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# Worklife Expectancy and Disability

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## I. Introduction

Typically, individuals do not work throughout a lifetime. The majority retire by age 65, with some working to age 70, and a very few working beyond age 70. Worklife expectancy is influenced by such factors as death, disability, level of educational attainment, and unemployment or withdrawal from the work force. The variability that exists among workers in terms of labor force participation led to the use of worklife expectancy tables when assessing lifetime capacity to work and earn money. In 1988, worklife expectancy tables for the disabled were published for the first time (Gamboa). The new tables profited from previous worklife expectancy models and are unique in that they apply to the disabled many of the methodologies found in these models.

When presenting data on the new worklife tables, it is helpful to view them in the context of previously existing worklife models. The model currently used by the U.S. Department of Labor (DOL) is the product of several revisions since the 1950s; it computes worklife expectancy for persons of a given age and sex by race or educational attainment (U.S. Department of Labor, 1986). Considered are the probabilities of life and participation. The probability whereby the number of persons alive at a given age is calculated in relation to the number living through that age to the next. The concept gives credit to an individual for surviving; hence, a 78-year-old living male has a life expectancy of 7.7 years, even though he has already exceeded the life expectancy for average males. When the probability of life for each year from age 26 through age 85 is considered for all males, the 60 separate probabilities of life yield a number of 47.1, representing life expectancy for 26-year-old living males.

The conventional model computes a worklife expectancy in a similar manner by examining persons at varying age levels to determine those who are participating versus those who are not. The rate of participation is converted into a probability of participation by age group. The probabilities of life and participation are combined into a joint probability, and when these joint probabilities are added, a worklife expectancy, stated in years, results.

In addition, the DOL model examines worklife expectancies for those who are active and inactive and notes a diversity of worklife expectancy based thereupon. Active persons (persons participating in the labor force) have a greater worklife expectancy than individuals who are in-active (U.S. Department of Labor, 1982). Finally, the DOL model provides worklife estimates based on sex and race or based on sex and level of educational attainment. These tables report the discrepancy between males and females in terms of worklife expectancy and the variance of worklife expectancy based on level of educational attainment (U.S. Department of Labor, 1986).

In 1983, an alternative model of worklife expectancy was introduced by Brookshire and Cobb. It utilizes Department of Labor data in terms of life (L), participation (P), and employment (E) to compute a series of joint probabilities for each year of life by age, race, and sex;

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the model is called the LPE Approach. The authors noted that the conventional model of worklife expectancy ignored unemployment and that the LPE model is more conservative than the model offered by the government.

The LPE Approach to worklife expectancy was expanded to include disabled persons in a publication by Brookshire, Cobb, and Gamboa (1987). A joint probability of participation and employment for all disabled persons was introduced, and the differences between the lifetime expected earnings of disabled and nondisabled persons as a result of reduced worklife expectancy were noted.

Ongoing research suggests that the most important event or condition that affects the worklife expectancy of a surviving person is disability. Only three out of every ten people meeting the government's definition of disability are in the labor force, with 86.9% of those participants actually employed. Worse still, 56.1% of disabled people meet the government's definition of severe disability, and just one in ten in this group is participating. Of that group, only 53.7% are employed (Bowe).

The U.S. Department of Commerce, Bureau of the Census, gathers information during the Current Population Surveys (CPS) pertaining to the participation rates and employment rates of disabled and nondisabled individuals by sex and level of educational attainment. In conducting the CPS, disabled individuals are defined as those having a "health problem or disability which prevents them from working or which limits the kind or amount of work they do." In addition, persons with service-connected disabilities and those who either retired or left a job for health reasons were identified as disabled. Also, persons meeting the following criteria are identified as severely disabled by the Census Bureau:

1. Did not work in previous week because of long-term physical or mental illness or disability which prevents the performance of any kind of work (based on response to "main activity last week" question on the basic CPS questionnaire).
2. Did not work at all in previous year because ill or disabled (based on response to "reason did not work last year" question on the March Supplement).
3. Under 65 years of age and covered by Medicare.
4. Under 65 years of age and a recipient of Supplemental Security Income (U.S. Department of Commerce, p. 3).

The data collected allowed for the development of worklife expectancy tables for the disabled. Such tables are desirable because, as previously noted, persons who meet the definition of occupational disability are significantly less likely to be employed or actively seeking employment; they represent a distinct group and should be treated separately for purposes of worklife expectancy.

Using data for the 1983 CPS, new worklife expectancy tables for disabled and nondisabled persons were developed using the LPE model (Gamboa). The tables examine worklife expectancy for both disabled and nondisabled persons by sex and level of educational attainment. In addition, worklife expectancy is reported for persons by race and disability status.

The tables reveal dramatically discrepant worklife expectancies for disabled and nondisabled persons. Table 1 shows these differences for 45-year-old men and demonstrates

how low levels of educational attainment in combination with occupational disability produce the lowest worklife expectancies. Conversely, the highest levels of worklife expectancy for disabled persons exist for those with four or more years of college.

TABLE 1

Worklife Expectancies of 45-year-old Men  
by Race, Education, and Disability Status

(from Gamboa, 1988)

Education	Nondisabled		Disabled	
	White	Black	White	Black
< 8 years	16.363	15.053	3.401	3.127
8 years	16.272	14.965	4.712	4.372
1-3 years High School	17.039	15.660	5.639	5.203
High School Graduate	17.647	16.216	7.095	6.596
1-3 years College	18.466	16.928	7.721	7.075
College Graduate	19.884	18.114	12.271	11.333

The individual using the new worklife tables must bear in mind that these tables, like other worklife tables, are based on averages. If applied to a particular individual or circumstance, the new worklife tables are effective to the degree that the person using them understands how a particular subject may vary from the averages presented in the tables. For example, one can reasonably assume that the worklife of a deceased 40-year-old female worker with an unbroken 22 year work history and an impeccable work attendance record would have exceeded the averages presented in a worklife table. Similarly, those using the new worklife tables geared specifically to the disabled must not assume that every person meeting the government definition of disability has a worklife expectancy of the average disabled person presented in the table. In many cases, the worklife expectancies of a disabled person will fall somewhere between the worklife expectancies presented for average disabled and nondisabled persons.

With the above caveat in mind, the new worklife tables represent a significant step forward in efforts to assess the worklife expectancy of those who meet the definition of disability. They aid in demonstrating the contrast existing between disabled and nondisabled persons in terms of worklife expectancy at all levels of educational attainment.

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