

Earnings Basis, Earning Capacity, and Worklife Expectancy by Thomas R. Ireland, University of Missouri at St. Louis, St. Louis Missouri.

This session will deal with three topics an economic expert must deal with when working in cases involving the projection of lost earnings in either personal injury or wrongful death circumstances or wrongful death circumstances: Establishing an earnings basis; the meaning of earning capacity; and understanding and using work-life expectancy.

Establishing an Earnings Basis

- Any projection of lost earnings, whether as expected earnings or earning capacity must be based on at least one starting earnings level that becomes the basis for projecting what a worker would have earned or would have had the capacity to earn after that starting year. Some projections may have more than one assumed basis income, but all projections must have at least one basis income.
- The existing literature regarding how to determine a basis income is limited. See Ireland (2013).
- *Sources of information that may be available:* (1) tax records; (2) employer records; (3) pay stubs retained by an injured worker in the injury year; (4) Social Security Earnings records (Railroad Retirement Board records for railroad worker; (5) union contracts; (6) earnings of persons similarly placed or on seniority rosters; (7) company-wide or industry-wide average earnings for persons with similar occupations; and (8) Bureau of the Census/Bureau of Labor Statistics from the Current Population Survey or the American Community Survey for persons of the same sex, age, and educational status. Some sources will not be available in any given case. Each source has limitations so that it is desirable to rely upon multiple sources.
- *Sample Earnings Records for Discussion*

	Record A	Record B	Record C	Record D
2007	\$27,000	\$27,000	\$27,000	\$27,000
2008	\$30,000	\$30,000	\$26,000	\$25,000
2009	\$28,000	\$15,000	\$25,000	\$28,000
2010	\$25,000	\$27,000	\$24,500	\$25,000
2011	\$27,000	\$36,000	\$24,000	\$30,000

- *How to construct an adjusted average earnings basis for past earnings.* This calculation uses record D and assumes that the adjusted average will be for a five year period. The goal is to express each of the five years of earnings in 2011 dollars. Thus, 2007 would require four years of increases to be equivalent to 2011. 2008 would require three years of increases. 2009 would require two years of increases. 2010 would require one year of increase. 2011 would not need to be increased. The results are the figures

shown as 2011 equivalents. Those figures are then averaged to arrive at a 2011 base estimate of \$28,068.

	Earnings	CPI Increase	Calculation of 2011 Equivalent	
2007	\$27,000	----	$\$27,000 \times 1.038 \times 0.994 \times 1.014 \times 1.032$	= \$29,181
2008	\$25,000	3.8%	$\$25,000 \times 0.994 \times 1.015 \times 1.032$	= \$26,030
2009	\$28,000	-0.6%	$\$28,000 \times 1.015 \times 1.032$	= \$29,329
2010	\$25,000	1.5%	$\$25,000 \times 1.032$	= \$25,800
2011	\$30,000	3.2%		= \$30,000
Average Earnings--Five Year Adjusted Average =				\$28,068

*Rates of CPI increase are taken from *The Economic Report of the President: 2012* Table B-63, page 391.

- *Errors and Omissions in Establishing Base Earnings*
 - (1) Failure to exclude spousal earnings from an earnings estimate.
 - (2) Failure to consider unusual payments in the last full year of earnings.
 - (3) Incorrect extrapolation from earnings in the year of the injury or death.
 - (4) Failure to consider seasonal factors in an extrapolation of earnings.
 - (5) Failure to consider unique circumstances that no longer apply.
 - (6) Reliance on statements of an injured plaintiff or requests from an attorney.
 - (7) Use of general statistics instead of actual earnings of an injured worker.
 - (8) Use of an hourly pay rate to establish basis earnings.
 - (9) Use of a best year of earnings as base earnings.
 - (10) Use of post-injury earnings to determine pre-injury earnings.

The Meaning of Earning Capacity

- *Earning capacity or expected earnings?* In a personal injury with a surviving injury victim the legal standard in all states is that a plaintiff may recover for his or her “earning capacity” or “power to earn” and not his or her “expected earnings.” This distinction does not necessarily carry over to loss of financial support calculations in wrongful death actions.
- *Is there a difference between “earning capacity” and “expected earnings?”* If so, what evidence would we have to have to establish the difference?

- *Examples where differences might exist.* False examples: College students; housewives; persons currently out of the labor market. These persons would be “expected” to have higher earnings when education is completed, children are in school, or the individual would be “expected to return to the labor market.” Real examples: Medical doctor earning \$300,000 takes a one year leave to work at \$100,000 in a poor neighborhood; Man with woodworking skills in great demand earns enough in six months to spend half of the year lying on beaches.
- *Do people with higher paying jobs who give up those jobs for more satisfying lower paying jobs retain the capacity for higher paying jobs?* Skills that result in higher paying jobs atrophy if individuals remain out of those jobs for periods of time.
- *How long can workers maintain overtime pay?* An injured worker may have had very high earnings, but did he have the capacity to do so for decades.

Understanding and Using Work-Life Expectancy

- *What does “work-life expectancy mean?* When lost earnings are being calculated, it must be for the period of time over which an individual would be expected to have earnings. This can be understood either as a finite number of year-equivalents or as a set of probability discounted set of fractional years. The concept is to make reductions for what are called “negative work-life contingencies.” Prior to reaching any desired retirement age, a worker might have died, might have been injured and unable to work, might have been ill and unable to work, might have been unemployed and unable to work, might have been prevented from working because of family obligations, or might have chosen to retire by that age. No existing measure of work-life expectancy takes into account all of these factors, but all methods used by forensic economists take some of those factors into account.
- *Methods used by forensic economists.* Forensic economists use a variety of approaches to dealing with work-life expectancy. Those methods include Markoff process tables (67.5%), tables of “median or mean years to final labor force separation” (4.2%), the LPE approach 3.0%, ending loss calculation at some fixed retirement date (7.8%) or some combination of the above methods (17.5%). See Slesnick, Luthy and Brookshire, 2013, Question 27, page 86. Of those methods, there is a substantial literature supporting only the Markov method and the LPE method, those are the only methods to be discussed in this presentation. Other methods may be used, but are not as well respected.
- *Markov method.* The Markov method entails estimating transitions between “active” and “inactive” statuses of workers. An “active” worker is a worker who is either employed or activity seeking employment in the commercial marketplace. This means that unemployment is not being taken into account and must be handled separately.
- *LPE Method.* The LPE method does not distinguish between “active” and “inactive” workers and is based on the average probability that a person in a given age,

sex, and educational category will survive in each year (L), will be a participant in the labor market each year (P) and will be employed if alive and a participant (E).

- *Status variables versus active variables in work-life expectancy calculations.* Worklife expectancy varies by age, sex, education and active vs. inactive status. Age is unique in that every year a given individual will become a year older so that it can be treated as a semi-active variable, but sex and education are unlikely to change in any one year. Whether a person is “active” or “inactive” is also a status variable, but workers can transition back and forth between being in the “active” status and being in the “inactive” status. The unique feature of the Markov model is the measurement and incorporation of estimates for transition between those statuses. The LPE allows changes between “active” and “inactive” statuses, assumes population-wide averages for each person in the population, regardless of whether he or she was active or inactive in the year before an injury or death. Age always increases by one year from one year to the next. Sex and educational status are assumed not to change.

- Usually, the Markov method is more accurate, but there are special circumstances when the LPE method would be more accurate. See Ireland (2010).

- What is wrong with the Gamboa-Gibson Work-life Expectancy Tables? See Ireland (2009).

- (1) CPS and ACS not designed to measure disability status.

- (2) LPE Method is not designed to measure transitions between disabled states.

- (3) Broad generic definitions of disability have no applicability to individuals with specific disabilities.

- (4) An analysis of how disability shortens work-life expectancy must provide a specific medical or vocational explanation for how and why the shortening of work-life will occur.

Forensic Advice from a Long-Time Forensic Economic Expert

- *The KISS Principle.* - Anything too complicated for a jury of high school graduates to understand is not going to be helpful if you testify. Even lawyers are not economic or financial experts.

- *Don't be Slick!* Some experts think that expensive suits, Rolex watches, and very mechanized Power Point presentations add to the power of their testimony. What matters is being understood and being thought of as a normal person who is down to earth, and being respectful of the process. Slickness creates suspicion. Polish suggests rehearsal. Very expensive clothing or jewelry creates distance.

- *Don't Take Sides!* You will take an oath to tell the truth, the whole truth and nothing but the truth. That should mean something. Once you utter those words, your job is to assist the jury in making the hard decisions it needs to make. You assist best when you remember that it is your job to answer questions, not to advocate for the side that has retained you. Don't let your retaining attorney put words in your mouth any more than you would let the opposing attorney do that. Demonstrate your credibility by doing your very best to listen to questions and answer them completely and fairly.
- *Treat the opposing attorney with respect.* You are being paid well to tolerate the slings and arrows of litigation and it is part of the opposing attorney's job to make you get angry or defensive if possible. Don't let it be possible by maintaining an attitude of calm confidence in yourself while being respectful even if you are not being respected.
- *Admit Mistakes Immediately!* If you testify long enough, you will make mistakes in some aspect of your calculations. Following Murphy's Law, you may find these at the worst possible time. Generally, making mistakes that will not badly hurt your career, but attempting to cover your mistakes will hurt you. It may be awkward to admit mistakes, but you are much better off to admit your mistakes when you find them and immediately volunteer the consequences for your calculations. Juries may forgive your mistakes. They won't forgive your efforts to be evasive in covering them.
- *Don't volunteer information.* Telling the truth, the whole truth, and nothing but the truth does not mean telling the jury everything that you know. It means answering the questions you were asked fully and completely. Going beyond that will seldom provide any benefit for anyone, particularly you.
- *Make sure you know what the questions are.* Forensic economics has a substantial literature. Make sure you know what is available in that literature. If others use methods different than yours, be sure you know about those other methods and why you prefer the method you use. Sources will be discussed at the end of this presentation.
- *Don't express opinions beyond your expertise.* You may "know" that smoking shortens life expectancy, but an accountant (or an economist) is not an expert on how smoking shortens life expectancy. Once you express an opinion in an area like this, you open up a Pandora's box that can be used to make you look foolish. You make a much better impression by pointing out that while you may have personal opinions that smoking shortens life expectancy, you are not an expert on that subject and have not made assumptions of your own about such effects.
- *Learn to write well.* It is very important to be able to explain how and why you made your damages calculations. Good writing is not beyond your grasp. It requires making sure that you have explained every step along the way thoroughly enough that someone with a high school education can understand what you did. You don't need to be able to write a great novel, just a clear and concise explanation that tells what you did to come up with your numbers. The secret to good writing of that type is practice, practice and more practice. Ask others to read your reports to see if they are clear, if they contain

extraneous material and if there are ways you could change your wording to make your explanations easier to understand. Then try to implement those suggestions.

- *Read relevant legal decisions.* Do not assume that the attorney who has hired you is an expert in the law of the venue for interpreting what are the rules for calculating economic damages. Ultimately, the attorney is a legal expert and you are not. You should never try to act as a legal expert. However, by reading the cases and legal instructions, you will become a much more helpful expert – especially when the attorney who has hired you is inexperienced.

General References Useful to a Forensic Economic Expert

Books:

Martin, Gerald D. *Determining Economic Damages*. Annually updated through 2012. James Publishing Company. Santa Anna, California.

Journals:

Journal of Forensic Economics. Published by the National Association of Forensic Economics. The JFE began publishing in September, 1987. Two issues per year. The most recent issue is Volume 24, Number , April 2014.

Journal of Legal Economics. Published by the American Academy of Economic and Financial Experts. The JLE began publishing in March 1991. Two issues per year. The most recent issue is Volume 20, Number 1-2, July 2014.

Litigation Economic Review/Digest. Formerly Published by the National Association of Forensic Economics. The LER began publishing in the fall of 1995 as the Litigation Economics Digest and ended publication as LER with issue Volume 6, Number 2, Summer 2004. This journal contains important early papers on a variety of topics in personal injury and wrongful death that may be helpful to an economic expert.

Specific Papers

Horner, Stephen M. and Frank Slesnick. 1999. “The Valuation of Earning Capacity: Definition, Measurement and Evidence, *Journal of Forensic Economics*, 12(1):13-32.

Ireland, Thomas R. 2012. “Determining Basis Earnings for a Projection of Past and Future Lost Earning Capacity,” *Journal of Legal Economics*, 19(2):47-63.

-----, 2010. “Why Markov Process Work-Life Expectancy Tables Are Usually Superior to the LPE Method.” *Journal of Legal Economics*, 16(2):95-110.

-----, 2009. “Why the Gamboa-Gibson Disability Work-Life Expectancy Tables Are Without Merit.” *Journal of Legal Economics*, 15(2):105-109.

Skoog, Gary R., James E. Ciecka and Kurt Krueger. 2011. "The Markov Process Model of Labor Force Activity: Extended Tables of Central Tendency, Shape, Percentile Points, and Bootstrap Standard Errors." *Journal of Forensic Economics*, 20(2):165-229.

Slesnick, Frank L., Michael R. Luthy, and Michael L. Brookshire. 2013. "A 2012 Survey of Forensic Economists: Their Methods, Estimates, and Perspectives." *Journal of Forensic Economics*, 24(1):67-99.

Organizations

Forensic economic journals can be purchased without memberships in NAFE and AAEFE, but the savings compared with acquiring memberships is quite small. The web addresses of each association are provided below. NAFE and AAEFE are organizations whose memberships are predominantly economists. Accountants are welcome in all both organizations. Websites make past issues of the journals available to all members without charge and to non-members at between \$15 and \$25 per article. Each organization also provides an electronic list on which members can pose questions and test ideas about specific aspects of forensic economics.

The American Academy of Economic and Financial Experts (AAEFE)
<http://www.aaefe.org/>

The National Association of Forensic Economics (NAFE)
<http://www.nafe.net/>

Legal Decisions Relevant to Forensic Economics

Synopses of legal decisions that would be of interest to forensic economic experts are listed, with case full case citations, in web pages maintained Thomas R. Ireland at <http://www.umsl.edu/~irelandt>. Other useful information is also provided at that website.

Final Consideration

Compared with forty years ago, the available literature in areas that relate to making economic damages calculations has become quite extensive. If you lack the necessary background and come up against an expert on the other side that has a fully developed background in this area, there is some danger that you will lose your future opportunities to work in this area. One case done badly at an early stage could end a budding career. Take the time to become fully prepared, if you have not already done so.