



The effect of disability on earnings and worklife expectancy

Lower levels of employment and reduction in earnings are two issues affecting the worklife expectancy of the disabled

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The focus of this article is on the *disparity in earnings and worklife expectancy* existing for persons who meet the definition of disability. We know two things about persons with a disability. On average, persons with a disability who work year-round and full-time experience a reduction in earnings when compared to non-disabled counterparts. This is true for both men and women at all levels of educational attainment. The earning disparity that exists has been replicated in numerous macro studies conducted by the U.S. Census Bureau including the Survey of Income and Program Participation, the March Supplement to the Current Population Survey, the American Community Survey, and the Decennial Census.

We also know that persons with a disability who work year-round and full-time experience lower levels of employment than those without a disability. Employment levels form the building blocks of a worklife expectancy. It is generally recognized within the vocational community that disability reduces employment and hence worklife expectancy. Because this fact also makes intuitive sense, jurors accept reduction in worklife expectancy as a function of disability. (Gamboa, Anthony M Jr., et al. "A Vocational Economic Rationale." *Estimating Earning Capacity: A Journal of Debate and Discussion* 2, no. 2 (2009): 97-123.)

This is the second in a series of five articles on the determination of damages from loss of future earning capacity in cases of partial disability.

The focus of the first article was on *earning capacity*; the third will revisit and update information from the article "What the Infant or Child Could Have Been" (Gamboa, Anthony Jr., Ph.D. *Trial*, September 1986.); the fourth will focus on defining earning capacity loss for a partially disabled worker who has *returned to work* earning more money than was earned prior to the injury in question; and the final article will focus on present value of future earnings.

Part 1 can be found at www.plaintiffmagazine.com. If you would like a prepublication copy of any future article in this series, please contact editor@plaintiffmagazine.com.

Earnings Disparity Data

Table 1 examines earnings for males and females at three different levels of educational attainment: high school diploma, baccalaureate degree, and professional degree. Column 1 reports earnings for those with no disability. As expected, the earnings for year-round, full-time employed workers increases as

a function of educational attainment.

Column 2 reports earnings data for persons with a physical disability. An inspection of the table reveals significant differences in earnings for year-round, full-time employed persons who are without disability vis-à-vis those with a physical disability. (It should be noted that earnings data for individuals with cognitive disabilities also exist, but we are limiting our discussion in this article to physical disabilities for the sake of simplicity.)

In examining the earnings disparity, it is important to note that while higher levels of educational attainment increase earnings, the earning differences for those without and with a physical disability is significant. In fact, the earning disparity increases as a function of advanced levels of educational attainment. The greatest disparity exists for those persons with a professional degree.

Physical disability is defined in the American Community Survey (ACS), conducted by the U.S. Census Bureau. It is a macro study with a sample size of approximately five million persons per year. The physical disability grouping consists of those persons identified in the ACS as having problems with lifting, carrying, climbing stairs, etc. The professional degree category includes those persons with a doctorate such as physicians, lawyers, veterinarians, chiropractors,

TABLE 1
Annual Earnings

	No Disability	Physical Disability
Females, high school diploma	34,643	32,493
Males, high school diploma	48,629	45,792
Females, baccalaureate degree	62,343	55,362
Males, baccalaureate degree	91,299	74,751
Females, professional degree	112,683	83,045
Males, professional degree	181,489	126,081

Source: American Community Survey



dentists, etc., but not professors or researchers.

It is important to note that workers with a baccalaureate degree and workers with a professional degree are typically engaged in work of a sedentary or light nature. Nevertheless, the data indicates that the earning effect of disability is greatest at those levels demanding greater degrees of educational attainment.

The reason why this is the case is debatable. While some believe that the earnings differential is a reflection of discriminatory effects of the marketplace, we believe that the discriminatory effect, while it exists, is minimal. It is our belief that the primary cause of the differential earnings is a function of decreased productivity. Many persons with a physical disability work in pain. Anyone who has ever worked in pain will acknowledge that on bad pain days productivity decreases. Persons who work continuously in pain likely experience decreased levels of productivity; hence, they are likely to receive fewer and smaller salary increases over time.

Thus, while historically physical limitations have not been thought of as a detriment to earnings if the individual had a college degree or more, this is conventional wisdom that has proven to be incorrect. This is not to say that it is not worthwhile for an individual who has sustained an injury to undergo vocational retraining. While their post-injury earnings may be greater than they otherwise would have been, there still will likely be a significant disparity in earnings as compared to individuals with similar age, gender, and level of educational attainment but without a disability.

While the issue of earning disparity is significant, it pales in comparison to the worklife expectancy differential existing for persons without vis-à-vis persons with a disability. In order to understand

TABLE 2
Worklife Expectancy

	No Disability	Physical Disability
Females, age 25, high school diploma	28.3	18.2
Males, age 25, high school diploma	34.1	19.8
Females, age 25, baccalaureate degree	31.5	26.5
Males, age 25, baccalaureate degree	36.9	27.7
Females, age 25, professional degree	35.0	26.9
Males, age 25, professional degree	40.4	32.0

Source: 2010 Gamboa Gibson Worklife Table

fully the significance of the worklife expectancy differential, it is necessary to understand the way in which a worklife expectancy is computed.

Defining worklife expectancy

The notion of discounting an individual's future earning capacity by the probability of being alive and employed first appeared in the appellate court decision *Margaret O'Shea v. Riverway Towing Company* (1982) 677 F.2d 1194. Judge Richard A. Posner, the author of the decision, proposed the procedure for estimating future earnings by using probability statistics. For example, if the probability of the plaintiff being employed in 2011 is 75 percent and the plaintiff's earning capacity is deemed to be \$100,000 in that year, the value of the loss of future earning capacity for that year would be \$75,000.

In 1982, the data did not exist in a usable form to provide the type of calculations contemplated by Judge Posner. However, in 1983, Brookshire and Cobb introduced the Life, Participation, Employment (LPE) model, which was later refined by Brookshire, Cobb, and Gamboa to include persons with a work disability (Brookshire, Michael L., William E. Cobb, and Anthony M. Gamboa. "Work-Life of the Partially Disabled." *Trial*, 1987). Worklife expectancy is like a life expectancy; it

is a statistical average, derived by summing a series of joint probabilities of life, participation, and employment (LPE) from a given age through age 89. The sum of the joint probabilities is expressed in years.

Worklife Expectancy Disparity Data

While earnings differ for men and women without disability and with a physical disability, the worklife expectancy values for each vary more significantly. Table 2 examines worklife expectancy values for 25-year-old males and females by level of educational attainment and disability versus non-disability status.

An inspection of the table reveals significant reductions in worklife expectancy as a function of physical disability. The reduction in worklife expectancy typically accounts for the majority of the future loss of earning capacity.

Conclusion

In general, vocational experts are long on opinion but short on facts. It is a fact that persons with a disability, regardless of how disability is defined, experience lower levels of employment. It is a fact that persons with a disability, regardless of how disability is defined, earn less on average than their non-disabled counterparts. These two facts are true for men and women at all levels of educational attainment.

In applying a worklife expectancy value to a specific individual, professional judgment or clinical judgment is often required. A specific individual with a physical disability may be better than or worse than the statistical average for his or her cohort group. It is the vocational expert who can opine on whether or not a specific individual will be better off or worse off than the statistical average for his or her cohort group in terms of future employability.



The issue of worklife expectancy is the single most critical issue in cases involving persons with physical disability who are either employed or clearly capable of employment. Even if an individual has returned to work earning more money than he or she has ever earned, it should not be assumed that there is no loss of future earning capacity.

A vocational assessment measures what is likely to occur over the lifespan, and what the data tell us is that the disability decrement increases significantly as the aging process unfolds. The differences at 25 years of age are minimal, but at 55 years of age the differences are profound and significant. What this means is that much of the worklife expectancy reduction is a

function of persons exiting the labor market earlier than they would have, absent the injury.

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