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Understanding a Vocational Economics, Inc., Calculation of Lost Earning Capacity in a Personal Injury Case with Residual Capacity

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Vocational Economic, Inc. (VEI), is a firm centered in Louisville, Kentucky that has offices in Louisville, Chicago, Columbus, Dallas, Los Angeles, Nashville, and Tampa. VEI currently lists 16 testifying experts at its website, *vocecon.com*. A large majority of those experts provide reports and testimony regarding the lost earning capacity of individuals who have been injured and have allegedly lost some portion or all of their earning capacities as the result of allegedly wrongful acts, including a small number of wrongful deaths. Anthony M. Gamboa and David S. Gibson of VEI have produced controversial worklife tables most recently in 2015 for the purposes of measuring work-lives of injured persons before and after their injuries. However, the specific analytic methods used by VEI testifying experts to produce damages estimates are not explained by the authors of the published tables and have additional problems that go beyond the problems involved with the tables themselves. The methods being used by VEI experts to extract data from government surveys and to use that data to prepare specific estimates of earnings losses in actual reports for litigation are not explained in any existing publication. It is the purpose of this paper to provide that missing explanation for the specific calculation methods being used and to explain many of the problems inherent in those methods.

Keywords: Lost Earning Capacity, Forensic Vocational Economics, American Community Survey

Vocational Economic, Inc. (VEI), is a firm centered in Louisville, Kentucky that has offices in Louisville, Chicago, Columbus, Dallas, Los Angeles, Nashville, and Tampa. VEI currently lists 16 testifying experts on its website, *www vocecon.com* a large majority of whom provide reports and testimony regarding the lost earning capacity of individuals who have been injured and have allegedly lost some portion or all of their earning capacities as the result of allegedly wrongful acts, including a small number of wrongful deaths. Anthony M. Gamboa and David S. Gibson of VEI have produced controversial work-life tables as recently as 2015 for the purposes of measuring work lives of injured persons before and after their injuries. Use of those tables by non-employees of VEI has been rejected in a number of recent legal decisions, but to the knowledge of the authors and supported by VEI employees themselves, employees of VEI have never used the tables themselves. The authors of this paper have separately addressed the problems with the 2015 tables in another paper. This paper will address problems with how employees of VEI produce calculations used in their reports.

The methods being used by VEI experts to extract data from government surveys and to use that data to prepare specific estimates of earnings losses in actual reports for litigation are not explained in any existing publication. As a result, problems with those methods have not been adequately addressed. It is the purpose of this paper to provide that missing explanation for the methods being used and to explain many, but not all of the problems inherent in those methods used in those reports. The example being used is based on an actual case that has been redacted. The plaintiff will be referred to as "John Jones," which is not the real name of the plaintiff. The location of the plaintiff's employment has also been changed in the discussion that follows, but the table that is being explained is a scanned copy of the actual table from that report.

The paper itself will begin with background facts in the case. It will then provide a line-by-line explanation of the scanned table that is provided at the end of the paper. As deemed useful by the authors, longer explanations for some specific entries in the table will be explained. That discussion will start with the smaller box at the top of the table, followed by the VEI expert's calculations for past earnings loss, and then projected future earnings loss. The paper will also discuss an "age-earnings" variation of the methods that were used in the selected report that the authors have seen in other reports by VEI experts involving an age-earnings method to project future earnings. Age-earnings adjustments refer to the pattern of increases and later declines in an individual's earnings over the individual's work-life. The table examined in this paper did not include age-earnings adjustments, but rather that earnings would remain constant in current dollars after the year 2018.

Background Facts Provided in the Report Included the Attached Table

The following facts that were provided in the VEI Expert's report are necessary for a complete explanation of the earnings loss table:

Date of Report:	February 6, 2018
Date of Birth:	July 2, 1959
Age:	58 (as of 2/06/2018)
Educational Attainment:	High School
Work History:	Factory Worker
Date of Injury:	June 12, 2014

John Jones had not worked since his injury, but was expected to return to the labor force, earning half of what he would have earned before his injury as of February 6, 2018. (This assumption was not clearly stated in the VEI report but is implicit in the report.) The VEI report stated that John Jones's estimate of earnings loss was a present value of **$537,547**. It also stated that John Jones had a post-report (after 2/6/2018) pre-injury work-life expectancy of 5.4 years and a post-report post-injury work-life expectancy of 2.6 years. (While not stated in the narrative portion of the report, John Jones was assumed to have had a past work-life expectancy of 2.922 years and a total pre-injury work-life expectancy at the time of injury of 8.358 years. His post-injury work life expectancy was 2.569 years, beginning as of February 6, 2018.)

The February 6, 2018 report was 46 pages in length. It began with a narrative account of facts and assumptions that consisted of pages 1-5, followed by the Vocational Economic Rationale (VER) from pages 6 to 41 and was separately copyrighted. The VER is included with every report of economic loss prepared by a VEI expert. The VER provides an extended list of papers that have discussed disability and provides very general information about how earnings loss should be calculated in cases of disability. This was then followed by page 42, which gave background information about the American Community Survey (ACS) that had been used in the preparation of the table.

Explanation for Smaller Box Above the Earnings Loss Table

The first row shows that the birth year of John Jones as 1959. The next row indicates that the date of Jones's injury was 6/12/2014. The next row indicates that the analysis (presumably this table) was developed on 2/5/2018 (the day before the date of the report). The next row was labeled "Avg. Wage Base" and shows a "Pre" figure of 60,715, a "Post" figure of 31,000, and a final figure of 48.9%. The reason for leaving out dollar signs ($) before $60,714 and $31,000 is not clear, but 48.9% is the percent reduction in earnings as of February 6, 2018 if pre-injury annual earnings would be $60,714 and post-injury annual earnings would be $31,000 for that year.

The next row starts with "Fringe rates" and lists 24.6% under "Pre" and 8.6% under "Post." This means that 24.6% will be added to pre-injury earnings for job-related fringe benefits and that 8.6% will be added to post-injury earnings for job related fringe benefits. Prior to this line in the table, the only thing that had been said about job-related fringe benefits was on page 4 that: "Fringe benefits will be included at 24.6%, accounting for health insurance and legally required benefits." There was no prior discussion in this report for the 8.6% that was added for post-injury job-related fringe benefits. In other VEI expert reports, however, sources are specifically cited and explained. Based on other reports, 24.6% comes from a Bureau of Labor Statistics publication entitled *Employer Costs for Employee Compensation*. VEI adopts a percentage from one of the releases each year and uses that percentage for the remainder of that year. None of this is explained in reports of VEI experts. In this case, however, the 8.6 % for legally required was probably used because the plaintiff was not assumed to be capable of consistent employment on a post-injury basis. That figure is also questionable, but this account will not go into detail about problems with those percentages.

The next row for "Gender Life/Emp." explains that the plaintiff was male. The next row for "Disab. Status" indicates that the plaintiff was assumed to be "Not Disabled" pre-injury and has a "Physical Nonsevere" disability after his injury. "Physical Nonsevere" is one of the physical disability statuses invented and used by VEI to develop the 2015 Gamboa-Gibson Tables. That category is continuing to be used with more current "microdata" from the ACS, as noted in the citation provided above. For purposes of the ACS, the Current Population Survey (CPS), and Survey of Income and Program Participation (SIPP), the Bureau of the Census, who maintains all three surveys, classifies anyone who answers "yes" to any of the six disability-related questions in all three surveys as disabled. Gamboa and Gibson combine the questions and eliminate many individuals in arriving at their unique disability classifications. How they do this is explained on pages 18 and 19 of the 2015 Tables. The definitions for the categories described in those pages are unique to VEI and not, to the knowledge of the authors of this paper, used by vocational and economic experts who do not use the Gamboa-Gibson worklife tables or work for VEI.

The next row is labeled "Growth/Discount" and ends with "pure offset." "Pure Offset" means that all calculations are based on a 0% net discount rate. Most economic experts would refer to this assumption as "total offset." A 0% net discount rate means that the growth rate in earnings is equal to the discount rate used to reduce future values to present value. Thus the interest rate used as a discount rate is "totally offset" by the increase in earnings so that present values equal future values.

The next row is labeled "Future Worklife" and shows values 5.4 under the first "Pre" and 2.6 under "Post." Both values refer to future work-life expectancy and both are rounded values. They are rounded from the table below the box in the line labeled "Future Totals" in columns labeled "Years" and "Prob. Work." The first number in that row is 11.45. That refers to the number of years from February 6, 2018 until July 20, 2028. The second number is 5.436 and represents the sum of fractional years it is assumed (by the VEI expert) that John Jones would have worked if he had not been injured. That value is rounded to 5.4 years in the "Future Worklife" row above. The next decimal number in the "Future Totals" row at the bottom of the table is 2.569, which is the sum of future fractional years it is assumed that John Jones will be able to work, starting after the February 6, 2018 report. That number is rounded to 2.6 in the "Future Worklife" row above.

The final row in the box at the top of the page is labeled "Total Earnings." That row shows the same total earnings that are shown in the "Gr. Total" row at the bottom of the table, but without the dollar ($)

signs that would make this more evident. Total pre-injury earning capacity, including job-related fringe benefits, has a value of $624,035. Total post-injury earnings, including job-related fringe benefits, equals $86,488. The difference between those numbers, and therefore the loss, is $537,547.

Past Damages in the Table Below the Box

In the table below the box, the first row has "Pre" and "Post" in very little boxes. The first four columns are shared by calculations for both "Pre" and "Post" injury calculations in the table. That fact has important implications in that this is only valid if the injury had no impact on John Jones's life expectancy. It is assumed in this table that the probability that John Jones will remain alive in each future year in the "Prob. Life" column applies to both pre-injury and post-injury. How survival probabilities are determined from a life table will be demonstrated below when the "Prob. Life" column is explained for the "Future" part of the table. It also should be noted, however, that severe disabling injuries can have the effect of shortening life expectancy. If so, assuming that survival probabilities are the same for "pre" and "post" injury, would not be accurate. However, this paper will not consider problems that occur when "Prob. Life" values after an injury are lower than before an injury, or how such post-injury "Prob. Life" values should be calculated.

The next two rows of the table are the captions for the columns. They can be most easily understood if what those captions mean is illustrated by the values appearing in the first row under the captions. "6/2014" appears under "Mo/Yr." Although not noted in the table, "6/2014" specifically refers to June 12, 2014, which is the date of the injury to John Jones. Under "Age," the "54.90" means that John Jones was 54.90 years of age on June 14, 2014. The next caption is "Years" and the value in that row is 0.55. The 0.55 refers to the fraction of a year between June 12, 2014 and December 31, 2014. From June 12, 2014 to December 31, 2014 is a total of 202 days of a 365 day year. 202 ÷ 365 = 0.5534, which rounds to 0.55. The next caption is "Prob. Life" and the value under that caption for 2014 is 1.000. That simply means that it is 100 percent probable that John Jones is still alive because he is still alive.

The next caption is "Prob. Empl." which stands for the probability of an individual being employed, abbreviated "PE" in the LPE system for measuring work-life expectancy. "L" stands for the probability of being a**l**ive. "P" stands for the probability of being a participant in the labor market (either employed or seeking employment), and "E" stands for the probability of being employed if both alive and a participant in the labor market. Effectively, VEI combines "P" and "E" into a single variable that is used to indicate both being a participant and employed. See Brookshire and Forlines (2014) for a complete discussion of why "P" and "E" should be analyzed separately**.** "P" is primarily determined by an individual who decides whether or not to seek employment, while "E" is primarily determined by whether employers are willing to hire the individual. The following example from Brookshire and Forlines will illustrate how "P" and "E" interact:

> Population = 1000. (Population is defined as all individuals 16 and older excluding active duty members of the U.S. Armed Forces and people confined to or living in an institution such as a jail or residential care facility.)
>
> Labor Force = all persons either employed or seeking employment = L = 800.
>
> Labor Force Participation Rate = (Labor Force/Population) = P = (800/1000) = 80%.
>
> Employment Rate = (Employment/Labor Force) = E = (720/800) = 90%
>
> Unemployment Rate = 10%
>
> PE = P x E = (L/P) x (E/L) = (E/L) = (Employment/Labor Force).
>
> In the example, PE = (800/1000) x (720/800) = (720/1000) = 72%.

Combining P & E into a single variable results in ignoring factors other than job availability that would lead someone in the population but not in the labor force to seek or not seek employment. Such factors are important and relevant for the determination of earnings loss due to an injury that results

in short term or long-term disability and whether an injured plaintiff has met legal requirements to mitigate earnings loss damages.

According to Brookshire and Forlines (2014), combining P & E into a single variable results in a failure to distinguish between the decline in P and the decline in E. Since the data used by Gamboa and Gibson for their tables show that the decline in participation (P) is by far the most important factor in reducing employment of the disabled, the vocational expert must analyze whether a particular plaintiff has, in fact, suffered a significant decline in their ability to participate in the labor market. If it turns out that for the plaintiff there is no apparent decline in participation due to perhaps enrolling in a school to upgrade their skills or enrolling in a rehabilitation program, then the data in the Gamboa and Gibson Tables simply do not apply.

The next caption is "Prob. Work." The value for 2014 in that column is 0.464. 0.464 is equal to 0.55 "Years" x 1.00 "Prob. Life" x 0.843 "Prob. Empl." 0.464 means that the VEI expert is assuming that John Jones would have had 46.4 percent of a year of earnings between June 12, 2014 and December 31, 2014 if he had not been injured.

The next caption is "Base Earnings" and the value for 2014 is $56,242. The VEI expert is implicitly saying that if John Jones had not been injured and if he had worked full-time for a full year in 2014, he would have earned $56,242. In the report of the VEI expert, there is no mention of $56,242 and no explanation for where that figure came from other than that:

> Mr. [Jones's] pre-injury power to earn money is reasonably represented by the earnings that had accrued to him in 2013 . . . , or $60,717, stated in 2018 dollars.

Jones's actual earnings in 2013 were not indicated in the VEI expert's report, but had been increased annually for inflation in 2014, 2015, 2016, 2017 and 2018. The assumed rate of inflation in each of those years was not provided in the report, but can be calculated from the numbers provided, working backwards. Since the 2013 earnings figure was not provided, the inflation rate used for 2014 cannot be determined. However, since "Base Earnings" are shown as increasing from $56,242 in 2014 to $57,388 in 2015, the inflationary increase in earnings must have been 2.038 percent ($57,388÷ $56,242 = 1.0203762, where 2.03762 is the rate of increase). For 2016, the inflationary increase is from $57,388 to $58,780, and the inflationary growth rate is 2.43 percent, and so forth for 2017 and 2018, when "Base Earnings" value reaches $60,717.

The final figure in the row for 2014 is for "Adjusted Earnings" at $32,516. It would seem that 46.4% of a year that involved earning at an annual rate of $56,242 would equal $26,096, but this omits another step that is not explained in the report. "Adjusted Earnings" includes the addition of 24.6% for job-related fringe benefits indicated in the box above the table. The actual calculation is 0.464 for "Prob. Work" x $56,242 for "Base Earning" x 1.246 to add 24.6% for job-related fringe benefits = $32,515.97, which rounds to $32,516 shown in the table.

The remaining columns under the "Post" category are blank. That is because the VEI expert has assumed that John Jones was completely disabled during that year and remained disabled until February 6, 2018, the date of the VEI expert's report. How John Jones became able to find mitigating employment on exactly the date of February 6, 2018 was not explained in the report or the table.

The next row is for "1/2015." On January 1, 2015, John Jones was 55.45 years of "Age." This row is for the full "Year" (1.000) of 2015. The probability that John Jones was still alive is 1.000 because he was still alive as of February 6, 2018. His probability of being in a job, "Prob. Empl.", was 0.793. The "Prob. Empl." value decreased from 0.843 in 2014 to 0.793 in 2015.

The reason for this change is that this value is based on age cohorts. In the ACS (and in the CPS), data is not recorded in year-to-year units but in age cohort units of 18-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-67, 70-74, and over 75. As of John Jones's accident on June 12, 2014, he was 54.8 years of age and the VEI method treated him as part of the ages 50-54 age cohort. As of January 1, 2015, John Jones was 55.45 and the VEI method treated him as part of the age 55-59 age cohort. "Prob. Work" was then calculated as 1.00 "Years" x 1.00 "Prob. Life" x 0.793 "Prob. Empl." = 0.793. "Base Earnings" for 2015 is listed next as $57,388, which was explained immediately above. "Ad-

justed Earnings" was then calculated as 0.793 x $57,388 x 1.264 to add 26.4% for job-related fringe benefits = $56,703.82, which rounds to $56,704. The next two rows are changed only in that "Base Earnings" were projected to grow to $58,780 in 2016 and $60,226 in 2017. The annual rates of increase in those years was 2.42 percent in 2016 and 2.46 percent in 2017.

In the row for "1/2018," John Jones is 58.45 years of age as of January 1, 2018. However, only the period from January 1, 2018 until February 6, 2018 would be past damages as of February 6, 2018. That is indicated as a period of 0.10 "Years." That row otherwise continues as in 2017, but this causes "Prob. Work" to decline to 10 percent of 0.793 at 0.079. "Base Earnings" was projected to increase to $60,717, which was an increase of $60,717 ÷ $59,508 = 1.0203165, which implies an inflationary increase of 2.03165 percent. "Adjusted Earnings" then equals 0.079 x $60,717 x 1.246 to add 24.6% for job-related fringe benefits at $5,976.62, which rounds to $5,977.

The line for "Past Totals" then lists 3.65 years as having passed between June 12, 2014 and February 6, 2018, the date of the VEI report. 2.922 years of lost pre-injury work-life expectancy were attributed to that 3.65-year period, with a total past lost earning capacity of $212,784. The final 0.000 figure in that row reflects the assumption that John Jones was unable to work during the 3.65-year period ending on the report date of February 6, 2018. The next line is for "Past Loss," which is shown again as $212,784, again without "$" signs.

Future Damages in the Table Below the Box

As of February 6, 2018, the date of the VEI report, future damages were reported from July 20th of one year through July 19th of the next year. July 20th is the birthday of John Jones, so that John Jones begins each year after 2018 at age 59.0, 60.0 and so forth. That also means that the first future year of 2018 is for a period from February 6, 2018 to July 19, 2018. In the row for "2/2018," John Jones starts that period at age 58.55. That period is 0.45 of a "Year." "Prob. Life," however has now dropped to 0.990 in that there was some chance that John Jones might have died between February 6, 2018 and July 29, 2018.

The VEI report identified the life tables relied upon to develop "Prob. Life" values as the *2014 United States Life Tables*, National Vital Statistics Reports, vol. 66 no. 4, National Center for Disease Control and Prevention, Hyattsville, MD, Table 2, pages 11–12. The method used is demonstrated in the following table. The years listed come from the VEI expert report, but the age categories of 58-59, 59-60, and so forth came from the life table itself, as do the "Number surviving to age 58." 87,859 is the number of persons still alive as of age 58 out of 100,000 persons who were born 58 years earlier. One year later, that number declined to 86,992, meaning that 86,992 persons out of 87,859 males who were alive at the beginning of 2018 were still alive one year later at the end of 2018. 86,992 ÷ 87,859 = 0.990132, rounded to 0.990.

Two years later, the number remaining alive had declined further to 86,071. 86,071 ÷ 87,859 = 0.979649, rounded to 0.980. This continues through another 12 years in the table shown below.

Year	Age	Number surviving to age 58	Probability of survival
2018	58-59	87,859	n.a.
2018	59-60	86,992	0.990
2018	60-61	86,071	0.980
2019	61-62	85,092	0.969
2020	62-63	84,052	0.957
2021	63-64	82,953	0.944
2022	64-65	81,798	0.931

Year	Age	Number surviving to age 58	Probability of survival
2023	65-66	80,592	0.917
2024	66-67	79,335	0.903
2025	67-68	78,022	0.888
2026	68-69	76,643	0.872
2027	69-70	75,184	0.856
2028	70-71	73,627	0.838

With that background, the first row after "Past Loss," beginning with "2/2018," should be read as follows: "2/2018" refers to February 6, 2018, the date of the VEI report. John Jones' "Age" on February 6, 2018 was 58.55. The period from February 6, 2018 to July 20, 2018 is 0.45 of a "Year." Based on both the VEI table and the table above, John Jones had a "Prob. Life" survival probability of 99.0%. The probability that John Jones would be working in a job "Prob. Empl." if alive is still 0.793, or 79.3%. This results in a "Prob. Work" of 0.45 Years x 0.99 Prob. Life x 0.793 Prob. Empl. = 0.353 "Prob. Work." "Base Earning" in the "Pre" portion of the table remains at $60,717 for a full year for all years after 2018. All values after 2018 are stated in 2018 dollars. Once again, Base Earning of $60,717 x Prob. Work of 0.353 x 1.246 to add 24.6 percent in job-related fringe benefits = "Adjusted Earnings" of $26,705.64, which rounds to $26,706 shown in the VEI table.

Something was wrong with the VEI table in that the calculated values shown in the VEI table only realize the values shown if three consecutive years are designated as 2018. After 2019, however, the VEI Table shows correct values for each subsequent year. Since the table above replicates exact values to three decimal places, it must be the method used in this individual VEI report. However, this repetition of years probably does not typically occur in other VEI reports and does not appear to be significant.

The row now continues into the "Post" portion of the table since John Jones was now assumed to have potential for employment. The first four columns are still assumed to apply to the "Post" period, but "Prob. Empl." is assumed to decline from 0.793 to 0.378, meaning that John Jones' post injury probability of employment, starting on February 6, 2018, is assumed to be 37.8%. Thus, his Prob. Work in the Post period became 0.45 Years x .990 Prob. Life x 0.378 Prob. Empl. = 0.168. "Base Income" has dropped from $60,717 to $31,000. Post injury "Adjusted Earnings" is then calculated as 0.168 Prob. Work x $31,000 Base Earnings x 1.086 percent to add job-related fringe benefits = $5,656. The post-injury reduced rate for job-related fringe benefits is explained in the report as: "Legally required fringe benefits are included at the rate of 8.6%." No explanation was provided for why that rate was used. The post-injury earnings rate of $31,000 per year in 2019 is explained in the report as follows:

> According to data from the U.S. Census Bureau, males with a high school or equivalent education with a nonsevere physical disability in nonmetropolitan [Ohio] who are in the bottom quartile (25th percentile) earn at the rate of $31,000 per annum, stated in terms of 2018 dollars.

The next row starts with "7/2018" and refers to July 20, 2018 when John Jones would have reached the age of 59.00. This row is for the full year between July 20, 2018 and July 19, 2019. Prob. Life has dropped to 0.980. Prob. Empl. remains at 0.793. Prob. Work is equal to 1.00 Years x 0.980 Prob. Life x 0.793 Prob. Empl. = 0.777 in the "Pre" portion of the table. Base Earnings remains $60,717 in 2018 dollars. The result is a pre-injury Adjusted Earnings value of $58,783. (0.777 Prob. Work x $60,717 x 1.246 to add 24.6% for job-related fringe benefits = $58,783.) In the "Post" portion for "7/2018," 1.00 Years x 0.980 Prob. Life x 0.378 Prob. Empl. = 0.370 Prob. Work. Post-injury Base Earnings of $31,000 x 0.370 Prob. Work x 1.086 to adds 8.6% for fringe benefits = $12,456.

Rows then continue in this fashion until July 20, 2028 when John Jones will reach age 70 if still alive. That is a cutoff thought to be reasonable by persons at VEI in charge of making such decisions. Be-

neath the row for "7/2028" is the row for "Future Totals" discussed above, followed by rows for "Future Loss," "Gr. Total" for "Grand Total," and finally "Total Loss" at $537,547.

Base Earnings and Age-Earnings Profiles/Cycles

Although an age-earnings adjustment was not made in this case due to the age of the plaintiff, such an adjustment is usually necessary for a younger individual. An Age-Earnings "profile" (also called an "Age-Earnings Cycle") would take into account the fact that an individual's earnings typically has a pattern of starting at lower entry earnings at ages 18-24 (or older with graduate level educations), rising rapidly at ages 25-29, a bit slower at ages 30-34, even slower between 35-39 and 40-44, and possibly even falling after age 50. This pattern varies depending on the education and sex of an individual, but the overall pattern applies for both males and females across all educational levels.

That pattern is illustrated below in age-earnings profile for all males who were high school graduates (including GED's) who worked full-time, year-round and full-time during the year 2018. These figures come from the Current Population Survey (CPS, 2019), but very similar figures would come from the American Community Survey (ACS) that would more likely have been used by a VEI expert. As can be seen in these figures, earnings for male high school graduates (including GED's) did not change very much after age 50, so that no significant inaccuracies were introduced by not taking age-earnings effects into account. As can also be seen in these figures, however, using the past earnings at age 25 without considering age-earnings effects would significantly understate expected future earnings in real 2018 dollars.

Ages	Mean Earnings in 2018
18-24	$33,962
25-29	$42,831
30-34	$49,043
35-39	$51,121
40-44	$55,535
45-49	$56,260
50-54	$58,292
55-59	$58,934
60-64	$62,841
65-69	$59,590
70-74	$56,824

VEI experts in cases with younger injured workers often take age-earnings effects into account. Therefore, some explanation for how most economists take age-earnings effects into account and how VEI experts do so will be useful. The CPS, the ACS and the Survey of Income and Program Participation (SIPP) all use the same age cohorts to report survey results. They do not provide year-to-year annual values, but rather cohort-to-cohort annual values, as above. If figures are used directly from the surveys themselves, year to year earnings show up as a set of steps, with significant changes as new age cohorts are reached. Many forensic economists use a variety of techniques to "smooth" annual figures across the age-earnings cycle. All of the methods used rely upon cohort data as "data points" for the creation of estimates of year-to-year figures that change annually rather than in a series of jagged steps. If done in a statistically correct manner, this makes very little difference in damages and is not of major consequence. However, how "smoothing" is done is typically explained in a careful fashion in an economic expert's report. This includes both describing the method used to smooth the age cohort data into smoothed functions and identifying a publicly available source for the cohort data itself.

This allows an economic expert for the opposing side to check for possible errors in how the smoothing was done.

As with other aspects of VEI reports discussed in this paper, VEI experts do not provide the detailed explanations for the specific method used to smooth data, nor do they provide the age cohort information that was used to develop the smoothing techniques. Thus, annual figures that change from year to year simply appear in VEI tables that otherwise look like the table for John Jones. Further, the earnings information itself is extracted from microdata of the ACS in ways that are not explained and cannot be replicated and checked by opposing economic and vocational experts.

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Author Notes

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Frank Slesnick received his BA from Oberlin College and PhD in Economics from the University of Minnesota. He taught at Denison University in Granville, Ohio and for 30 years at Bellarmine University in Louisville, Kentucky. Professor Slesnick has served as a forensic economic consultant since 1979 in the area of personal injury/death cases with a specific focus on medical cost issues. He has published widely in the field of forensic economics and currently serves on the **Board of Editors** of the *Journal of Forensic Economics* and on the board of **Special Editors – Reviews and Cases of Note** of the *Joural of Legal Economics.* In 1991-92, he served as the fourth President of the National Association of Forensic Economics.

	Pre	Post	Value/Diff
Birth Year			1959
Injury Date			6/12/2014
Analysis Date			2/5/2018
Avg. Base Wage	60,717	31,000	48.9%
Fringe Rates	24.6%	8.6%	
Education Level	High School or GED	High School or GED	
Gender Life/Emp.			Male
Disab. Status	Not Disabled	Physical Nonsevere	
Growth/Discount			Pure Offset
Future Worklife	5.4	2.6	52.7%
Total Earnings	624,035	86,488	537,547

				Pre				Post			
Mo/Yr	Age	Years	Prob. Life	Prob. Empl.	Prob. Work	Base Earning	Adjusted Earnings	Prob. Empl.	Prob. Work	Base Earning	Adjusted Earnings
6/2014	54.90	0.55	1.000	0.843	0.464	56,242	32,516				-
1/2015	55.45	1.00	1.000	0.793	0.793	57,388	56,704				-
1/2016	56.45	1.00	1.000	0.793	0.793	58,780	58,079				-
1/2017	57.45	1.00	1.000	0.793	0.793	60,226	59,508				-
1/2018	58.45	0.10	1.000	0.793	0.079	60,717	5,977				-
Past Totals		**3.65**			**2.922**		**212,784**		**0.000**		-
Past Loss											**212,784**
2/2018	58.55	0.45	0.990	0.793	0.353	60,717	26,706	0.378	0.168	31,000	5,656
7/2018	59.00	1.00	0.980	0.793	0.777	60,717	58,783	0.378	0.370	31,000	12,456
7/2019	60.00	1.00	0.969	0.616	0.597	60,717	45,165	0.268	0.260	31,000	8,753
7/2020	61.00	1.00	0.957	0.616	0.590	60,717	44,635	0.268	0.256	31,000	8,618
7/2021	62.00	1.00	0.944	0.616	0.582	60,717	44,030	0.268	0.253	31,000	8,517
7/2022	63.00	1.00	0.931	0.616	0.573	60,717	43,349	0.268	0.250	31,000	8,417
7/2023	64.00	1.00	0.917	0.616	0.565	60,717	42,744	0.268	0.246	31,000	8,282
7/2024	65.00	1.00	0.903	0.321	0.290	60,717	21,939	0.176	0.159	31,000	5,353
7/2025	66.00	1.00	0.888	0.321	0.285	60,717	21,561	0.176	0.156	31,000	5,252
7/2026	67.00	1.00	0.872	0.321	0.280	60,717	21,183	0.176	0.153	31,000	5,151
7/2027	68.00	1.00	0.856	0.321	0.275	60,717	20,805	0.176	0.151	31,000	5,084
7/2028	69.00	1.00	0.838	0.321	0.269	60,717	20,351	0.176	0.147	31,000	4,949
Future Totals		**11.45**			**5.436**		**411,251**		**2.569**		**86,488**
Future Loss											**324,763**
Gr. Total		**15.10**			**8.358**		**624,035**		**2.569**		**86,488**
Total Loss											**537,547**