

Determining an Earnings Basis for a Projection of Past and Future Lost Earning Capacity

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Introduction

Any projection of lost earning capacity in a personal injury case or of lost earnings of a decedent in a wrongful death action contains four basic elements.

- (1) At least one earnings base value from which values for earnings in future years will be projected.
- (2) A specification of growth rates (or possibly rates of decline) in earnings from the date of injury or death to the present, or a future date of trial, that are used to determine past losses.
- (3) A growth rate (or rates) and a discount rate (or rates) for the purpose of determining the present value of future earnings, or a net discount rate that combines both a growth rate (or rates) and discount rate (or rates) for that same purpose.
- (4) A specification time periods (usually years) over which the earnings loss will occur (or have a worklife probabilities of occurring).

Much of the published literature of forensic economics focuses on different approaches economic experts have taken in dealing with (2), (3) and (4), but very little has been written about how economic experts go about and should go about determining basis earnings before (2), (3) and (4) are applied in projecting losses. The purpose of this paper is to provide extended discussion of different ways an economic expert can develop opinions about basis earnings. This paper will not discuss how projections are developed once base earnings figures are determined.

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The Meaning of an Earnings Base

An earnings base is a statement of the earning capacity in dollar amounts as of a given year, such as \$40,000 as of the year 2009. In some economic expert reports, it is clear what dollar earnings figure the expert is using as of what year to make projections of lost earnings after that year, but that figure is not identified as the “base earnings figure.” However, it is usually possible to figure out what earnings base value was used. In any given report of damages, there must be at least one base earnings figure, but there may be more than one figure. If the report is for an individual who has some amount of residual earning capacity, there must be at least two base figures – one base for projecting pre-injury earnings and one base for projecting post injury earnings. If the plaintiff or decedent has been killed or totally disabled by an injury, there will be no post-injury earnings and therefore a second base income is not needed. In some cases, however, more than one pre-injury base income will be needed. The term “scenario” is often used and there may be a different base income for each scenario for which an economic expert develops an estimate of earnings loss. It may also be assumed that the injured person or decedent would have had a promotion to higher pay at some date after the injury or death. Other examples exist such as assuming completion of an education or training program. In such cases, one base income would apply before the injury or death and another basis income would apply as of the projected date of the promotion (or education or training program). In this latter case, assumptions about future increases in earnings will not be based on economic expertise, but may be based on requests from attorneys or vocational opinions.

Sources of Information for Developing Base Earnings Estimates

The following types of information about a worker’s earnings are typically available: (1) tax records; (2) employer records; (3) pay stubs retained by the injured worker in the injury year; (4) Social Security records (Railroad Retirement Board records for railroad workers); (5) union contracts; (6) earnings of persons similarly situated or similarly placed on seniority rosters; (7) companywide or industry wide average earnings for persons with similar occupations; and (8) U.S. Bureau of the Census information from the Current Population Survey for persons of the same sex, age, and educational status. Each of these sources has limitations that must be considered when using that information.

Some sources in any given case will not be available. Union contracts and seniority roster information are only likely to exist for union workers, for example. Other sources may not be available for other reasons. A defense attorney may have requested tax records from

the plaintiff but not have received them. The plaintiff's attorney may have requested employer records but not have received them. There may not be time to get the Social Security or Railroad Retirement Board earnings record or the attorney for the defense may wish to avoid pressuring the attorney for the plaintiff to provide the necessary general information release form for strategic reasons. The plaintiff himself may not have kept tax records even though required by law to do so for three years. The occupation may not be a reasonable fit to any particular industry or the industry may be too small for any reliable industry wide averages to exist.

A forensic economist must learn how to work around all of these limitations, but the best approach is to make an effort to obtain all of these possible sources of information. Being able to explain clearly why a particular information source was not considered in arriving at a base income figure is almost as important as explaining which sources were considered. Thus, an effort should be made to obtain and examine all possible information sources when making an assessment of base earnings.

Limitations and Proper Examination of Each Source of Earnings Information

- (1) *Tax Records.* Tax records may consist of Federal Form 1040 tax returns, state income tax equivalents and W-2 or W-4 forms. If workers were involved as self owners of small businesses, corporate tax forms may also be relevant (Examples would include schedule C.)
- (2) *Employer records.* A forensic economist will often be provided with copies of employer records, which will include documents the employer has kept about that worker. This file may or may not contain a record of the employee's actual earnings by year, but may include information that would explain variations in earnings for a given year. For example, the file may contain a note indicating that the plaintiff was injured on a given date and returned to work on a subsequent date, or that the person was laid off between one date and another date and so forth.
- (3) *Pay stubs retained by the injured plaintiff or his family from the injury year.* While this information is often included in employer records, an injured worker or his survivors may have pay stubs from the year of the individual's injury or death. From a plaintiff's perspective, this is a superior source since it does not require obtaining records from another source. Pay stubs allow a forensic economist to determine the

timing of an individual's earnings, which is information that may not be available from other sources.

- (4) *Social Security records (Railroad Retirement Board records for railroad workers)*. The Social Security Administration maintains a complete record of an individual's reported taxable earnings over his or her lifetime by all employers. The Railroad Retirement Board does the same things for workers in the railroad industry. Every worker with earnings subject to either Social Security or Railroad Retirement System taxes is entitled to get a printed list of all qualifying earnings upon request. To do so requires that the injured party sign a request or sign a general information release form. The form is then submitted to the nearest Social Security or Railroad Retirement Office and a complete list of reported earnings is forthcoming in a few weeks.
- (5) *Union contracts*. If the injured person was a member of a labor union, the union contract may contain important pieces of information. Union contracts may be particularly helpful in specifying rates of wage increase for the short-term future and in developing information about job-related fringe benefits. However, they can also sometimes be helpful in establishing whether partial earnings for the year of an injury represent a typical or atypical rate of earnings.
- (6) *Earnings of persons similarly situated or similarly placed on seniority rosters*. If an injury, death or termination took place several years in the past, the earnings at that time may not be a good base earnings figure for calculating what the injured person would be earning today if still working. If other individuals have continued to work in similar positions for the same employer and the range of variation in their earnings is relatively small, average earnings for that group may be a reliable basis for projecting a current base earnings rate. If a worker had earnings that were consistently higher or lower than similarly situated workers, an indexing procedure can be used with group averages to develop estimates of the injured person's probable earnings since the injury. For example, if the worker consistently earned ten percent higher (or lower) earnings than the average for the comparison group for a five year period prior to an incident, it might be reasonable to project that he would have continued to have earnings that were ten percent higher (or lower) than the average earnings of the group in the period between the incident and the present.

- (7) *Company wide or industry wide average earnings for persons with similar occupations.* If earnings of persons similarly situated or similarly placed on seniority rosters is not available, it may be useful to use company wide or industry wide averages in a manner similar to that described for a group of workers who were similarly situated or similarly placed on a seniority roster. The danger is that as the group broadens, its reliability as a basis for estimating the probable earnings of an individual becomes weaker. Nevertheless, such information may be useful if readily available.
- (8) *Bureau of the Census information from the Current Population Survey or the American Community Survey for persons of the same sex, age, and educational status.* The final level of generality in available information is provided by information derived from the annual Current Population Survey (CPS) of the Bureau of the Census of the U.S. Department of Commerce. The most recent published version of that information is provided at the website of the U.S. Bureau of the Census at: www.census.gov/hhes/www/income.html. Current information from the American Community Survey (ACS) can be obtained at: <http://www.census.gov/acs/www/>.

Data from the ACS can also be obtained from Expectancy Data's *Full Time Earnings in the United States*, for which the most current edition is the 2011 Edition. That document can be obtained through placing an order at: <http://expectancydata.com/>. Both the CPS and the ACS surveys are very important sources of information for cases in which an individual had no earnings record to rely upon, as in cases of injured minors or injured homemakers (see also the paper by Larry Spizman in this issue of the journal).

Different Procedures for Establishing Base Earnings

After considering the available sources of information, an economic expert should state clearly the information sources that were directly relied upon for making all projections. If an earnings record exists, the years and past earnings figures for those years that were used in the compilation of a damage report should be listed in an expert's report. If the earnings record is to be supplemented by past earnings estimates based on earnings of similarly situated workers, workers similarly placed on seniority rosters, company wide averages or industry averages, the next step would be for that information to be indicated. Likewise, if the projection being made is to be adjusted for age-earnings effects, information that will be used for that purpose should also be included in an economic expert's report.

The process of establishing a base earnings figure at this point may be very simple and straight forward in many instances, but will be much more complicated in others. If a worker had been employed by the same employer for a number of years, it would normally be reasonable to expect that he or she would have continued working in the same or a similar job in the future. With employment of this type, it would be normal to expect that earnings would increase each year. Thus, if the earnings record shows regular increases from year to year, the most reasonable estimate of base earnings will be the most recent full year of earnings. If so, projected pre-injury earnings would be based on expected growth rates from the last full year for all future years unless promotions were assumed at some point in the future.

Procedures that should be used are much more complex and subject to different interpretation if the earnings record is not one of steadily increasing annual earnings. Consider the following earnings records over a previous five year period before the year of an incident:

	Record A	Record B	Record C	Record D
2008	\$27,000	\$27,000	\$27,000	\$27,000
2009	\$30,000	\$30,000	\$26,000	\$25,000
2010	\$28,000	\$15,000	\$25,000	\$28,000
2011	\$25,000	\$27,000	\$24,500	\$25,000
2012	\$27,000	\$36,000	\$24,000	\$30,000

Visual inspection suggests that the worker with Record A has earnings which vary, but there is no upward or downward pattern to the earnings. Record B suggests a worker who may have either important income variation or who may have suffered an earlier injury or illness in 2010 that the worker recovered from in 2011. A forensic economic expert would need to know what happened in 2010 and 2011 to determine which interpretation is more likely to be correct. Record C suggests a worker whose earnings are in a steady decline. If this worker was over the age of 50, this pattern may suggest that the worker would have had continuing declines in the future. Record D suggests a worker who simply has significant swings in annual earnings, but with a long term upward trend.

It is important to emphasize the term “suggests.” If a worker has had earnings increases every year throughout his work life, it is reasonable to assume that the worker is likely to continue to have such increases in the future. However, if a worker at age 30 has a five year record of continuing declines, it is much less reasonable to assume that the worker would be likely to have continuing declines in the future based on a normally expected age-earnings profile. If the worker is at

age 50, a five year record of continuing declines may make it more reasonable to assume continuing declines in the future. Likewise, some of the suggested interpretations offered for each of the other records listed above might turn out to be incorrect in light of more information from other sources. A key implication is that an irregular earnings record significantly increases the value of additional information.

Another key fact is that no statistically reliable conclusions can ever be drawn from five data points, which is all that is involved in a five year earnings record. Even a ten year pattern of irregular earnings does not provide statistically reliable basis for predicting a future pattern. A lifetime of regularly increasing earnings is statistically significant, but five years of irregular earnings is five data points until an interpretation is supplied to them. Unlike other aspects of forensic economic calculations, base earnings analysis will ultimately depend on the reasonableness of the interpretation of the economic expert in arriving at his or her estimates of base earnings.

For that reason, the discussion of earnings base determinations that follows should be regarded as providing examples rather than providing an inclusive list of possible treatments. For Record A, one projection might be based on the simple arithmetic average of the five years of prior earnings. Another projection might be based on using 2012 alone as a base year. Still another might use some form of adjusted average, by one of the methods discussed below. For Record B, one projection might be based on 2012 earnings, while another was based on a five year adjusted average of the five years of earnings. For Record C, one projection might be based on a simple arithmetic average, while another might be based on the average rate of decline over the four year period. For Record D, it might be reasonable to use projections based an adjusted average and on 2012 earnings.

Developing an Adjusted Earnings Base

The concept of an adjusted average.

The normal pattern for many workers is one of regular wage increases over time. Early in life, those wage increases offset increases in the Consumer Price Index and also provide productivity gains to workers. Those productivity gains are partly due to changes in supply and demand conditions or increases in labor productivity generally. Productivity gains for a given individual are also partly due to the acquisition of human capital by the individual worker through both seniority and job experience. For some workers, productivity gains resulting from seniority and job experience may continue throughout work life, but for others a plateau may be reached after which further improvements in personal productivity end. Continued physical deterioration through aging may result in physical declines in the

capacities of the worker. While a simple arithmetic average might be appropriate for the calculation based on Record A (and perhaps Record C), such a procedure would probably not be reasonable for records B and D unless other information warranted doing so. Since one would expect an upward trend in earnings, earnings figures for earlier years would normally be expected to be smaller than earnings for later years. To take an average of the five years of earnings data shown in Records B or D would be to determine an earnings rate the worker would have been expected to have as of 2008, not as of 2012, since 2010 would be the middle year of the five years being averaged. If the average is to be appropriate to 2012, some sort of adjustment must be made for increases that would normally have been expected from each earlier year to 2012.

A sample adjusted average calculation.

One example of an adjusted average calculation of a base income could be developing a 2012 equivalent for each of the five years being considered above. The 2008 figure could be increased by CPI adjustments for 2009, 2010, 2011 and 2012. The 2009 figure would be correspondingly increased by a CPI adjustment for 2010, 2011 and 2012. The 2010 figure would be increased by CPI adjustments for 2011 and 2012. The 2011 figure would be adjusted for a CPI adjustment in 2012. 2012 would not need to be adjusted. The five adjusted figures are then averaged to generate an adjusted average for 2012 as a base year. This set of operations is performed below on Record D:

	Earnings	CPI Increase	Calculation of 2011 Equivalent
2008	\$27,000	—	$\$27,000 \times .996 \times 1.016 \times 1.032 \times 1.021 = \$28,789$
2009	\$25,000	-.4%	$\$25,000 \times 1.016 \times 1.032 \times 1.021 = \$26,763$
2010	\$28,000	1.6%	$\$28,000 \times 1.032 \times 1.021 = \$29,503$
2011	\$25,000	3.2%	$\$25,000 \times 1.021 = \$25,525$
2012	\$30,000	2.1%	$= \$30,000$
Average Earnings—Five Year Adjusted Average = \$28,116			

*Rates of CPI increase are taken from *The Economic Report of the President: 2013* Table B-63, page 397.

This adjusted average as a base income for 2012 would then be increased at a rate of 2.1 percent (or some other estimated rate) for 2013 to obtain \$28,706, and so forth. In effect, this method involves calculating five different base earnings equivalents as of 2012 and averaging the five possible base earnings amounts, based on each of the five years of earnings.

If the CPI method of adjustment is used, the worker is not being given credit for any productivity gains over the four years from 2009

through 2012. Using an annual growth rate for all workers would probably be reasonably accurate for a worker in his 50's, but might understate the probable base earnings of a worker in his 30's. A worker in his 50's would not be expected to have productivity increases, but a worker in his 30's would be more likely to have such increases. In Record D, however, this does not appear to be a problem for the following reason: The adjusted value for 2008 and the actual value for 2012 are similar. The values for 2009–2011 vary both up and down. In other words, the adjusted figures no longer reflect any upward trend. This is an eyeball test for the reliability of the estimator. If a continuing trend is still apparent after a CPI adjustment of this type, it is likely that the source of the trend is productivity gains that had occurred from 2008 through 2012. That would suggest that the forensic economist might want to consider using a data series in which productivity gains might have been captured, such as rates of increase in average weekly earnings or the employer cost index, as will be discussed next.

Similar adjustments could be made by using the Average Weekly Earnings series compiled by the Bureau of Labor Statistics, the Employer Cost series compiled by the Bureau of Labor Statistics, a company specific set of average annual earnings increases, or an industry wide measure of average annual earnings increases. The method involved would be the same as above, using the appropriate rates of increase for each year from the appropriate earnings increase each year's earnings to a common base year. All of the adjusted values are then averaged to determine the base year value from which future projections are made. It is important to recognize, however, that none of these methods for adjusting earnings from prior years to a selected base year takes into account expected impacts of the age-earnings cycle. Using these methods would include general productivity increases that would apply to all workers in general, but would not capture person-specific productivity gains of a sort that would be expected from acquisitions of human capital over time. Thus, for a worker in his or her 20's or 30's, this method might still understate the true expected rates of increase for that worker. For a worker in his or her 40's or 50's, this method might overstate the true expected rates of increase for that worker because it would include general productivity increases that might not apply to an older worker whose human capital stock is beginning to show net declines.

How many years would it be reasonable to include in an adjusted earnings average?

Records A through D are based on the assumption that the economic expert has five years of reliable past earnings information to

consider. Suppose that the Social Security earnings record has been provided and that it provides a pattern like the pattern in Record D for the past 20 years. Would it be reasonable to develop a 20 year adjusted average in the same way, with as many as 19 CPI adjustments for the earliest income figure that is available? While there is no clear dividing line, including more years in an adjusted average is not necessarily better. The further back one goes, the more important age-earnings adjustments become. Labor market conditions change in ways that are permanent. Business cycle issues are probably cancelled out over a period of 20 years, but may be significant over shorter periods. Over a 20 year work span, the worker will have made adjustments in work habits, perhaps have changed marital status, and perhaps have acquired more education and so forth. Given all of the possible variables involved, one should not assume that more data points would increase the statistical accuracy of any calculation of an adjusted average. Here again, an exploration of the facts surrounding earnings is essential, but under ordinary circumstances an adjusted average based on the five years immediately preceding the injury probably captures the range of normal variation expected in the future as well as any longer period. Under special circumstances, a longer or shorter period may be appropriate. In making this decision, an expert should use common sense and consider all available information.

Considering Outlier Years

An outlier year in an earnings record is a year in which an individual had very high earnings or very low earnings that are unlikely to be repeated in future years. Depending on a worker's occupation, workers can have exceptionally good years that are not likely to be repeated in the future. Being in the right retail sales occupation at just the right time can result in very high earnings in a short period of time, leading to a year of earnings that is much higher than would be likely to be repeated in the future. This would be true in many occupations in which pay is determined by sales commission by employers or contingency payments by clients. Similarly, earnings in a year in which an individual was involved in an accident that limited employment prior to the injury in current litigation may be an outlier earnings year on the downside. An injury that would not be likely to recur in the future would be an outlier year on the downside. In Record B above, the year 2010 appears to be a potential outlier of this kind. Many other circumstances could also cause a downside outlier. When only a few years of earnings are being considered, one unusual outlier year can significantly distort judgments about the earning capacity of an individual. The distortion can be upward or downward, but such influences should be avoided. On the other hand, what look like

occasional outlier years can be part of the earnings pattern of an individual. This may entail possible periodic good years or periodic bad years. An economic expert must make a determination of whether a given unusual year of earnings is an outlier or part of a periodic pattern. The year should not be considered if truly an outlier, but should be considered if part of a periodic pattern for that occupation. In some occupations, injuries are to be expected and are not outliers for that reason. In other occupations, a prior injury should cause the year of that prior injury to be treated as an outlier. There is no simple formula for making this determination.

Errors and Omissions in Establishing an Earnings Base

Economic experts can make many different types of mistakes in developing a base earnings figure. The errors discussed in this section should be regarded as a set of examples, not an inclusive list.

Failure to exclude spousal income from an earnings estimate.

If the only record of a worker's earnings is the Wages, Salaries, and Tips line of a Federal Tax Form 1040, it may appear that all earnings listed are earnings of the primary wage earner in the family. A forensic economist must make sure that the spouse of the primary wage earner has not earned part of the family income listed on the first line of a Form 1040 for married persons filing jointly. This is among the reasons why W-2 earnings information is generally more accurate than figures from the "wages, salaries and tips" line of 1040's. Secondary wage earners sometimes have earnings in some years but not others, leading to the mistaken impression that all earnings in all years are those of the primary wage earner.

Failure to consider unusual payments in the last complete year of earnings.

If a worker has a pattern of regular increases in earnings, use of the last complete year of earnings before an incident is usually correct, as discussed earlier. However, workers sometimes receive one-time payments as settlements for disputes, because of contract negotiations, or as special bonuses at the end of particularly arduous projects. If such payments are unlikely to ever be repeated, it is important that they be subtracted from earnings in the last year before an incident if that year's earnings are used as a base for future projections. Not subtracting such a payment implies that the payments would be repeated with increases in each subsequent year of a projection. For example, assume in Record B that the figure for 2011 is \$32,000 instead of the \$27,000 shown. Assume that low earnings in 2010 were caused by an automobile accident and recovery so that 2010 is dropped from

consideration. Record B would now show a pattern of continuing increases with the exception of 2010: \$27,000 in 2008; \$30,000 in 2009; \$32,000 in 2011; and \$36,000 in 2012. Under such circumstances, it would ordinarily be reasonable to assume that \$36,000 is an appropriate base income figure for future projections. Assume, however, that the injured person was given a one-time bonus of \$2,500 at the completion of a particularly arduous project that was very rewarding to the employer. Assume further that no such bonus had ever been paid in the past and that no such bonus was likely to ever be paid again. If so, the true base earnings for 2012 as it would apply to future years is actually \$33,500. If \$36,000 is used as basis income in 2012, all earnings after that time will be projected to be 7.5 percent higher than would be correct (\$2500 is 7.5 percent of \$33,500).

Incorrect extrapolation from earnings in the year of the injury or death.

In the discussion of pay stubs as an information source, it was mentioned that forensic economists often assume that all earnings in a year, particularly in death cases, were earned before the date of the injury or death. This is only one of several errors that might be involved with such an extrapolation. For purposes of subsequent discussion, assume that a given individual was wrongfully killed on September 30, 2011 and that W-2 information indicates that this person had earnings of \$30,000 in 2010 and \$28,000 in 2011. Assume further that this person had regular increases in pay for all years prior to 2010 so that the most recent earnings rate is the right earnings rate for use as a base earnings rate for future projections. To illustrate the magnitude of the error discussed earlier, assume that the individual's family had received a final pay check that included one week of accumulated sick pay and one week of unused vacation from October 1, 2011 to October 14, 2011. If an extrapolation is made that assumes that the \$28,000 in 2011 was all earned by September 30, 2011, which is 0.75 of a year, the annual earnings for that year would be projected to be \$37,333. However, the actual circumstance is that the \$28,000 was paid for 41 weeks of 2011, not the 39 weeks implied by the 0.75 of a year assumption. Based on unused vacation pay, sick pay and possibly overlapping days from 2010, the family received payment for two more weeks in 2011 than the decedent actually worked. The actual average weekly wage for 2011 was \$28,000 divided by 41, or \$683 per week. Thus, earnings as of September 30, 2011 were actually \$26,634 and the correct extrapolated annual earnings rate is actually \$35,512. Using a basis earnings figure of \$37,333 would overstate the annual earnings rate by 5.12 percent, meaning that all subsequent projected earnings figures would be 5.12 percent too large. To perform a correct annual extrapolation, one must determine the amount actually paid for the

first 273 days of 2011. This will require careful examination of pay stubs. Amounts paid after September 30, 2011 for used vacation, sick pay or from the generosity of the employer for time periods thereafter should be excluded. If the worker was paid weekly or every other week, allowance must also be made for the fact that the first pay stub in 2011 probably included pay for the last few days in 2010.

Failure to consider seasonal factors in an extrapolation of earnings.

A second danger with a simple extrapolation from earnings in a base year is that earnings may have important seasonal components in them. If the worker in this example was a construction worker, his earnings between October 1 and December 31 of a year might normally be smaller than his earnings between January 1 and September 30. In this case, using an annual extrapolation, even one that includes consideration of the fact those two weeks of pay came after the date of the person's death, will generate an annual value that is too large. In such a case, if an annual extrapolation is used, the extrapolation must consider seasonal impacts on earnings in prior years. For a retail sales occupation, the problem might well be the opposite. For some lines of sales, a large percentage of sales occur during the Christmas shopping season. Some sales workers on commission may earn half their earnings during the period from October 1 to December 31. In this case, an annual extrapolation based on earnings through September 30 of the year would produce an annual earnings estimate for all of the year that was much smaller than would be reasonable. Here again, there is no substitute for common sense and a thorough examination of the facts.

Failure to consider unique past circumstances that no longer apply.

For purposes of this discussion, consider Record C in which there were annual declines in earnings in each year from 2008 to 2012. Assume that the worker in Record C is a 35 year old worker who has been working in an industry that has been subject to major limitations that have severely restricted past earnings. The worker had been with his current employer since the age of 20 and valued her accumulated seniority with that employer enough not to change positions in response to declining wages, expecting that there would be an eventual reversal of her employer's fortunes. Just after her injury on March 19, 2011, her employer reported a profit for the first time since 2008 and prospects for continued profits in the future appear bright. After the profits were reported, but after a totally disabling injury to this woman, the company announced an across the board wage increase of 10 percent for all workers and promised to pay above average wage increases over the next several years to reward the loyalty of its

workers. This information, taken together, completely alters any conclusions that should be drawn from Record C. Given this information, it would be reasonable to project the 10 percent increase, applicable in the current year and above average increases in the next several years as at least one projection. The downward trend indicated by Record C should probably be disregarded altogether in light of this additional information.

Reliance on statements of an injured plaintiff or requests from an attorney.

Some economic expert reports do not even consider an individual's earnings record. Instead, the economic expert may rely upon statements made by the plaintiff or that may have been requested by a retaining attorney about basis earnings that are accepted as factual by the economic expert. An expert should always request a reliable foundation for making earnings loss projections. Statements from a plaintiff or requests from an attorney may be the basis for hypothetical calculations, but that source is not a reliable foundation for the development of a professional opinion by an economic expert.

Use of general earnings statistics instead of the earnings records of injured plaintiffs and decedents.

In cases of injured children, no earnings record exists and an economic expert must rely upon earnings information by age and educational category from government agencies as base earnings, but the source for the earnings figures used should be clearly stated in the expert's report. Claims that standard sources "could not be found" to justify use of data for older plaintiffs or decedents who must have had actual earnings records should be regarded as major "red flags" that indicate that an effort is being made to hide the actual earnings record. An economic expert should request documents that would provide an accurate earnings record and note those requests in a report that contains only hypothetical calculations based on statements of a plaintiff or requests from an attorney to establish a lost earnings basis.

Use of an hourly pay rate to establish basis earnings without considering a worker's normal work week pattern.

Some economic expert reports rely exclusively on a statement of current hourly earnings to determine base earnings in the year of an injury without any reference to past earnings in previous years. An hourly pay rate of \$17.57 per hour, if multiplied by 40 hours per week and 52 weeks per year (2080 hours), yields an estimate of annual earnings of \$36,546 per year. That figure is then used to project all earnings after the base year. While such a process would lead to an

underestimate if the injured plaintiff or decedent had significant overtime earnings, this process more typically leads to an overestimate of annual earnings because many workers do not work 2080 hours per year. Hourly wage rates, in short, can be a very misleading way to calculate basis earnings.

Use of the past best year of earnings as basis earnings.

The fact that a worker has had one year of very high earnings in the past does not mean that a worker currently has the capacity to earn that level of income in the present. However, at least one economic expert has argued in his report that an injured plaintiff's higher earnings five years before his injury provided adequate evidence that the worker currently has the capacity to earn at least as much as his previous highest earnings. High earnings for a single year only demonstrate that the worker had special opportunities in that year. If those special opportunities did not continue to exist in following years, the worker's earning capacity would be expected to be lower than in the year of special opportunities. It is possible that a worker had one good year and thereafter made decisions not to earn as much as in that one good year, but there would have to be credible evidence that the worker was passing up opportunities for higher earnings in following years.

Using post injury earnings to determine what pre-injury earnings must have been.

One technique for claiming a loss of earning capacity is to rely upon statistics showing that disabled persons earn less than non-disabled persons. Statistics can be provided, for example, that suggest that "not severely" disabled persons earn about 15% less than non-disabled persons with the same age, sex, and education. This information is then applied to a person who has been not severely disabled, who earned, for example, \$60,000 per year in the most recent year. The economic expert combines the two pieces of information to conclude that if the injury had not occurred the "not severely" disabled person would have earned 15% more than the \$60,000 earned in the most recent year, or $\$60,000 \times 1.15 = \$69,000$ if the person had not been injured. This yields \$9,000 per year in damages, that would then be coupled with an alleged reduction in the "not severely" injured person's work-life expectancy to produce even larger alleged damages. To that extent, the worker's current level of earnings with a permanently disabling injury is used to speculate that the worker would have 15% higher earnings without the injury even if there is no evidence that the injury has caused any loss of earning capacity. If an individual has higher earnings after an injury than before an injury,

that fact does not prove that an injury has not caused a loss of earning capacity. Earnings after the injury could be even higher than they were without the injury. However, higher earnings after an injury cannot be used to argue that earnings before an injury understated the worker's pre-injury earning capacity. Higher earnings after an injury means that a worker has found and exploited an occupational opportunity that the worker was not aware of or had not developed before his or her injury.

Future Agenda

This paper is descriptive in nature and thus any conclusions would simply be a repetition of what has been already described up to this point. It is intended to be a starting point for future discussion of issues relating to the determination of base earnings in a forensic economic analysis rather than a complete statement in and of itself. Elsewhere in this issue are papers by Stephen Renas (2013) and Larry Spizman (2013) that comment on other aspects of determining an earnings basis. Renas reviews legal decisions regarding how economists have determined earnings bases in the past. Spizman evaluates uses of the Current Population Survey versus the American Community Survey and use of median versus mean statistics when projecting the figure earnings of a minor child. It is hoped that this paper and the papers by Renas and Spizman will induce readers to prepare papers setting forth their own views regarding various aspects of how appropriate earnings bases should be determined. The Review section of this journal will welcome such submissions.

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