

Measurement issues of Loss of Earning Capacity due to Personal Injury

Juan A. Villeta-Trigo, Ph.D.

Abstract: This essay discusses controversial issues related to professional practice in the field of forensic economics and litigation in Puerto Rico. The issue is the method titled "LPE", meaning the probability of employment expressed in terms of employment, "E", of labor force participation on "P", and, Probability of being alive, "L". The LPE method will be evaluated in terms of appropriateness, its benefits and costs, as well as its measurement and data availability.

Introduction

The emphasis of on the investigation is on the measurement issues relevant to earnings capacity of persons. As background research for the methodological approach and its relevance, the timely publication of *Forensic Economics: Assessing Personal Damages in Civil Litigation*, Editor: F. Tinari - Palgrave Macmillan, New York, NY was an added benefit. Such book of readings included three ground base articles which are: Tinari, F.D., (2016), *An Introduction to the Field of Forensic Economics*; Editor, F. Tinari; pp: 1-17; Stephen Horner and Frank Slesnick, (2016), *The Meaning of Earning Capacity*, Editor, F. Tinari, pp: 19-32; and, Lawrence M. Spizman, (2016), *Estimating Educational Attainment and Earning Capacity of a Minor Child*; Editor, F. Tinari, pp: 75-88. These three essays were invaluable for discussion of the issue at hand: LPE, the probability of employment, expressed in terms of Employment, E, Labor force participation, P, and being Alive, L, or LPE.

This article evaluates the appropriateness of LPE, its benefits and costs as well as issues related to measurement and data availability. The discussion centers on six areas: Personal Injury; Earning Capacity, What is Earning Capacity, Impact of Personal Injury, Assessing damages of injured minors, and, Modeling and Critique. In the paragraphs that follow, each area will be presented and explained in detail. The first two areas to be discussed are personal Injury and Earning Capacity.

Economists view individuals as assets that can generate a stream of current and future earnings. Factors like age, education, training, race, occupation, industry and

health can impact these earnings. Each person's work life can be cut short by disability or injury. Damages as a result of injury have been estimated since the 18th century.

The earnings determination of an injured person entails calculating the present value of the economic losses: from the moment the injury occurs, and, projected into the future. Nevertheless, the key question is: What is Earning Capacity?

A broad definition is as follows: The Ability to earn or achieve certain monetary gains, or even, what a person would have been capable of earning before the injury or incident.

Horner & Slesnick (2016) established that:

“Earning capacity is a legal economic concept” (p. 19), and

“Earning capacity of a worker who chooses to maximize the expected present value of future actual earnings” (p.21)

Properly, there is a need to estimate future earnings. In this respect, the factors that affect the estimate of future earnings can be grouped under three categories: the first category is past earnings or earnings prior to injury; here, there are two concerns: Was, work history sporadic? Or, was a new entrant to workforce? The second category considers that, are there opportunities for promotions? And the third category addresses, what is expected incumbency in the position?

It should be pointed, also, that the estimates of earnings must comply with two requirements: one need not be speculative, and two, the estimates should have a degree of certainty.

Next, should evaluate the third area, the Impact of Personal Injury - In particular, evaluate for an individual, his/her's mental and physical abilities. That is, if he/she has inherited and/or acquired and ability to earn money. Also; should ask if the person suffers a loss of mental and physical capabilities and if there is a corresponding decrease in his/her ability to earn income. Then, the concept of “Qualifying injury” or measuring loss in catastrophic injury cases, (sufficiently permanent), emerges as significant.

At this point, a general rule is established and it affirms that the Injury is permanent when it involves constant, visible loss or produces persistent symptoms into the future.

Parallel, a second evaluation is required in its relation to the Impact of Personal

Injury and the Participation in the labor market. It should be recognized at the outset that: one, the economic horizon of the disabled person has been shortened because of the injury sustained; two, the Inability to do a very specific job, or a type of work activity, and three, the Impairment to perform less specific work.

At this instance, emerges the concept of the Loss of Future Earning Capacity. The Losses of Earning Capacity in personal injury. Scott Gilbert (2018) affirms that:

“What a person could reasonably do work-wise”, and,

“How much income...earn if he/she used their skills and training”, (page 2)

On the other hand, the Loss of Future Earning Capacity, has to incorporate an important criteria: "the Period of time".

The Period of time person is what he/she would be expected to work (earning capacity) or would be expected to actually work (expected earnings). The uncertainty factors in an individual's working life or retirement at any given age have to be recognized; from one perspective, age it can be 65, 67, 70 years or retirement age and from another perspective, Injury or sickness prior to retirement age; or, voluntary retirement, or, chance of being unemployed for periods of time before reaching retirement age.

Once working life and its extensions are agreed upon, one can turn toward the fourth area, assessing damages of injured minors.

This area addresses the loss of future earnings for person yet to enter workplace. There is need to provide evidence of future market employability, extent of child's injuries, and for his/hers parents: their earning capacity, intelligence and work experience.

At this point, the forensic expert assessment demands the use of a number of specialists, to say, first the use of a Physician: who would establish proof of the permanence of injury; second, a Vocational Specialist: who would report on what can the infant do and its effect on its future employment; and third, an economist: who would determine the Quantification of loss.

Notwithstanding, the above mentioned demands, special considerations need to be ascertained. Two special considerations are the damages standards in a typical personal injury to a child. One consideration is the period or numbers of periods of time and what damage could be projected to occur, and a second consideration, (once the above

mentioned consideration is introduced), is what would be the number of years of the Child's shortened life expectancy.

After all the requirements, issues and considerations are presented, and evaluated, then a modeling approach can be chosen. There are various modeling approaches:

One approach was the statistical work life tables which establish the number of expected years in labor force, by age, sex, and education. These tables are published by the Department of Labor. Another approach is the LPE, a model of three factors: Probability of survival, labor market participation, and third, employment. A third approach is a Hybrid model: It incorporates elements of the first two models, work life tables and the LPE. It includes an estimate of expected work life; and such approach, retains assumption of being alive.

The second approach regarding The LPE and its methodology is widely used by economists in the litigation practices. This LPE method estimates the probability of employment, which can be expressed in terms of employment, "E", labor force participation, "P", and being alive, "L". Brookshire and Smith Journal of Forensic Economics (1990), recommends the LPE approach; and, Scott Gilbert (2018) acknowledges that:

"The LPE is the increasing function of the life probability and the conditional probabilities of employment and labor force participations."
(Page 6)

From his experiences, in Puerto Rico, R. Martinez Cuevas (2003) views that LPE is a new modality, and states:

"The only instance where the Supreme Court of Puerto Rico has used an earning capacity loss standard is in the case of disabled minors with no previous earnings record. The first case was *Ruiz Santiago v. E.L.A* (1985) and the court proposed the concept of impairment of the potential to earn income", and that:

"...these comments seem to implicitly endorse for minors the life, participation, and employment approach (LPE) favored by some forensic economists...a global approximate compensation"

"...and that avoids rigid application of mathematical formulas".

The LPE approach can be seen as one where, according Martínez Cuevas (2003).

“...we applied local income, life, participation, and employment statistics”, and adds that: “... an LPE approach that assumes that, absent the damage,...produces an estimate that happens to be very close to \$162,500 granted by the Supreme Court of Puerto Rico.” (Page 340) and concludes:

“This suggest a conservative bent of the court dominating the desire expressed in *Ruiz Santiago v. E.L.A.* (1985) to consider all sorts of socioeconomic information”, and that: “... may seem too low to mainland readers accustomed to working with the statistics of employment and participation in U.S.”, (page 340).

In sum, the LPE as a standard methodology faces number of questions/problems. One problem is:

"...problem with the LPE method is that the measures of participation include both voluntary and involuntary reasons for non-participation in the labor market." Ireland & Ward, (2002, p.12) and they add:

"More so, it is indeed unethical, “In personal injury cases, many forensic economists argue that the standard for recovery is not actual lost earnings, but lost capacity.”

“There is no perfect system for dealing with work life issues for earnings.” Ireland & Ward (2002, p.12)

The aforementioned criticisms establish the LPE estimates as cumbersome and difficult to use in showing variances. Still, the LPE approach is as conceptually sound as the other two methods.

An additional criticism is presented by Marshall & Ireland (2006) about the LPE:

“... It produces results that are hard for juries to adjust.”, “... depends on three joint conditional probabilities for each year of possible work life age 100; the damage estimate is a function of complex probabilities for each of those years.” (pp. 27) and that:

“... the jury confronts annual joint conditional probabilities and cannot easily use the derived fractions of years to make reliable adjustments for special characteristics of the worker.” (pp. 27).

The discussion about the Loss of Earning Capacity due to Personal Injury leads to three additional final comments.

First comment, “Lost Earning Capacity” refers to a decrease in a person’s ability to earn income. It is sometimes called “Future Loss of Earnings” or “Impairment of Earning Power”. The injury is permanent when it involves constant and visible loss or produces persistent symptoms into the future. But nevertheless, the Proof of damage for reduced earning capacity entails extensive documentation. Also, if Injury is permanent or long-term, then, it affects the capabilities and employment opportunities and the person cannot work at a specific position or cannot perform a type of class of activity.

The second comment, the controversy of the period of time, meaning either the period of time a person would be expected to work, (earning capacity), or the period of time a person would be expected to actually work (expected earnings), is highly sensitive and critical for the measurement of the loss of earnings.

And, the third comment, refers to the statement that the Lost Earning Capacity is determined through a complex calculation, which might require: reviewing the injured person’s work profile, including their skills, talents, abilities, and experience; but more so, hiring an expert medical witness to determine the extent of the injury and how it would affect future work.

Conclusions:

Economists have viewed individuals as assets that can generate a stream of current and future earnings. Factors like age, education, training, race, occupation, industry and health can impact these earnings. Each person’s work life can be cut short by disability or injury. Damages as a result of injury have been estimated since the 18th century. Over the years, there have been various modeling approaches:

One approach was the statistical work life tables which establish the number of expected years in labor force, by age, sex and education. Another approach used has been the LPE, a model of three factors: Probability of survival, labor market participation; and, third, employment. A third approach used resulted in a hybrid model: It incorporates elements of the first two models, work life tables and the LPE. It also included an estimate of expected work life; and retained the assumption of being alive.

The LPE approach is widely used by economists in the litigation practices. The

LPE method estimated the probability of employment, which WAS expressed in terms of employment, “E”, labor force participation, “P”, and being alive, “L”. Brookshire and Smith Journal of Forensic Economics (1990), recommended LPE; and, Scott Gilbert (2018) acknowledged that:

“The LPE is the increasing function of the life probability and the conditional probabilities of employment and labor force participations.”
(Page 6)

In sum, the use of the LPE approach as a standard methodology by forensic economists has confronted estimation and measurement issues. The further use of the LPE approach in litigating cases in courts is bound to bring additional measurement and data availability problems.

References

- Altmann, James, L. (1999) *The Interdependence of “P” and “E” in the LPE Methodology: A Caution to users about Possible Bias*, Journal of Forensic Economics 12(3), pp. 177-184.
- Brookshire, M.L & Smith, S.V. (2008). *Economic/Hedonic Damages*, 6th Printing 2008, The Practice Book for Plaintiff and Defense Attorneys, Institute for Value of Life, Chicago, 1990.
- Corcione, Frank P. & Robert J. Thornton (1998) *Forecasting Earnings Losses of The Disabled with The LPE Method*, Journal of Forensic Economics 11(2), pp. 115-120.
- Gilbert, Scott (2018) *Worklife Expectancy and Earning Capacity in Personal Injury Cases*, Southern Illinois University Carbondale.
- Horner, S.M & Slesnick, F. (1999) *The Valuation of Earning Capacity Definition, Measurement and Evidence*, Journal of Forensic Economics 12(1), pp. 13-32.
- Ireland, Thomas R. (2010) *Why Markov Process Worklife Expectancy Tales Are Usually Superior to the LPE Method*, Journal of Legal Economics, 9.5, April, pp. 1-10.
- Ireland, Thomas R. (2013) *Determining an Earning Basis for a Projection of Past and Future Lost Earning Capacity*, Journal of Legal Economics 19(2): pp. 47-63.
- Martinez-Cuevas, R. (2003) *Assessing Economic Damages in Personal Injury and Wrongful Death Litigation: The Commonwealth of Puerto Rico*, Journal of Forensic Economics 16(3), pp. 329-344.
- Payne, J. & Piette, M. (2000) *Comment: A Critique of the Joint Probability of Life, Participation, and Employment Approach*, Journal of Legal Economics, Fall, pp.10.
- Rodgers, J. D.; Brookshire, M. L. & Thornton, R. J. (1996) *Forecasting Earnings Using Age-Earnings Profiles And Longitudinal Data*, Journal of Forensic Economics 9(2), pp. 169-210.

Skoog, G. R. & Ciecka, J. (2004) *Reconsidering and Extending the Conventional/Demographic and LPE Models: The LPd and Lpi Restricted Markov Models*, Journal of Forensic Economics 17(1), pp 47-94.

Spizman, L & Floss, F.G (2002) *Loss of Self-Employment Earning Capacity*, Journal of Forensic Economics, vol. 12, #1 pp. 7-22.

Stephenson, Stanley R. (2013) *How Economists Compute Lost Earnings and Other Economic Damages in Personal Injury Cases*, Attorney Education Center, James Publishing, 58 pages.

Ward, John O. (1989) *Estimating Economic Loss if the Case of a Death of a Child*, Journal of Forensic Economics, vol. 2 #3 pp 19-29.