated.

These findings have two important implications. First, the fact that the worklife expectancies of unemployed individuals are different than the worklife estimates of either employed or inactive individuals indicates that the decision of the BLS to consider unemployed individuals as active rather than inactive may have led to less than precise results. Second, when analyzing the behavior of individuals to determine which subgroups are behaviorally distinct, the studies discussed previously have focused on whether the distinction between unemployed and out of labor force is meaningful for different age groups by gender. However, the results here suggest that it is more important to test for such distinctions by education group, and not necessarily by age group.

6. Concluding Remarks

The commonly used BLS worklife estimates are now twenty years old and in need of revision. This paper improves upon these original worklife estimates in four key areas. First, current data from the 1992 - 2000 CPS March annual surveys are used. Since these data span nine years and many individuals, the results are not as sensitive to economic conditions as the BLS study that relied on only one year of data. These data also reflect more current labor supply decisions, which have changed considerably since 1980, especially for women. Second, an econometric model is used to estimate transition probabilities, whereas the BLS relied on the relative frequencies at each age to calculate transition probabilities. We explicitly model the transition decision as a function of age, race, sex, marital status, number of children, and occupation. The benefit of the econometric approach is that one can predict the probability of a person's transition from one state to another at each age, based on the demographic and economic conditions faced by the person. This enables one to circumvent problems of small cell sizes. Third, we enhance the standard worklife tables by explicitly categorizing individuals into three states: employed, unemployed and inactive, rather than just the two categories of active and inactive that had been previously used. Fourth, we provide bootstrap estimated standard errors.

The "updated" BLS results indicate that worklife estimates for women, particularly college-educated women, have increased, while worklife estimates for males have declined slightly, in the last twenty years. The three-state model finds that an unemployed person's worklife is closer to that of those inactive at lower levels of education, but approaches that of the employed as education rises. Thus, the similarity of behavior between the unemployed and the out of labor force populations depends more on education than age.

While providing complete tables of worklife for persons of many different characteristics will be the subject of future research, we do provide some cursory results. For example, we present worklife tables by gender, race and education, whereas the original BLS tables subdivided the population by either race or education, but not both. For women, we find predominantly similar worklife expectancies for white and non-white and women, conditional on education. However, for men, we find that whites have higher worklives at all education levels. Moreover, while we do not present the full set of results, we tested our methodology by estimating worklife expectancies for females by child status. Not surprisingly, we find that women with children have lower worklife expectancies. Tables of worklife expectancy for persons of different marital status, health status, etc. can be calculated using this methodology in future work.

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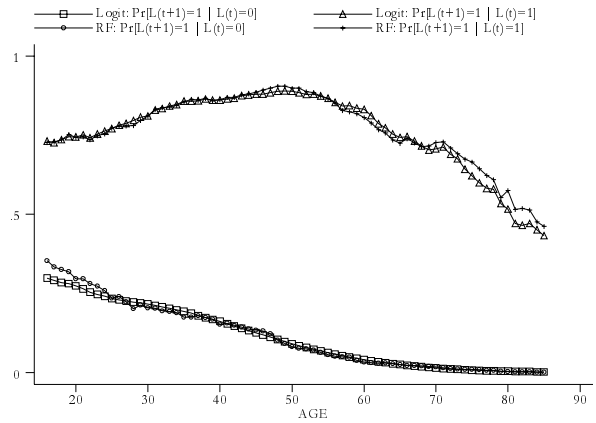
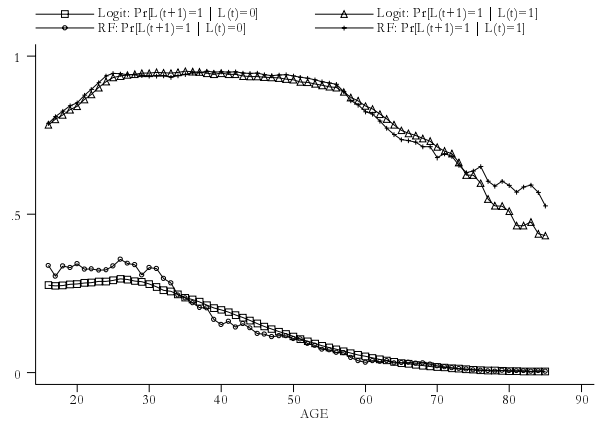


Females: Less Than High School



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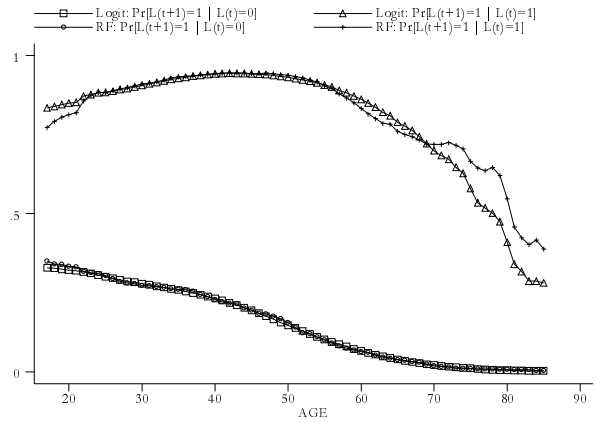

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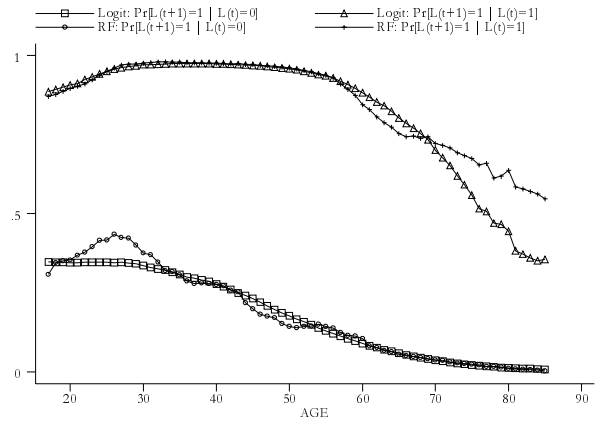

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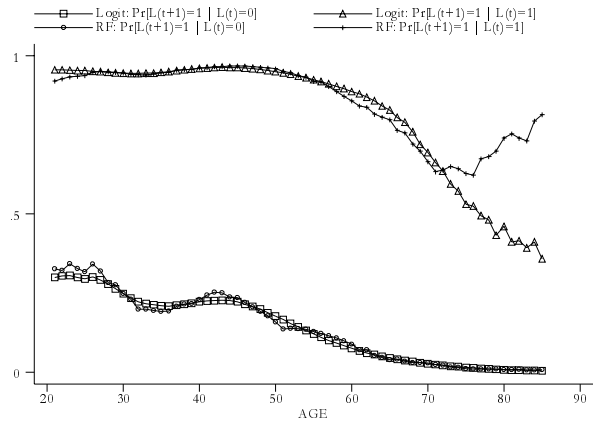
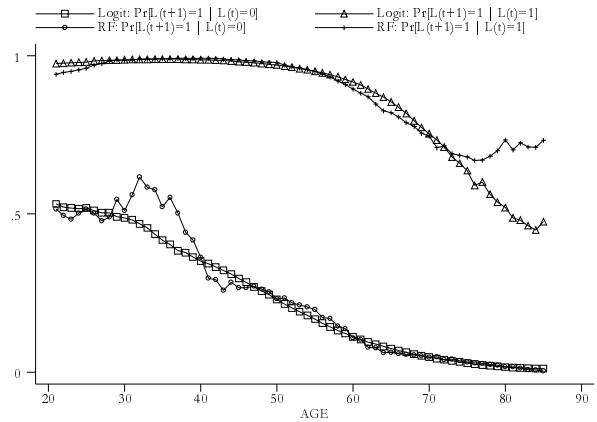


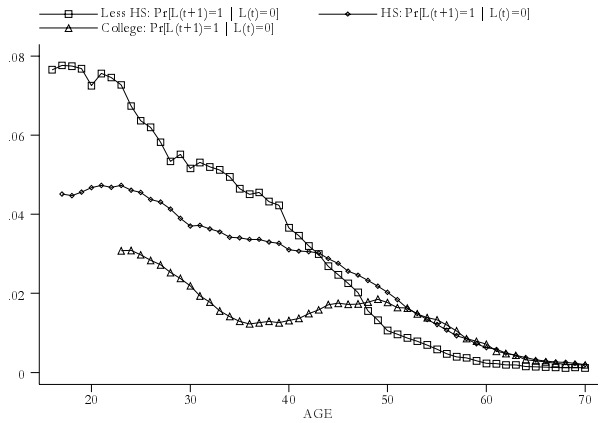
Females: College



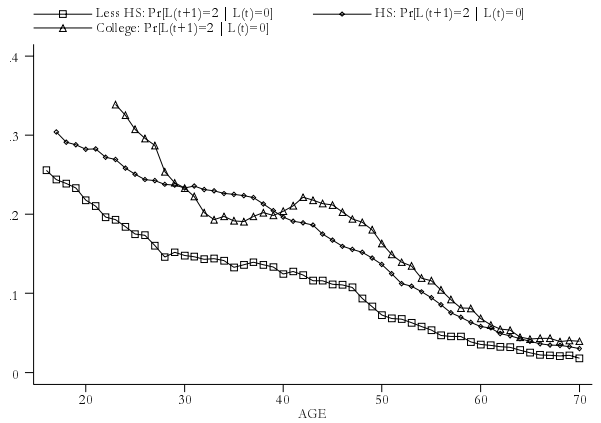
Males: College

Figure 1. Transition Probabilities By Gender and Education: Logit and Relative Frequency Estimates.

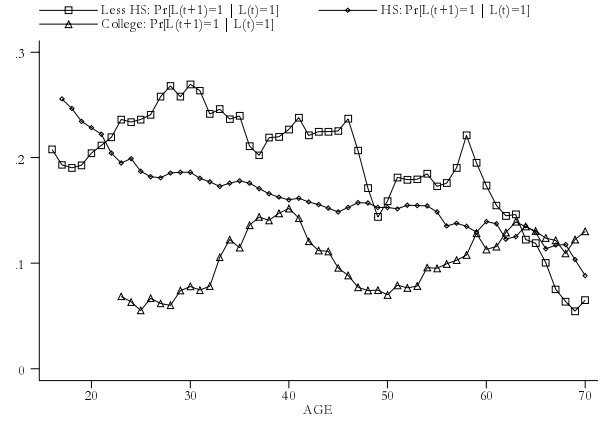
NOTES: L refers to the labor market state, where 0 = inactive and 1 = active. RF refers to the relative frequency approach. Probabilities are nine-year moving averages.



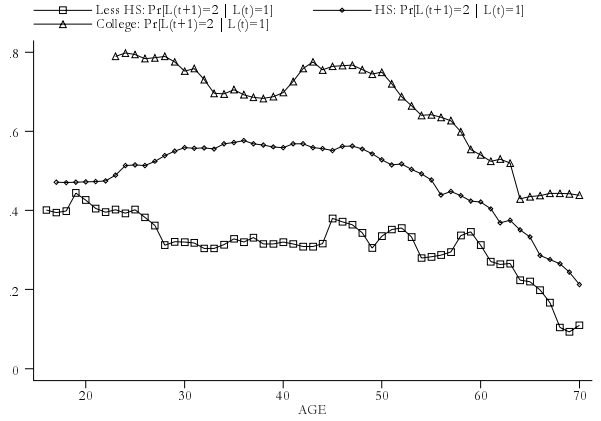
Panel A



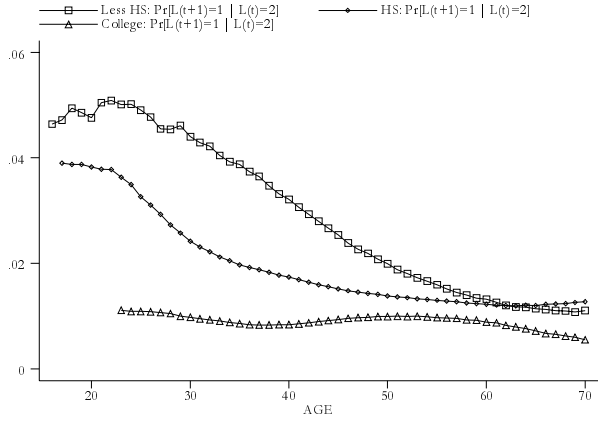
Panel B



Panel C



Panel D



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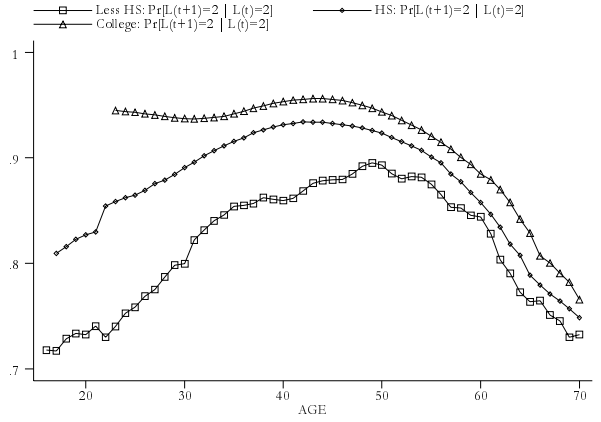
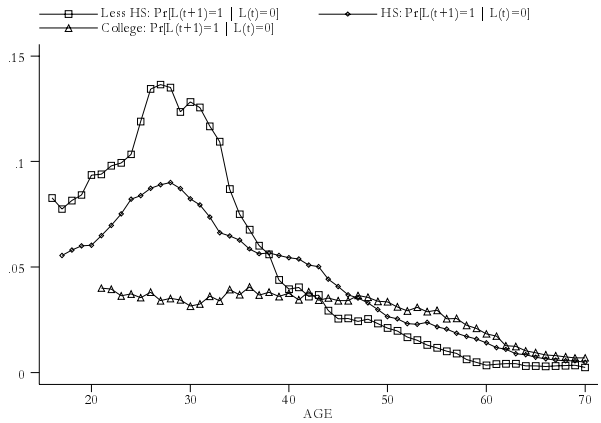


Panel F

Figure 2. Transition Probabilities Allowing For Three Unique States: Females.

NOTES: L refers to the labor market state, where 0 = inactive, 1 = unemployed, and 2 = employed. Probabilities are nine-year moving averages.



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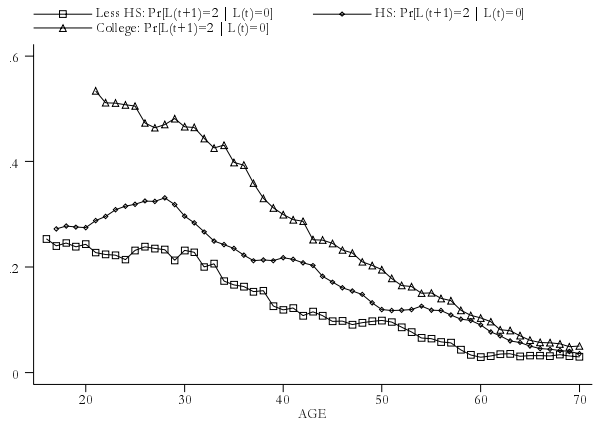

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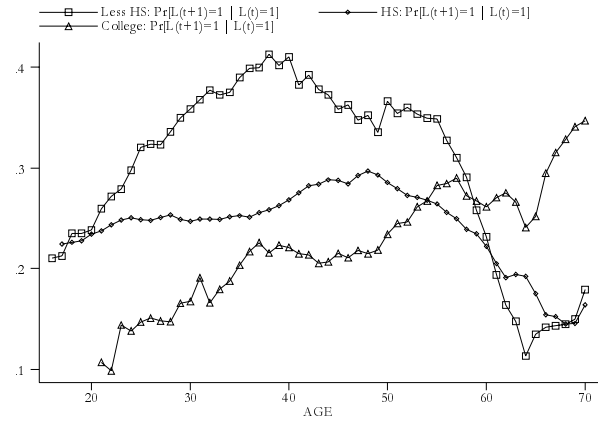
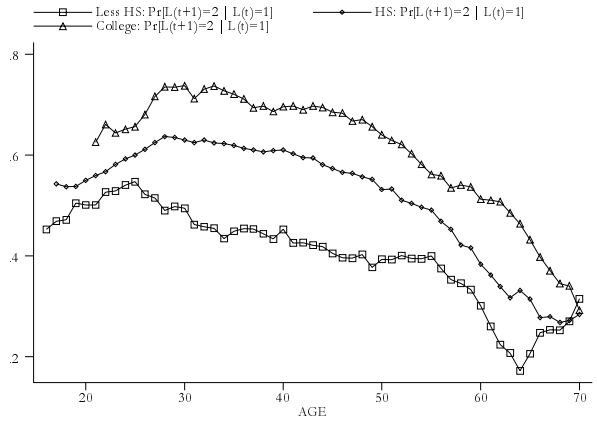


Panel C



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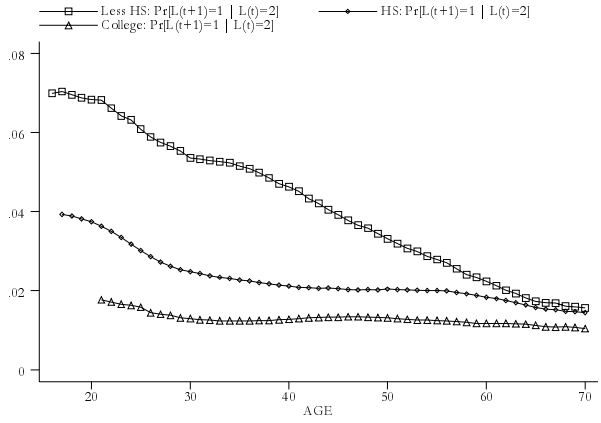
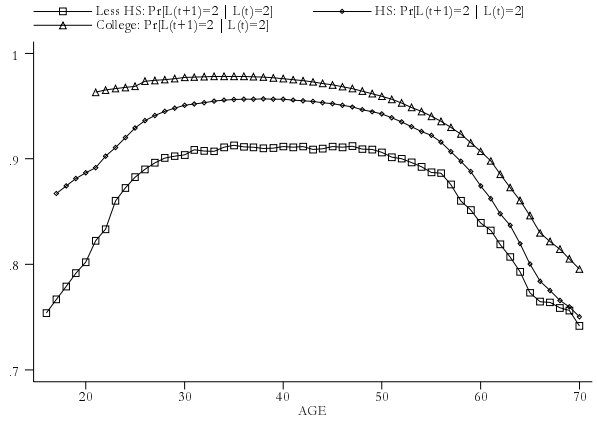


Panel E



Panel F

Figure 3. Transition Probabilities Allowing For Three Unique States: Males.

NOTES: L refers to the labor market state, where 0 = inactive, 1 = unemployed, and 2 = employed. Probabilities are nine-year moving averages.

Table 1. CPS Sample Matching Rates for Gender/Educational Groups

Matched Sample Sizes:

Year	Females Less than High School	Females H.S. to some College	Females College and above	Males Less than High School	Males H.S. to some College	Males College and above
1992/93	4,478	12,075	3,557	4,103	9,475	4,021
1994/95	3,592	10,507	3,423	3,164	9,871	3,861
1996/97	3,584	10,096	3,415	3,230	8,099	3,267
1997/98	3,405	10,163	3,578	3,245	8,116	3,769
1998/99	3,231	10,176	3,638	3,060	8,142	3,836
1999/2000	3,235	10,260	3,842	3,007	8,252	4,143
					Grand total	200,916

Total Sample Sizes:

Year	Females Less than High School	Females H.S. to some College	Females College and above	Males Less than High School	Males H.S. to some College	Males College and above
1992/93	7,969	18,176	5,042	7,329	15,129	5,702
1994/95	6,421	16,893	4,926	5,883	13,702	5,518
1996/97	6,478	15,352	4,765	5,823	12,612	5,056
1997/98	6,297	15,537	5,016	6,045	12,887	5,312
1998/99	6,009	15,494	5,129	5,664	12,988	5,340
1999/2000	6,009	15,480	5,325	5,798	12,988	5,628
					Grand total	315,722

Matching Rates:

Year	Females Less than High School	Females H.S. to some College	Females College and above	Males Less than High School	Males H.S. to some College	Males College and above
1992/93	56.2%	66.4%	70.5%	56.0%	62.6%	70.5%
1994/95	55.9%	62.2%	69.5%	53.8%	72.0%	70.0%
1996/97	55.3%	65.8%	71.7%	55.5%	64.2%	64.6%
1997/98	54.1%	65.4%	71.3%	53.7%	63.0%	71.0%
1998/99	53.8%	65.7%	70.9%	54.0%	62.7%	71.8%
1999/2000	53.8%	66.3%	72.2%	51.9%	63.5%	73.6%
					Overall match rate	63.6%

Table 2. Updated "BLS" Worklife Expectancy: By Gender and Education

Age	Female						Male					
	Less than High School		High School		College		Less than High School		High School		College	
	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive
16	24.484	23.355					33.789	32.380				
17	23.955	22.770	33.814	32.524			33.258	31.733	39.520	37.816		
18	23.436	22.201	33.255	31.884			32.687	31.152	38.847	37.204		
19	22.922	21.629	32.674	31.239			32.094	30.478	38.162	36.507		
20	22.386	21.056	32.081	30.572			31.476	29.793	37.456	35.797		
21	21.873	20.516	31.491	29.886	35.204	33.184	30.858	29.029	36.726	35.089	40.321	39.041
22	21.368	19.961	30.917	29.148	34.426	32.362	30.198	28.275	35.979	34.350	39.487	38.149
23	20.906	19.409	30.271	28.418	33.632	31.546	29.501	27.492	35.218	33.594	38.641	37.283
24	20.447	18.844	29.594	27.672	32.827	30.645	28.755	26.708	34.431	32.796	37.785	36.450
25	20.003	18.278	28.901	26.914	32.022	29.753	27.953	25.929	33.615	31.940	36.919	35.576
26	19.535	17.749	28.222	26.145	31.221	28.862	27.133	25.119	32.775	31.068	36.050	34.648
27	19.076	17.187	27.532	25.383	30.401	27.831	26.314	24.232	31.913	30.113	35.159	33.725
28	18.638	16.638	26.837	24.621	29.581	26.798	25.506	23.350	31.032	29.140	34.257	32.874
29	18.218	16.124	26.137	23.855	28.771	25.844	24.704	22.446	30.145	28.114	33.339	32.043
30	17.783	15.553	25.428	23.077	27.980	24.863	23.908	21.620	29.260	27.085	32.413	31.107
31	17.333	14.985	24.707	22.301	27.206	23.945	23.129	20.674	28.371	26.077	31.486	30.286
32	16.840	14.401	23.985	21.511	26.454	23.066	22.368	19.649	27.481	25.028	30.557	29.416
33	16.343	13.826	23.256	20.707	25.708	22.305	21.618	18.652	26.587	24.003	29.627	28.402
34	15.862	13.231	22.520	19.890	24.969	21.541	20.904	17.609	25.695	23.035	28.698	27.402
35	15.383	12.626	21.768	19.070	24.216	20.795	20.185	16.653	24.806	22.047	27.768	26.340
36	14.879	12.057	21.012	18.232	23.446	20.068	19.466	15.672	23.923	21.059	26.839	25.356
37	14.356	11.482	20.255	17.370	22.669	19.350	18.738	14.707	23.048	20.121	25.913	24.170
38	13.856	10.870	19.503	16.492	21.866	18.585	18.020	13.766	22.176	19.195	24.988	22.942
39	13.349	10.262	18.750	15.623	21.053	17.796	17.293	12.771	21.308	18.234	24.065	21.753
40	12.893	9.641	17.997	14.753	20.238	17.010	16.589	11.941	20.445	17.247	23.146	20.489
41	12.443	9.060	17.238	13.899	19.405	16.176	15.880	11.184	19.588	16.225	22.230	19.299
42	11.988	8.439	16.482	13.048	18.572	15.276	15.183	10.352	18.741	15.162	21.316	18.310
43	11.556	7.824	15.730	12.191	17.731	14.308	14.481	9.612	17.903	14.100	20.403	17.315
44	11.111	7.204	14.985	11.310	16.895	13.312	13.815	8.786	17.071	12.986	19.501	16.456
45	10.676	6.585	14.250	10.466	16.063	12.333	13.161	8.023	16.251	11.995	18.606	15.485
46	10.237	5.961	13.523	9.631	15.235	11.318	12.497	7.355	15.438	11.068	17.717	14.572
47	9.789	5.320	12.802	8.820	14.414	10.333	11.859	6.696	14.641	10.216	16.835	13.643
48	9.323	4.706	12.083	8.004	13.601	9.380	11.244	6.086	13.849	9.386	15.961	12.671
49	8.823	4.192	11.374	7.204	12.805	8.475	10.612	5.454	13.065	8.577	15.098	11.712
50	8.316	3.739	10.684	6.424	12.019	7.628	9.977	4.818	12.292	7.865	14.241	10.760

Age	Female						Male					
	Less than High School		High School		College		Less than High School		High School		College	
	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive
51	7.841	3.343	10.012	5.692	11.246	6.879	9.362	4.240	11.531	7.217	13.390	9.892
52	7.353	2.978	9.356	5.027	10.505	6.253	8.760	3.671	10.777	6.603	12.570	8.996
53	6.905	2.635	8.720	4.455	9.784	5.628	8.169	3.191	10.043	5.992	11.769	8.151
54	6.458	2.317	8.106	3.909	9.101	5.022	7.592	2.753	9.316	5.393	10.987	7.321
55	6.040	2.037	7.517	3.416	8.429	4.436	7.031	2.396	8.610	4.782	10.231	6.502
56	5.635	1.800	6.964	2.979	7.812	3.893	6.478	2.056	7.922	4.217	9.500	5.703
57	5.266	1.598	6.434	2.600	7.194	3.384	5.913	1.776	7.253	3.688	8.800	5.014
58	4.979	1.405	5.963	2.275	6.626	2.920	5.434	1.514	6.644	3.236	8.138	4.329
59	4.696	1.221	5.522	1.987	6.113	2.491	5.051	1.331	6.087	2.838	7.530	3.748
60	4.405	1.082	5.123	1.736	5.657	2.109	4.688	1.199	5.584	2.462	6.968	3.205
61	4.129	0.969	4.775	1.509	5.244	1.773	4.380	1.093	5.173	2.122	6.450	2.796
62	3.887	0.867	4.474	1.293	4.875	1.511	4.061	0.974	4.796	1.874	5.976	2.415
63	3.696	0.774	4.208	1.119	4.504	1.260	3.786	0.869	4.482	1.646	5.527	2.143
64	3.522	0.683	3.979	0.965	4.187	1.084	3.561	0.761	4.213	1.454	5.148	1.890
65	3.416	0.598	3.737	0.827	3.869	0.936	3.379	0.677	3.974	1.273	4.825	1.698
66	3.350	0.520	3.553	0.707	3.537	0.820	3.230	0.590	3.793	1.121	4.498	1.511
67	3.214	0.454	3.394	0.597	3.279	0.703	3.077	0.503	3.639	0.981	4.187	1.350
68	3.110	0.391	3.246	0.499	3.005	0.610	2.915	0.426	3.471	0.850	3.913	1.197
69	3.043	0.330	3.122	0.410	2.794	0.535	2.780	0.348	3.311	0.731	3.646	1.059
70	2.962	0.272	3.033	0.339	2.611	0.464	2.618	0.280	3.114	0.624	3.424	0.933
71	2.826	0.220	2.938	0.281	2.502	0.398	2.550	0.229	2.964	0.534	3.196	0.823
72	2.644	0.180	2.826	0.232	2.496	0.340	2.418	0.187	2.809	0.448	3.070	0.709
73	2.484	0.149	2.662	0.193	2.489	0.290	2.273	0.152	2.653	0.377	2.908	0.625
74	2.339	0.122	2.480	0.164	2.457	0.254	2.179	0.126	2.520	0.316	2.813	0.530
75	2.206	0.097	2.280	0.138	2.454	0.220	2.140	0.100	2.387	0.258	2.730	0.452
76	2.058	0.074	2.150	0.115	2.536	0.194	2.072	0.085	2.252	0.206	2.664	0.380
77	1.922	0.054	2.043	0.096	2.707	0.169	1.924	0.072	2.146	0.162	2.641	0.314
78	1.791	0.040	1.915	0.078	2.744	0.143	1.872	0.063	1.988	0.129	2.636	0.247
79	1.638	0.027	1.691	0.062	2.777	0.117	1.851	0.055	1.933	0.095	2.611	0.188
80	1.588	0.018	1.433	0.048	2.762	0.089	1.774	0.043	1.844	0.067	2.525	0.133
81	1.430	0.012	1.226	0.036	2.575	0.068	1.703	0.033	1.650	0.047	2.290	0.092
82	1.354	0.008	1.119	0.027	2.282	0.049	1.620	0.024	1.523	0.031	2.095	0.051
83	1.201	0.004	1.011	0.017	1.942	0.029	1.425	0.016	1.336	0.019	1.757	0.026
84	0.924	0.002	0.839	0.008	1.510	0.016	1.077	0.009	1.042	0.009	1.328	0.013
85	0.462	0.001	0.388	0.005	0.814	0.008	0.527	0.005	0.547	0.004	0.732	0.004

Table 3. Worklife Expectancy: Females by Education (Logit Model)

Age	Less than High School				High School				College			
	Active		Inactive		Active		Inactive		Active		Inactive	
	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error
16	24.437	0.652	23.155	0.645								
17	23.933	0.649	22.626	0.640	34.250	0.325	32.697	0.306				
18	23.451	0.643	22.095	0.636	33.613	0.303	32.024	0.295				
19	22.962	0.638	21.565	0.630	32.973	0.286	31.342	0.286				
20	22.464	0.633	21.033	0.625	32.325	0.274	30.651	0.280				
21	21.982	0.628	20.498	0.619	31.677	0.265	29.949	0.275	35.730	0.440	33.329	0.529
22	21.496	0.621	19.973	0.612	31.036	0.260	29.224	0.271	34.877	0.437	32.475	0.515
23	21.048	0.613	19.448	0.605	30.357	0.257	28.489	0.268	34.026	0.434	31.603	0.504
24	20.592	0.604	18.923	0.596	29.672	0.254	27.747	0.264	33.179	0.431	30.716	0.495
25	20.135	0.595	18.393	0.588	28.981	0.251	27.004	0.261	32.337	0.429	29.830	0.487
26	19.675	0.583	17.860	0.579	28.294	0.249	26.257	0.259	31.499	0.428	28.947	0.481
27	19.205	0.572	17.325	0.571	27.604	0.247	25.503	0.256	30.671	0.426	28.014	0.477
28	18.738	0.559	16.779	0.563	26.905	0.244	24.745	0.254	29.854	0.424	27.075	0.474
29	18.267	0.547	16.221	0.554	26.207	0.241	23.980	0.252	29.051	0.423	26.144	0.471
30	17.787	0.534	15.651	0.546	25.503	0.239	23.202	0.251	28.261	0.421	25.233	0.468
31	17.320	0.521	15.067	0.538	24.791	0.236	22.419	0.250	27.482	0.419	24.346	0.464
32	16.817	0.510	14.474	0.529	24.074	0.233	21.623	0.249	26.710	0.418	23.492	0.461
33	16.319	0.499	13.874	0.520	23.350	0.231	20.820	0.248	25.942	0.416	22.669	0.459
34	15.810	0.489	13.270	0.510	22.620	0.228	20.007	0.247	25.173	0.414	21.861	0.458
35	15.303	0.479	12.658	0.499	21.884	0.226	19.185	0.246	24.404	0.412	21.062	0.458
36	14.779	0.470	12.045	0.487	21.144	0.223	18.351	0.246	23.628	0.410	20.273	0.457
37	14.269	0.460	11.432	0.475	20.400	0.221	17.507	0.245	22.844	0.408	19.490	0.458
38	13.772	0.450	10.825	0.462	19.649	0.218	16.653	0.244	22.050	0.406	18.695	0.460
39	13.269	0.441	10.222	0.448	18.897	0.216	15.797	0.243	21.248	0.404	17.891	0.462
40	12.795	0.430	9.617	0.433	18.143	0.213	14.933	0.242	20.437	0.401	17.070	0.465
41	12.346	0.419	9.010	0.417	17.390	0.210	14.067	0.240	19.620	0.399	16.228	0.468
42	11.903	0.408	8.409	0.401	16.639	0.207	13.199	0.238	18.800	0.396	15.368	0.471
43	11.473	0.396	7.813	0.384	15.891	0.204	12.333	0.235	17.977	0.394	14.491	0.474
44	11.029	0.383	7.222	0.366	15.153	0.200	11.474	0.232	17.154	0.391	13.595	0.477
45	10.593	0.369	6.643	0.347	14.424	0.197	10.625	0.228	16.335	0.388	12.683	0.477
46	10.159	0.356	6.079	0.328	13.707	0.193	9.789	0.223	15.522	0.384	11.762	0.476
47	9.740	0.344	5.532	0.309	13.004	0.189	8.973	0.217	14.719	0.381	10.849	0.472
48	9.311	0.333	5.006	0.290	12.312	0.186	8.180	0.209	13.930	0.376	9.943	0.465
49	8.867	0.323	4.511	0.271	11.633	0.182	7.418	0.201	13.159	0.372	9.051	0.456
50	8.417	0.313	4.049	0.253	10.973	0.178	6.690	0.192	12.407	0.367	8.189	0.443

Age	Less than High School				High School				College			
	Active		Inactive		Active		Inactive		Active		Inactive	
	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error
51	7.968	0.303	3.619	0.235	10.328	0.173	5.999	0.182	11.677	0.362	7.361	0.427
52	7.543	0.293	3.219	0.218	9.708	0.169	5.348	0.172	10.970	0.357	6.571	0.409
53	7.140	0.283	2.850	0.201	9.109	0.165	4.739	0.161	10.290	0.352	5.833	0.389
54	6.724	0.274	2.514	0.185	8.529	0.161	4.177	0.150	9.636	0.346	5.141	0.367
55	6.317	0.266	2.211	0.169	7.966	0.157	3.662	0.139	9.008	0.341	4.505	0.344
56	5.933	0.260	1.938	0.155	7.431	0.152	3.193	0.128	8.411	0.335	3.924	0.320
57	5.589	0.252	1.692	0.141	6.915	0.149	2.770	0.118	7.839	0.330	3.395	0.296
58	5.284	0.243	1.471	0.128	6.438	0.146	2.390	0.108	7.296	0.324	2.924	0.272
59	4.952	0.237	1.276	0.116	5.981	0.143	2.051	0.098	6.784	0.318	2.500	0.249
60	4.630	0.231	1.103	0.105	5.555	0.140	1.752	0.089	6.291	0.311	2.126	0.227
61	4.287	0.225	0.953	0.095	5.150	0.138	1.490	0.081	5.828	0.304	1.799	0.206
62	3.990	0.221	0.824	0.086	4.771	0.136	1.261	0.073	5.371	0.298	1.518	0.186
63	3.761	0.221	0.710	0.078	4.419	0.134	1.063	0.065	4.933	0.291	1.278	0.167
64	3.552	0.220	0.610	0.070	4.101	0.130	0.891	0.058	4.512	0.283	1.071	0.150
65	3.396	0.220	0.522	0.063	3.794	0.127	0.744	0.052	4.121	0.275	0.894	0.134
66	3.261	0.219	0.445	0.057	3.529	0.126	0.618	0.046	3.739	0.267	0.744	0.119
67	3.094	0.217	0.377	0.051	3.272	0.124	0.511	0.041	3.394	0.257	0.618	0.106
68	2.950	0.218	0.319	0.045	3.023	0.121	0.421	0.036	3.047	0.249	0.514	0.094
69	2.834	0.220	0.267	0.040	2.798	0.120	0.345	0.031	2.739	0.240	0.428	0.083
70	2.743	0.225	0.222	0.035	2.602	0.119	0.282	0.027	2.496	0.232	0.355	0.073
71	2.617	0.229	0.183	0.031	2.431	0.117	0.228	0.023	2.271	0.223	0.295	0.065
72	2.431	0.231	0.150	0.027	2.264	0.115	0.184	0.020	2.076	0.219	0.244	0.057
73	2.269	0.236	0.123	0.023	2.077	0.112	0.147	0.017	1.889	0.209	0.202	0.050
74	2.096	0.238	0.100	0.019	1.902	0.109	0.117	0.014	1.751	0.205	0.167	0.043
75	1.967	0.237	0.081	0.016	1.705	0.106	0.093	0.012	1.612	0.199	0.138	0.038
76	1.849	0.241	0.065	0.014	1.558	0.103	0.073	0.010	1.535	0.204	0.112	0.032
77	1.750	0.245	0.051	0.011	1.466	0.106	0.057	0.008	1.430	0.198	0.091	0.027
78	1.654	0.240	0.040	0.009	1.366	0.102	0.044	0.006	1.351	0.196	0.072	0.023
79	1.505	0.237	0.031	0.007	1.237	0.098	0.033	0.005	1.255	0.187	0.057	0.019
80	1.406	0.228	0.024	0.005	1.078	0.083	0.025	0.004	1.246	0.179	0.043	0.015
81	1.290	0.205	0.017	0.004	0.953	0.072	0.018	0.003	1.140	0.161	0.032	0.011
82	1.228	0.188	0.012	0.003	0.890	0.069	0.013	0.002	1.097	0.149	0.022	0.008
83	1.124	0.161	0.007	0.002	0.813	0.062	0.008	0.001	0.991	0.125	0.014	0.005
84	0.888	0.120	0.004	0.001	0.691	0.047	0.004	0.001	0.821	0.090	0.007	0.003
85	0.432	0.093	0.001	0.000	0.280	0.049	0.002	0.000	0.358	0.070	0.002	0.001

Table 4. Worklife Expectancy: Males by Education (Logit Model)

Age	Less than High School				High School				College			
	Active		Inactive		Active		Inactive		Active		Inactive	
	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error
16	33.329	0.681	31.722	0.677								
17	32.841	0.671	31.155	0.673	39.639	0.369	37.930	0.343				
18	32.331	0.661	30.574	0.670	38.944	0.336	37.194	0.330				
19	31.801	0.652	29.970	0.668	38.239	0.310	36.450	0.322				
20	31.247	0.643	29.337	0.667	37.522	0.292	35.690	0.317				
21	30.684	0.634	28.671	0.667	36.794	0.282	34.917	0.314	40.795	0.358	39.477	0.408
22	30.080	0.625	27.971	0.667	36.058	0.279	34.123	0.312	39.899	0.357	38.554	0.405
23	29.450	0.615	27.237	0.668	35.294	0.277	33.308	0.311	38.998	0.357	37.642	0.402
24	28.766	0.607	26.468	0.668	34.513	0.275	32.475	0.310	38.094	0.356	36.725	0.400
25	28.035	0.600	25.683	0.669	33.711	0.273	31.625	0.310	37.187	0.356	35.805	0.399
26	27.270	0.593	24.877	0.669	32.890	0.272	30.760	0.310	36.281	0.357	34.863	0.400
27	26.495	0.587	24.039	0.667	32.052	0.271	29.883	0.311	35.364	0.357	33.920	0.401
28	25.710	0.578	23.182	0.665	31.201	0.269	28.984	0.313	34.446	0.357	32.978	0.403
29	24.923	0.569	22.317	0.662	30.341	0.268	28.074	0.314	33.525	0.357	32.012	0.406
30	24.131	0.560	21.434	0.661	29.477	0.267	27.152	0.316	32.603	0.358	31.057	0.408
31	23.345	0.551	20.545	0.659	28.606	0.266	26.227	0.318	31.679	0.358	30.083	0.410
32	22.556	0.541	19.659	0.656	27.735	0.264	25.299	0.321	30.756	0.358	29.087	0.415
33	21.775	0.530	18.784	0.654	26.862	0.263	24.367	0.323	29.833	0.358	28.080	0.421
34	21.006	0.519	17.887	0.650	25.989	0.262	23.425	0.326	28.910	0.358	27.055	0.430
35	20.233	0.509	16.994	0.645	25.112	0.261	22.482	0.329	27.987	0.358	26.034	0.439
36	19.452	0.499	16.119	0.640	24.240	0.259	21.538	0.332	27.067	0.358	25.022	0.449
37	18.681	0.488	15.245	0.633	23.370	0.258	20.602	0.335	26.149	0.358	24.008	0.460
38	17.921	0.477	14.370	0.624	22.504	0.256	19.658	0.337	25.233	0.358	23.019	0.469
39	17.178	0.466	13.512	0.612	21.641	0.254	18.704	0.339	24.320	0.358	22.009	0.479
40	16.459	0.453	12.668	0.598	20.782	0.252	17.739	0.341	23.410	0.358	21.009	0.487
41	15.734	0.441	11.825	0.582	19.928	0.250	16.769	0.342	22.505	0.357	20.012	0.495
42	15.031	0.430	10.989	0.564	19.081	0.248	15.797	0.341	21.605	0.357	19.006	0.500
43	14.333	0.417	10.178	0.544	18.242	0.246	14.829	0.340	20.710	0.356	17.997	0.504
44	13.669	0.402	9.380	0.522	17.410	0.243	13.871	0.337	19.822	0.355	16.980	0.508
45	13.020	0.388	8.601	0.497	16.588	0.241	12.914	0.333	18.942	0.355	15.961	0.513
46	12.381	0.376	7.854	0.471	15.775	0.238	11.961	0.327	18.071	0.353	14.945	0.516
47	11.758	0.364	7.143	0.444	14.974	0.235	11.031	0.320	17.210	0.352	13.930	0.520
48	11.144	0.351	6.463	0.417	14.185	0.232	10.125	0.311	16.359	0.350	12.935	0.520
49	10.538	0.339	5.814	0.390	13.409	0.230	9.252	0.301	15.521	0.348	11.949	0.518
50	9.952	0.328	5.204	0.362	12.646	0.227	8.413	0.290	14.698	0.346	10.972	0.511

Age	Less than High School				High School				College			
	Active		Inactive		Active		Inactive		Active		Inactive	
	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error
51	9.379	0.315	4.633	0.335	11.898	0.223	7.610	0.277	13.889	0.343	10.032	0.501
52	8.836	0.305	4.102	0.309	11.167	0.220	6.849	0.263	13.098	0.340	9.122	0.487
53	8.299	0.295	3.614	0.284	10.459	0.216	6.124	0.248	12.326	0.336	8.251	0.468
54	7.775	0.287	3.167	0.259	9.772	0.212	5.445	0.233	11.576	0.332	7.416	0.447
55	7.265	0.279	2.762	0.237	9.107	0.207	4.818	0.218	10.847	0.328	6.619	0.422
56	6.767	0.272	2.398	0.215	8.456	0.203	4.247	0.202	10.141	0.323	5.871	0.396
57	6.261	0.268	2.076	0.196	7.829	0.199	3.726	0.187	9.457	0.318	5.184	0.369
58	5.800	0.264	1.793	0.177	7.236	0.195	3.252	0.172	8.798	0.313	4.553	0.343
59	5.397	0.261	1.544	0.161	6.678	0.191	2.827	0.158	8.163	0.307	3.987	0.317
60	5.016	0.260	1.326	0.145	6.153	0.187	2.450	0.145	7.559	0.301	3.474	0.292
61	4.678	0.258	1.135	0.131	5.672	0.181	2.115	0.132	6.982	0.295	3.016	0.268
62	4.350	0.257	0.969	0.118	5.225	0.177	1.819	0.120	6.431	0.289	2.606	0.246
63	4.060	0.257	0.825	0.106	4.815	0.173	1.559	0.109	5.917	0.282	2.245	0.225
64	3.797	0.252	0.702	0.095	4.420	0.168	1.331	0.099	5.438	0.274	1.924	0.205
65	3.574	0.245	0.595	0.084	4.061	0.163	1.132	0.089	4.983	0.266	1.643	0.187
66	3.395	0.240	0.502	0.075	3.741	0.155	0.959	0.080	4.558	0.258	1.399	0.170
67	3.224	0.234	0.422	0.066	3.445	0.148	0.809	0.072	4.165	0.250	1.189	0.155
68	3.047	0.225	0.352	0.059	3.162	0.141	0.680	0.065	3.804	0.242	1.007	0.140
69	2.873	0.216	0.293	0.052	2.886	0.135	0.570	0.058	3.486	0.235	0.851	0.127
70	2.691	0.209	0.242	0.045	2.621	0.131	0.477	0.052	3.201	0.228	0.717	0.115
71	2.528	0.203	0.199	0.039	2.401	0.126	0.399	0.047	2.937	0.222	0.602	0.103
72	2.362	0.200	0.163	0.034	2.196	0.121	0.332	0.041	2.688	0.212	0.503	0.092
73	2.170	0.192	0.133	0.029	1.999	0.115	0.276	0.037	2.457	0.203	0.420	0.082
74	2.002	0.189	0.109	0.025	1.829	0.113	0.229	0.033	2.267	0.195	0.349	0.073
75	1.898	0.181	0.088	0.021	1.672	0.112	0.190	0.029	2.085	0.186	0.289	0.065
76	1.743	0.180	0.071	0.018	1.533	0.109	0.157	0.025	1.912	0.176	0.237	0.057
77	1.592	0.183	0.057	0.015	1.449	0.107	0.128	0.022	1.823	0.170	0.193	0.049
78	1.514	0.187	0.045	0.012	1.339	0.104	0.103	0.018	1.664	0.166	0.155	0.042
79	1.461	0.192	0.035	0.010	1.274	0.110	0.082	0.015	1.546	0.173	0.123	0.035
80	1.374	0.189	0.027	0.008	1.172	0.118	0.063	0.012	1.442	0.172	0.095	0.028
81	1.273	0.173	0.020	0.006	1.046	0.106	0.048	0.009	1.330	0.167	0.072	0.021
82	1.222	0.164	0.014	0.004	0.993	0.103	0.035	0.007	1.243	0.153	0.052	0.016
83	1.121	0.139	0.009	0.003	0.912	0.091	0.022	0.004	1.106	0.130	0.033	0.010
84	0.874	0.103	0.004	0.001	0.755	0.070	0.011	0.002	0.892	0.097	0.017	0.005
85	0.433	0.083	0.002	0.000	0.355	0.065	0.004	0.001	0.476	0.072	0.006	0.002

Table 5. Worklife Expectancy: Females by Education and Race (Logit Model)

Age	Less than High School				High School				College			
	White		Nonwhite		White		Nonwhite		White		Nonwhite	
	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive
16	25.139	23.811	24.419	23.320								
17	24.581	23.222	24.038	22.908	34.300	32.603	33.932	32.638				
18	24.024	22.632	23.653	22.489	33.693	31.969	33.323	31.996				
19	23.467	22.037	23.263	22.060	33.077	31.323	32.706	31.344				
20	22.909	21.434	22.868	21.619	32.453	30.666	32.082	30.681				
21	22.358	20.818	22.480	21.159	31.822	29.996	31.454	30.005	35.418	32.785	35.697	32.334
22	21.803	20.197	22.075	20.683	31.188	29.308	30.826	29.308	34.661	32.020	34.966	31.639
23	21.246	19.571	21.653	20.189	30.534	28.601	30.182	28.593	33.899	31.243	34.225	30.933
24	20.688	18.940	21.218	19.678	29.863	27.877	29.522	27.861	33.131	30.454	33.475	30.216
25	20.132	18.304	20.773	19.150	29.177	27.137	28.847	27.116	32.359	29.661	32.717	29.497
26	19.575	17.667	20.312	18.608	28.477	26.383	28.161	26.357	31.583	28.862	31.951	28.777
27	19.015	17.027	19.837	18.052	27.765	25.615	27.462	25.586	30.796	28.039	31.171	28.029
28	18.457	16.384	19.349	17.482	27.042	24.835	26.754	24.804	30.000	27.206	30.379	27.267
29	17.904	15.737	18.856	16.896	26.310	24.045	26.038	24.012	29.198	26.366	29.577	26.493
30	17.354	15.089	18.353	16.298	25.570	23.243	25.314	23.211	28.390	25.515	28.768	25.706
31	16.807	14.441	17.842	15.689	24.824	22.431	24.584	22.401	27.577	24.654	27.952	24.905
32	16.263	13.794	17.323	15.070	24.073	21.610	23.849	21.583	26.762	23.787	27.131	24.094
33	15.722	13.149	16.797	14.443	23.319	20.780	23.110	20.758	25.944	22.915	26.306	23.276
34	15.185	12.508	16.266	13.809	22.563	19.944	22.369	19.929	25.125	22.035	25.478	22.447
35	14.655	11.869	15.731	13.166	21.805	19.101	21.627	19.095	24.305	21.147	24.648	21.608
36	14.130	11.233	15.194	12.517	21.048	18.253	20.885	18.257	23.487	20.253	23.818	20.761
37	13.612	10.602	14.656	11.863	20.291	17.399	20.143	17.417	22.670	19.354	22.988	19.907
38	13.103	9.983	14.120	11.211	19.537	16.541	19.403	16.574	21.856	18.453	22.159	19.049
39	12.601	9.374	13.585	10.560	18.787	15.680	18.666	15.731	21.045	17.551	21.331	18.186
40	12.110	8.775	13.054	9.911	18.041	14.818	17.934	14.891	20.238	16.646	20.507	17.318
41	11.631	8.188	12.530	9.266	17.302	13.957	17.207	14.053	19.436	15.742	19.686	16.449
42	11.165	7.620	12.015	8.632	16.569	13.099	16.486	13.221	18.641	14.841	18.870	15.578
43	10.713	7.068	11.509	8.008	15.845	12.245	15.773	12.396	17.852	13.943	18.060	14.706
44	10.270	6.535	11.009	7.398	15.131	11.400	15.068	11.581	17.072	13.051	17.257	13.835
45	9.841	6.022	10.521	6.805	14.428	10.567	14.373	10.780	16.301	12.168	16.462	12.967
46	9.426	5.534	10.044	6.234	13.737	9.749	13.690	9.995	15.541	11.298	15.676	12.105
47	9.024	5.065	9.578	5.682	13.059	8.950	13.017	9.228	14.792	10.444	14.900	11.253
48	8.635	4.621	9.125	5.154	12.395	8.175	12.357	8.485	14.055	9.611	14.136	10.414
49	8.261	4.201	8.685	4.652	11.746	7.428	11.711	7.768	13.332	8.803	13.385	9.592
50	7.898	3.807	8.257	4.179	11.113	6.712	11.079	7.080	12.624	8.021	12.649	8.788

Age	Less than High School				High School				College			
	White		Nonwhite		White		Nonwhite		White		Nonwhite	
	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive
51	7.545	3.437	7.838	3.735	10.497	6.030	10.463	6.423	11.932	7.268	11.929	8.006
52	7.201	3.091	7.431	3.319	9.899	5.387	9.863	5.799	11.257	6.550	11.226	7.250
53	6.872	2.770	7.039	2.934	9.319	4.783	9.280	5.211	10.599	5.870	10.541	6.527
54	6.555	2.473	6.659	2.580	8.757	4.221	8.714	4.660	9.960	5.228	9.875	5.837
55	6.248	2.200	6.292	2.256	8.215	3.703	8.167	4.148	9.341	4.629	9.231	5.186
56	5.953	1.951	5.939	1.963	7.694	3.230	7.639	3.674	8.742	4.073	8.610	4.575
57	5.670	1.723	5.601	1.699	7.193	2.799	7.131	3.238	8.165	3.562	8.011	4.008
58	5.401	1.517	5.278	1.463	6.713	2.412	6.644	2.841	7.611	3.096	7.437	3.486
59	5.142	1.330	4.968	1.253	6.253	2.065	6.177	2.480	7.078	2.675	6.889	3.012
60	4.895	1.163	4.672	1.068	5.814	1.758	5.730	2.155	6.568	2.298	6.364	2.584
61	4.654	1.013	4.386	0.905	5.395	1.488	5.304	1.864	6.081	1.964	5.866	2.202
62	4.421	0.879	4.111	0.764	4.998	1.252	4.900	1.605	5.614	1.668	5.392	1.864
63	4.199	0.760	3.849	0.641	4.620	1.048	4.516	1.377	5.171	1.410	4.944	1.568
64	3.985	0.654	3.600	0.535	4.263	0.872	4.153	1.176	4.751	1.185	4.521	1.310
65	3.773	0.562	3.356	0.445	3.925	0.723	3.811	1.000	4.353	0.991	4.124	1.088
66	3.571	0.481	3.125	0.369	3.608	0.596	3.490	0.848	3.979	0.824	3.752	0.897
67	3.373	0.410	2.903	0.304	3.311	0.489	3.190	0.716	3.627	0.682	3.405	0.735
68	3.183	0.349	2.693	0.250	3.033	0.399	2.911	0.603	3.299	0.562	3.084	0.600
69	3.000	0.296	2.493	0.205	2.773	0.325	2.651	0.506	2.996	0.461	2.790	0.487
70	2.825	0.250	2.306	0.167	2.532	0.263	2.411	0.423	2.718	0.377	2.522	0.393
71	2.661	0.210	2.132	0.136	2.307	0.213	2.189	0.353	2.462	0.307	2.277	0.316
72	2.505	0.176	1.970	0.110	2.101	0.171	1.985	0.294	2.229	0.249	2.056	0.253
73	2.357	0.147	1.819	0.089	1.912	0.137	1.800	0.243	2.015	0.201	1.855	0.202
74	2.222	0.122	1.684	0.071	1.739	0.109	1.632	0.201	1.821	0.162	1.674	0.160
75	2.088	0.101	1.554	0.057	1.581	0.087	1.479	0.165	1.645	0.130	1.511	0.127
76	1.966	0.083	1.437	0.046	1.439	0.069	1.342	0.135	1.490	0.103	1.368	0.100
77	1.854	0.067	1.332	0.036	1.311	0.054	1.219	0.110	1.352	0.082	1.243	0.078
78	1.745	0.054	1.235	0.028	1.195	0.042	1.110	0.089	1.227	0.064	1.129	0.060
79	1.646	0.043	1.149	0.022	1.092	0.032	1.012	0.071	1.114	0.050	1.027	0.046
80	1.551	0.033	1.072	0.017	1.001	0.025	0.926	0.056	1.013	0.039	0.938	0.035
81	1.457	0.025	1.006	0.013	0.925	0.019	0.855	0.043	0.929	0.029	0.862	0.026
82	1.360	0.018	0.955	0.009	0.874	0.013	0.807	0.032	0.874	0.021	0.815	0.019
83	1.210	0.012	0.878	0.006	0.806	0.009	0.748	0.022	0.803	0.014	0.755	0.013
84	0.961	0.007	0.726	0.003	0.669	0.005	0.628	0.013	0.666	0.008	0.634	0.007
85	0.490	0.003	0.307	0.002	0.248	0.003	0.204	0.008	0.245	0.005	0.212	0.004

Table 6. Worklife Expectancy: Males by Education and Race (Logit Model)

Age	Less than High School				High School				College			
	White		Nonwhite		White		Nonwhite		White		Nonwhite	
	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive
16	33.650	32.097	28.353	27.008								
17	33.068	31.476	28.005	26.616	40.852	38.946	35.615	34.149				
18	32.479	30.847	27.648	26.215	40.065	38.143	34.998	33.494				
19	31.883	30.207	27.283	25.800	39.274	37.335	34.371	32.830				
20	31.282	29.552	26.914	25.368	38.477	36.517	33.738	32.150				
21	30.680	28.875	26.548	24.912	37.676	35.692	33.098	31.456	41.304	40.068	38.187	36.252
22	30.060	28.178	26.156	24.430	36.870	34.857	32.454	30.740	40.377	39.123	37.369	35.439
23	29.422	27.463	25.739	23.924	36.053	34.011	31.791	30.005	39.448	38.175	36.544	34.620
24	28.769	26.732	25.297	23.393	35.227	33.153	31.108	29.252	38.517	37.224	35.711	33.795
25	28.101	25.984	24.831	22.838	34.392	32.285	30.408	28.482	37.586	36.268	34.872	32.966
26	27.423	25.223	24.344	22.262	33.552	31.409	29.694	27.699	36.656	35.298	34.031	32.130
27	26.732	24.446	23.835	21.663	32.703	30.522	28.964	26.899	35.724	34.321	33.176	31.277
28	26.031	23.654	23.307	21.044	31.848	29.625	28.221	26.086	34.792	33.344	32.312	30.417
29	25.321	22.851	22.762	20.406	30.989	28.723	27.467	25.265	33.859	32.366	31.441	29.549
30	24.605	22.033	22.201	19.748	30.126	27.811	26.705	24.431	32.927	31.381	30.563	28.667
31	23.883	21.210	21.626	19.078	29.260	26.890	25.935	23.587	31.997	30.393	29.680	27.777
32	23.157	20.376	21.039	18.392	28.392	25.964	25.159	22.735	31.067	29.398	28.794	26.876
33	22.429	19.535	20.442	17.694	27.524	25.030	24.379	21.877	30.140	28.401	27.906	25.970
34	21.699	18.688	19.836	16.985	26.656	24.092	23.596	21.014	29.214	27.397	27.016	25.055
35	20.966	17.836	19.222	16.265	25.786	23.147	22.808	20.145	28.289	26.391	26.122	24.135
36	20.236	16.979	18.603	15.538	24.920	22.200	22.022	19.276	27.369	25.389	25.231	23.217
37	19.508	16.115	17.981	14.799	24.055	21.249	21.235	18.406	26.452	24.373	24.339	22.284
38	18.783	15.249	17.357	14.055	23.193	20.292	20.450	17.534	25.539	23.351	23.449	21.346
39	18.063	14.387	16.733	13.309	22.334	19.333	19.666	16.663	24.630	22.334	22.560	20.409
40	17.348	13.522	16.110	12.557	21.480	18.373	18.886	15.796	23.725	21.316	21.674	19.472
41	16.641	12.660	15.491	11.803	20.630	17.410	18.110	14.931	22.826	20.295	20.790	18.530
42	15.942	11.805	14.876	11.051	19.786	16.449	17.339	14.075	21.933	19.267	19.910	17.580
43	15.251	10.964	14.267	10.307	18.949	15.488	16.575	13.225	21.046	18.237	19.035	16.625
44	14.572	10.136	13.667	9.571	18.119	14.534	15.817	12.387	20.167	17.205	18.165	15.667
45	13.905	9.326	13.074	8.845	17.297	13.583	15.068	11.559	19.296	16.178	17.302	14.709
46	13.248	8.541	12.491	8.138	16.485	12.640	14.328	10.746	18.434	15.164	16.445	13.758
47	12.605	7.784	11.917	7.451	15.682	11.710	13.599	9.951	17.582	14.152	15.596	12.805
48	11.975	7.058	11.354	6.787	14.891	10.797	12.880	9.177	16.740	13.150	14.755	11.854
49	11.359	6.365	10.803	6.149	14.111	9.904	12.174	8.426	15.910	12.160	13.925	10.910
50	10.758	5.710	10.264	5.542	13.344	9.036	11.482	7.702	15.093	11.193	13.106	9.980

Age	Less than High School				High School				College			
	White		Nonwhite		White		Nonwhite		White		Nonwhite	
	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive	Active	Inactive
51	10.170	5.095	9.737	4.967	12.592	8.197	10.803	7.006	14.290	10.254	12.299	9.072
52	9.599	4.520	9.223	4.425	11.854	7.391	10.141	6.343	13.502	9.345	11.507	8.186
53	9.043	3.987	8.722	3.919	11.134	6.622	9.495	5.713	12.730	8.475	10.731	7.336
54	8.505	3.495	8.235	3.449	10.432	5.898	8.868	5.120	11.977	7.639	9.974	6.516
55	7.984	3.047	7.764	3.017	9.749	5.219	8.260	4.567	11.244	6.845	9.236	5.737
56	7.480	2.639	7.307	2.622	9.087	4.588	7.672	4.053	10.531	6.104	8.521	5.012
57	6.995	2.273	6.866	2.264	8.446	4.007	7.106	3.579	9.841	5.410	7.831	4.338
58	6.528	1.948	6.440	1.945	7.829	3.476	6.563	3.144	9.174	4.765	7.167	3.719
59	6.081	1.659	6.031	1.660	7.236	2.996	6.044	2.749	8.531	4.176	6.531	3.161
60	5.652	1.406	5.638	1.408	6.669	2.567	5.550	2.394	7.915	3.637	5.927	2.662
61	5.243	1.184	5.261	1.187	6.127	2.186	5.081	2.075	7.325	3.154	5.355	2.225
62	4.853	0.993	4.900	0.995	5.612	1.851	4.637	1.792	6.763	2.716	4.816	1.841
63	4.483	0.828	4.556	0.830	5.123	1.557	4.219	1.541	6.228	2.327	4.313	1.512
64	4.130	0.688	4.226	0.688	4.663	1.303	3.828	1.320	5.720	1.985	3.846	1.234
65	3.798	0.569	3.913	0.568	4.230	1.084	3.463	1.127	5.240	1.683	3.415	0.999
66	3.485	0.469	3.616	0.467	3.826	0.897	3.125	0.960	4.789	1.421	3.021	0.805
67	3.194	0.385	3.338	0.382	3.451	0.740	2.815	0.815	4.366	1.194	2.663	0.645
68	2.922	0.315	3.076	0.311	3.104	0.607	2.529	0.691	3.972	0.998	2.343	0.514
69	2.668	0.257	2.830	0.252	2.784	0.497	2.268	0.584	3.607	0.831	2.058	0.409
70	2.434	0.208	2.601	0.203	2.491	0.406	2.031	0.494	3.270	0.690	1.807	0.324
71	2.217	0.169	2.386	0.163	2.224	0.330	1.818	0.416	2.959	0.571	1.587	0.257
72	2.016	0.136	2.185	0.130	1.984	0.268	1.627	0.351	2.673	0.470	1.396	0.204
73	1.832	0.109	1.999	0.104	1.769	0.217	1.456	0.295	2.413	0.386	1.232	0.161
74	1.664	0.088	1.827	0.082	1.578	0.176	1.306	0.248	2.176	0.316	1.092	0.127
75	1.512	0.070	1.669	0.065	1.409	0.142	1.175	0.208	1.959	0.257	0.972	0.100
76	1.373	0.056	1.522	0.051	1.259	0.114	1.058	0.174	1.764	0.209	0.872	0.079
77	1.247	0.044	1.388	0.040	1.127	0.091	0.956	0.144	1.589	0.168	0.788	0.062
78	1.134	0.035	1.265	0.031	1.012	0.073	0.867	0.119	1.428	0.135	0.717	0.048
79	1.033	0.027	1.155	0.024	0.913	0.058	0.790	0.098	1.287	0.108	0.659	0.037
80	0.945	0.021	1.058	0.018	0.828	0.045	0.724	0.079	1.163	0.085	0.611	0.029
81	0.872	0.016	0.976	0.014	0.758	0.035	0.669	0.063	1.060	0.065	0.572	0.022
82	0.824	0.012	0.919	0.010	0.715	0.026	0.632	0.048	0.983	0.048	0.548	0.016
83	0.761	0.008	0.841	0.007	0.665	0.018	0.595	0.034	0.886	0.033	0.526	0.011
84	0.635	0.005	0.691	0.004	0.567	0.011	0.526	0.021	0.719	0.020	0.486	0.006
85	0.230	0.003	0.285	0.002	0.151	0.007	0.092	0.014	0.304	0.011	0.047	0.004

Table 7. Worklife Expectancy with Unemployment as a Unique State: Females by Education (Multinomial Logit Model)

Age	Less than High School			High School			College		
	Employed	Unemployed	Inactive	Employed	Unemployed	Inactive	Employed	Unemployed	Inactive
16	23.053	21.998	21.673						
17	22.590	21.506	21.164	32.894	31.773	31.309			
18	22.143	21.041	20.660	32.300	31.145	30.645			
19	21.681	20.648	20.144	31.702	30.511	29.992			
20	21.225	20.143	19.624	31.098	29.878	29.328			
21	20.789	19.633	19.126	30.495	29.231	28.654			
22	20.347	19.176	18.626	29.905	28.563	27.942			
23	19.950	18.749	18.135	29.261	27.927	27.237	33.474	32.626	31.332
24	19.558	18.278	17.628	28.614	27.321	26.513	32.627	31.786	30.372
25	19.158	17.846	17.121	27.965	26.646	25.798	31.790	30.911	29.405
26	18.773	17.334	16.621	27.320	25.969	25.087	30.960	30.057	28.448
27	18.394	16.821	16.101	26.670	25.325	24.378	30.142	29.222	27.479
28	18.032	16.252	15.603	26.010	24.692	23.654	29.337	28.416	26.478
29	17.654	15.814	15.137	25.349	24.036	22.928	28.545	27.589	25.558
30	17.263	15.354	14.631	24.680	23.360	22.189	27.765	26.723	24.663
31	16.898	14.846	14.119	24.001	22.631	21.449	26.995	25.950	23.762
32	16.481	14.293	13.597	23.314	21.906	20.681	26.235	25.078	22.879
33	16.047	13.797	13.071	22.618	21.166	19.910	25.477	24.240	22.068
34	15.596	13.324	12.527	21.913	20.475	19.125	24.718	23.505	21.295
35	15.138	12.862	11.978	21.201	19.743	18.330	23.957	22.761	20.503
36	14.658	12.297	11.458	20.483	18.994	17.517	23.188	21.982	19.737
37	14.183	11.796	10.918	19.761	18.182	16.685	22.411	21.181	18.979
38	13.718	11.221	10.351	19.033	17.394	15.833	21.623	20.369	18.198
39	13.244	10.707	9.783	18.304	16.602	14.984	20.827	19.609	17.397
40	12.793	10.224	9.208	17.572	15.831	14.143	20.021	18.862	16.615
41	12.363	9.692	8.659	16.837	15.104	13.317	19.208	18.135	15.813
42	11.948	9.134	8.077	16.104	14.326	12.494	18.389	17.385	14.980
43	11.524	8.640	7.496	15.373	13.516	11.658	17.570	16.589	14.084
44	11.079	8.216	6.930	14.650	12.746	10.809	16.751	15.675	13.182
45	10.631	8.003	6.343	13.935	11.991	9.994	15.936	14.847	12.272
46	10.197	7.450	5.765	13.229	11.328	9.196	15.127	14.019	11.343
47	9.788	6.816	5.174	12.534	10.628	8.425	14.328	13.183	10.428
48	9.375	6.140	4.583	11.849	9.883	7.659	13.542	12.324	9.529
49	8.937	5.474	4.069	11.180	9.129	6.899	12.773	11.495	8.617
50	8.478	5.269	3.612	10.529	8.394	6.166	12.023	10.750	7.718

Age	Less than High School			High School			College		
	Employed	Unemployed	Inactive	Employed	Unemployed	Inactive	Employed	Unemployed	Inactive
51	8.021	5.011	3.217	9.895	7.711	5.465	11.296	9.907	6.884
52	7.603	4.627	2.851	9.284	7.137	4.819	10.590	9.039	6.117
53	7.213	4.114	2.494	8.692	6.497	4.244	9.909	8.256	5.392
54	6.805	3.517	2.171	8.119	5.892	3.688	9.253	7.558	4.687
55	6.389	3.222	1.878	7.563	5.282	3.177	8.620	6.964	4.064
56	5.987	2.997	1.618	7.034	4.623	2.712	8.016	6.377	3.457
57	5.613	2.842	1.399	6.521	4.249	2.299	7.436	5.806	2.915
58	5.274	2.818	1.191	6.043	3.805	1.948	6.882	5.183	2.445
59	4.916	2.539	0.991	5.581	3.382	1.634	6.356	4.551	2.045
60	4.563	2.113	0.830	5.143	3.057	1.362	5.849	4.030	1.660
61	4.182	1.727	0.692	4.722	2.659	1.124	5.366	3.579	1.346
62	3.827	1.520	0.566	4.320	2.238	0.904	4.881	3.248	1.085
63	3.528	1.347	0.453	3.931	2.011	0.722	4.403	2.828	0.862
64	3.240	1.052	0.347	3.566	1.696	0.559	3.942	2.185	0.661
65	2.972	0.904	0.258	3.195	1.406	0.419	3.494	1.906	0.505
66	2.684	0.696	0.184	2.838	1.057	0.301	3.039	1.623	0.373
67	2.325	0.477	0.125	2.445	0.828	0.203	2.590	1.322	0.250
68	1.914	0.235	0.074	1.992	0.585	0.120	2.080	0.975	0.146
69	1.395	0.126	0.036	1.442	0.326	0.055	1.487	0.595	0.071
70	0.732	0.055	0.009	0.749	0.106	0.015	0.766	0.219	0.020

Table 8. Worklife Expectancy with Unemployment as a Unique State: Males by Education (Multinomial Logit Model)

Age	Less than High School			High School			College		
	Employed	Unemployed	Inactive	Employed	Unemployed	Inactive	Employed	Unemployed	Inactive
16	30.723	29.655	29.147						
17	30.248	29.176	28.582	37.959	36.802	36.004			
18	29.756	28.672	28.032	37.301	36.110	35.334			
19	29.250	28.194	27.437	36.628	35.431	34.643			
20	28.730	27.618	26.835	35.939	34.771	33.955			
21	28.206	27.055	26.168	35.232	34.081	33.277	39.275	38.184	37.997
22	27.639	26.519	25.511	34.514	33.364	32.561	38.393	37.354	37.062
23	27.061	25.881	24.831	33.768	32.639	31.826	37.506	36.442	36.159
24	26.412	25.252	24.137	33.005	31.879	31.050	36.615	35.553	35.242
25	25.731	24.555	23.466	32.221	31.090	30.242	35.721	34.663	34.309
26	25.034	23.744	22.732	31.417	30.298	29.413	34.827	33.818	33.338
27	24.324	22.963	21.938	30.596	29.496	28.540	33.921	32.988	32.414
28	23.605	22.158	21.130	29.764	28.668	27.636	33.012	32.114	31.514
29	22.878	21.442	20.284	28.929	27.790	26.658	32.101	31.206	30.595
30	22.152	20.645	19.504	28.091	26.905	25.654	31.188	30.288	29.624
31	21.441	19.774	18.615	27.249	26.029	24.667	30.275	29.331	28.668
32	20.725	19.007	17.666	26.408	25.179	23.666	29.361	28.435	27.672
33	20.024	18.220	16.776	25.568	24.300	22.685	28.449	27.536	26.681
34	19.343	17.440	15.786	24.727	23.435	21.746	27.536	26.595	25.708
35	18.649	16.814	14.914	23.884	22.563	20.802	26.624	25.668	24.645
36	17.955	16.133	14.055	23.045	21.691	19.859	25.715	24.726	23.616
37	17.278	15.418	13.185	22.207	20.844	18.956	24.810	23.770	22.515
38	16.614	14.694	12.338	21.372	19.996	18.086	23.908	22.850	21.451
39	15.973	13.975	11.442	20.538	19.170	17.197	23.009	21.925	20.425
40	15.337	13.368	10.707	19.707	18.337	16.297	22.114	21.047	19.419
41	14.708	12.517	10.020	18.881	17.471	15.345	21.223	20.135	18.414
42	14.092	11.895	9.293	18.064	16.612	14.362	20.337	19.212	17.408
43	13.480	11.196	8.655	17.255	15.763	13.372	19.458	18.336	16.349
44	12.897	10.530	7.959	16.456	14.892	12.352	18.586	17.446	15.403
45	12.322	9.831	7.320	15.668	14.046	11.411	17.720	16.553	14.430
46	11.739	9.211	6.753	14.890	13.214	10.506	16.864	15.667	13.451
47	11.164	8.615	6.180	14.121	12.452	9.643	16.016	14.764	12.491
48	10.582	8.070	5.654	13.365	11.661	8.801	15.179	13.919	11.512
49	10.020	7.392	5.110	12.622	10.864	7.984	14.354	13.036	10.582
50	9.455	7.007	4.553	11.891	10.036	7.264	13.542	12.187	9.659

Age	Less than High School			High School			College		
	Employed	Unemployed	Inactive	Employed	Unemployed	Inactive	Employed	Unemployed	Inactive
51	8.908	6.472	3.989	11.168	9.310	6.628	12.745	11.371	8.742
52	8.387	6.026	3.438	10.460	8.516	6.022	11.963	10.560	7.894
53	7.874	5.513	2.947	9.766	7.820	5.433	11.197	9.746	7.109
54	7.375	5.057	2.515	9.089	7.127	4.850	10.452	8.929	6.321
55	6.889	4.608	2.155	8.431	6.448	4.241	9.725	8.169	5.596
56	6.424	4.007	1.820	7.786	5.724	3.685	9.019	7.461	4.859
57	5.950	3.497	1.530	7.163	5.067	3.147	8.334	6.710	4.182
58	5.513	3.107	1.257	6.574	4.403	2.663	7.672	6.075	3.521
59	5.129	2.705	1.063	6.013	3.870	2.226	7.033	5.446	2.959
60	4.760	2.275	0.923	5.483	3.279	1.815	6.422	4.792	2.457
61	4.416	1.847	0.810	4.995	2.787	1.451	5.834	4.292	1.994
62	4.066	1.495	0.695	4.533	2.350	1.157	5.267	3.791	1.577
63	3.734	1.243	0.575	4.099	1.994	0.904	4.731	3.220	1.250
64	3.407	0.982	0.459	3.668	1.757	0.700	4.217	2.675	0.944
65	3.078	0.974	0.365	3.258	1.428	0.517	3.713	2.196	0.698
66	2.761	0.942	0.274	2.863	1.091	0.370	3.215	1.765	0.500
67	2.407	0.776	0.189	2.457	0.871	0.248	2.714	1.326	0.336
68	1.969	0.572	0.117	1.993	0.613	0.146	2.163	0.893	0.195
69	1.431	0.368	0.053	1.442	0.371	0.067	1.536	0.499	0.088
70	0.742	0.158	0.015	0.750	0.142	0.018	0.796	0.146	0.025