

*Editors' Note:* This article stems from a survey of the National Association of Forensic Economics (NAFE) membership. The views of the anonymous respondents do not necessarily represent the view of NAFE, or of its Board of Directors, or of all the members of NAFE. The authors of the article have not attempted to determine what biases, if any, exist in the results due to (a) the general composition of all experts who testify about economic damages, (b) the effect of non-responses, (c) the effects of various state and federal case and statutory laws, and (d) the accuracy and truthfulness of the responses received. To have determined the actual practice of all forensic economists and correcting for these potential biases was beyond the scope of this research effort.

## **A 2015 Survey of Forensic Economists: Their Methods, Estimates, and Perspectives**

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### **Abstract**

In January 2015, 590 e-mail invitations to complete an electronic survey were sent to NAFE (National Association of Forensic Economics) members. The response rate was approximately 33%, almost nine percentage points higher than the last paper survey administered in 2003. The survey covered many of the major topics included in earlier surveys, such as values of important economic variables (e.g., discount rates), trends in the practice of forensic economics (e.g., personal sources of earnings), and open-ended questions concerning ethics and reactions to the survey instrument. On the 2015 Survey instrument there were several new questions concerning such matters as how forensic economists perceive the role of vocational (rehabilitation) experts, the effects of the Affordable Care Act on loss estimates, how members charge for their services, and the size of respondents' practices.

### **I. Background**

As part of an ongoing longitudinal research effort, the authors conducted an electronic survey of National Association of Forensic Economics (NAFE) members in January and February 2015. The topics covered were similar to those investigated in earlier surveys such as the value of certain key economic

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variables, as well as open-ended questions involving ethical practices in the forensic consulting business. This survey also included a significant number of new questions, which will be noted later in the paper.

The 2015 Survey was conducted electronically based upon the authors' experiences with the 2006, 2009 and 2012 Surveys. Those surveys were also conducted electronically and resulted in improvements with regards to the response rate, as well as better accuracy in recording information. Comments concerning these last three surveys indicate that respondents appreciate taking the survey electronically, and there is every expectation that this practice will continue in the future.

## II. Methodology

In December 2014, the authors sent e-mail messages to 10 volunteer beta testers, with a link to the electronic survey for the purpose of evaluating both the content of the questions and the functionality of the survey. The reactions of the testers were generally positive. Comments were closely examined, and many influenced the final version of the survey.

Announcement of the survey was provided in both the NAFE Newsletter and on the NAFE-L (listserv). On January 13, 2015, an e-mail message was sent to each individual member of NAFE, which excluded subscribers such as libraries and law firms. The e-mail provided a link to the survey and indicated that the respondent had a window of approximately four weeks to complete the survey. Contact information was provided if the respondent had any questions. During the four-week data collection period, several e-mail message reminders were sent to individuals who had not taken the survey. On February 10, 2015, the survey was closed. Responses collected to that point were those used in the survey results presented below.

The current research effort yielded 195 usable responses, which represented a return rate of slightly more than 33%. Table 1 indicates the survey year, number of surveys sent, the number responding, and the response rate for the current and previous surveys.

Over the last 25 years, the number of surveys sent increased dramatically from 1991 through 2003, declined in the next two surveys, but remained roughly constant since 2009. From the last paper survey in 2003 to this 2015 electronic survey, the response rate increased by 9.3 percentage points.

The results of the current survey will be examined with a direct comparison to earlier surveys, although for some of the questions that have appeared continuously not all surveys are included. For those particular questions, the first and last (current) survey responses are included, along with some survey responses in intervening years. Where possible, the exact wording of previous surveys was retained. However, it was sometimes necessary to add or delete certain options.

Several new questions were also added to the 2015 Survey. Those surveyed were asked about how past wages are adjusted to average into a current wage base, about the pre-injury and post-injury opinions of vocational (rehabilitation) experts, and about the effects of the Affordable Care Act on estimates of

Table 1

Year	Sample	Responses	Response Rate
1990	288	136	47.20%
1991	396	99	25.00%
1993	565	162	28.67%
1997	702	179	25.50%
1999	681	184	27.00%
2003	746	177	23.73%
2006	616	179	29.06%
2009	585	191	32.65%
2012	583	189	32.42%
2015	590	195	33.05%

medical and related costs. Several new questions focused on the size of respondent businesses and how members charge for their services.

Although comparisons are made to earlier surveys, there was no determination whether the same individuals responded to the different surveys or whether those who responded were representative of the NAFE population. Even if the survey is not entirely representative of the NAFE population, it is reasonable to surmise that individuals with the greatest interest and experience completed the survey. Responses to Question 41 in the survey indicate that the average number of years respondents have practiced as forensic economists is 26.2 years, which strongly implies that those completing the survey are “veterans” in the field.

For most survey questions, the results will be explained and directly compared to earlier surveys. To simplify the presentation, the following codes will be used when referring to the surveys:

- S1 – Brookshire, Slesnick and Lessne, *JFE*, Vol III, No 2, Spring/Summer 1990
- S2 – Brookshire and Slesnick, *JFE*, Vol IV, No 2, Spring/Summer 1991
- S3 – Brookshire and Slesnick, *JFE*, Vol VII, No 1, Winter 1993
- S4 – Brookshire and Slesnick, *JFE*, Vol X, No 1, Winter 1997
- S5 – Brookshire and Slesnick, *LED*, Vol IV, No 2, Fall 1999
- S6 – Brookshire, Luthy, and Slesnick, *LED*, Vol VI, No. 2, Summer 2003
- S7 – Brookshire, Luthy, and Slesnick, *JFE*, Vol XIX, No. 1, Winter 2006
- S8 – Brookshire, Luthy, and Slesnick, *JFE*, Vol XXI, No. 1, December 2009
- S9 – Slesnick, Luthy, and Brookshire, *JFE*, Vol XXIV, No. 1, April 2013
- S10 – Current Survey, data collection Winter 2015

Complete citations of the surveys are listed in the References section at the end of the paper. Since there will be frequent mention of earlier surveys, corresponding questions will be coded in the following manner: (survey, survey question, page number in published article). For example, a reference to (S5, 2, 68) refers to the fifth survey conducted and specifically the second question, whose results are presented on page 68 of the resultant published article. It should be noted that not all questions appeared in every previous survey.

Therefore, a particular table will not necessarily list each of the previously published surveys, S1 through S9.

Most questions allow for individual comments and the last several questions are open-ended. It has been the experience of the authors that the comments are often as valuable as the statistical results. Because of the requirements imposed by the electronic survey form, comments were listed as a separate question. For example, Question 1 asked the respondent to indicate the expected rate of inflation and Question 2 asked the respondent to provide any comments concerning their answer to Question 1. To simplify the presentation of our results, comments will not be referenced as separate questions; this explains why it appears the authors are only including results from predominantly odd-numbered questions. Respondent comments, presented in bulleted form, are reproduced verbatim except for minimal light editing to correct obvious spelling mistakes, grammatical flaws, and typographical errors.

As a final point, it is worth noting that this survey is based on what is called a nonprobability sample. The difference between a probability sample and a nonprobability sample is that the former involves some random selection process where each unit of the population has a known, nonzero probability of being selected. Generally speaking, probability samples are preferred since they better represent the population being examined and one can develop confidence intervals for the derived statistics. But any text in business research methods or survey analysis will point out that probability analysis is often not feasible for a wide variety of reasons. In the case of the NAFE survey, it would be virtually impossible to first define the entire population of forensic economists since not all forensic economists belong to NAFE. Also, even if NAFE included the entire population of forensic economists, a probability sample would have required examination of those individuals who did not respond to the survey. As noted above, there could be systematic differences between those who did respond and those who did not respond. Such follow-up involves significant resources, which indicates another advantage of a nonprobability sample—it usually is lower in cost than a probability sample. All surveys, both probability and nonprobability, contain certain biases. The more relevant issue, however, is whether the reader finds the results of this survey sufficiently unbiased, useful, and informative. The results of the NAFE surveys over the years have proven themselves useful and informative. The goal of the current survey is to again produce results and analysis that are useful indicators of prevailing practice among survey respondents.

### III. Comparison of Survey Results

**Question 1.** *Assume the judge instructs that you MUST incorporate price inflation into a 30-year forecast of economic loss. Complete the following sentence: "I would use \_\_\_\_\_ % as the average annual rate of price inflation (increase in the CPI) over this 30-year period."*

The number of usable responses for Question 1 was 189. The results of the current survey, S10, are in Table 2 in comparison to earlier surveys.

Table 2

	(S1,15,22)	(S4,1,2)	(S7,2,32)	(S8,1,7)	(S9,1,71)	S(10)
Mean	5.0%	4.0%	3.1%	3.1%	2.9%	2.6%
Median	-	4.0%	3.0%	3.0%	2.8%	2.5%

The surveys in Table 2 are for years 1990, 1997, 2006, 2009, 2012, and 2015. For the current survey, the mean value was 2.62% and the median value 2.50%. The interquartile range of responses was between 2.27% and 3.00%, indicating a tight distribution. The answers varied between 1.17% and 4.33%. The mean forecast value of estimated inflation over the next 30 years has fallen by more than two percentage points since the 1990 Survey and fell approximately 0.3% between the 2012 and 2015 Surveys.

### Select Respondents' Comments to Question 1:

- Social Security Trustees' assumption is as good as anything.
- CBO forecasts, historic and current inflation supports 2.5% as reasonable expectation.
- The CPI has increased at 2.5% over the past 20 years (geometric mean). Having no special insight into the future, I would use this.
- CPI inflation from 1953 to 2013.
- As the "lump in the snake" of our hyperinflation period of the late 70s and early 80s, the 30-year average is falling fast. Although price inflation is under 2% now, I see it rising some but not much in the intermediate future.
- History plays no part in this problem—only current rates pertain to current questions.
- I would use the Federal Reserve's projected rate of inflation as my source.
- If anyone could actually predict inflation over the next 30 years, that person would be a wealthy individual. Absent such ability the logical approach is to use an equivalent historical period. At least that's what I can sell to a trier of fact.

**Question 3.** Assume the judge instructs that you *MUST* estimate a net discount rate (and use a fixed rate) in your forecast of total compensation for a 30-year period. The net discount rate may be based upon either nominal or real values. Please note that for this question the net discount rate is (approximately) equal to the interest rate minus the general rate of increase in total compensation for all U.S. workers. Complete the following sentence: "I would use \_\_\_\_\_% per year as the average net discount rate over 30 future years." (It is recognized that some respondents may not use a single, fixed rate, but the assumption of the question is that a single, fixed rate estimate is required. Because it is the judge's instruction, please answer in the box below. If you would not ordinarily use a single, fixed rate, provide an explanation in the "Comments" box of question 4 below.)

The number of usable responses for Question 3 was 178. Results from the 1999, 2003, 2009, 2012, and current surveys, which all used the direct method, are given in Table 3.

Table 3

	(S5,4,70)	(S6,4,31)	(S8,3,8)	(S9,3,72)	(S10)
Mean	2.13%	1.89%	1.76%	1.61%	1.36%
Median	2.00%	2.00%	1.75%	1.50%	1.25%

For this survey, the mean value was 1.36% and the median value 1.25%. The interquartile range was between 0.60% and 2.00%. The minimum value was -1.00% while the maximum value was 5.60%. One of the rules frequently seen by forensic economists is the total offset rule, which implies that the net discount rate equals 0%. Based upon the results of this survey, only 12.35% of the respondents believed that the net discount rate was equal to 0% or less. It is clear, however, that the long-term forecast of the net discount rate has declined.

#### Select Respondents' Comments to Question 3:

- I would never do such a silly, unprofessional thing.
- My net discount rate depends on my projected growth of earnings, which varies depending upon education and occupation. Furthermore, it can also vary over time for an individual.
- 4% discount and wage growth of 3%.
- I would not ordinarily use such a simple assumption. I choose income-growth rates and interest-discount rates separately, based on the specifics of the situation.
- I would never use a single rate, but 10-year treasury of 2.8% less long term wage growth estimate of 3.8% (SSA Board of Trustees).
- A 1% net discount rate is slightly greater than the five-decade average between the average of 3-5 year Treasuries and the BLS Index of Hourly Compensation. It is also double the rate of the past 20 years.
- Real increases in compensation are driven primarily by productivity. Real interest rates have been equal to productivity on average since WWII, even though there are periods of disparity, such as now. The relationship has been proven to be stationary.
- Based on the 30-year average, historical difference between 3-10 year government notes and wage/cost inflation.
- Based on the Economic Report of the President, Appendix B17.
- I would use the current yield on 10-year US treasuries (1.76) as my discount rate and the projected rate of inflation (2.0%) as my growth rate. Under current interest rates, this would yield a negative discount rate.
- It is incompatible with a Treasury ladder.
- This is a reasonable question. Years ago, I was at 2%, but now I am at 1%.

**Question 5.** Assume that the judge instructs that you *MUST* incorporate an estimate of the nominal rate of increase in total compensation into a 30-year

*forecast of economic loss. Assume an average worker in the private sector with no allowance for age-earnings factors. Complete the sentence: "I would use \_\_\_\_\_% as the average annual rate of increase in total compensation over this 30-year period."*

The number of usable responses for Question 5 was 173 (see Table 4). This question was previously asked only in the 2006 Survey and 2012 Survey.

Table 4

	(S7,4,33)	(S9,5,73)	(S10)
Mean	3.68%	3.26%	2.99%
Median	3.75%	3.25%	3.00%

In the 2006 Survey, the mean annual rate of increase in total compensation into a 30-year forecast was 3.68% and the median rate was 3.75%, whereas for the 2012 Survey the mean rate was 3.26% and the median rate 3.25%. In the current survey, the mean annual rate of increase in total compensation was 2.99% while the median rate was 3.00%. Thus, the forecast for the annual rate of increase in total compensation over the nine-year period from 2006 to 2015 fell from 3.68% to 2.99%. The interquartile range in the current survey was 2.50% to 3.60% and the range was 0.00% to 6.00%.

#### Select Respondents' Comments to Question 5:

- I use Expectancy Data's "Full-Time Earnings in the U.S." Consequently, my growth rate depends on education and occupation and may vary for each future year. I also project fringe benefits separately, and this growth will depend on the kind of fringe benefit.
- 3% considers both CBO forecasters and historic increase in private sector...also inherent of about 2.5 inflation and real wage growth of 0.5.
- Again, per the OASDI Trustees Report.
- This is the average annual rate of forecast compensation growth over the next 30 years, based on 1) current CBO growth forecasts of the wage component of compensation; 2) current SSA intermediate assumptions re: future percentage change in wages as a percentage of total compensation; and 3) the current % of total compensation that is paid as wages.
- This is the intermediate range in the OASDI Trustees Report, 2014. The basic assumption is that for the average worker, total compensation would not increase in real terms.
- Average historical increase in employment cost index over the past 30 years.
- I use a rate tied to the 1990-2013 historical rate in increase in the NAICS earnings component most closely matching the occupation of a plaintiff. This may range from 2.00% to 3.50%, with 2.75% simply reflecting a very crude average.
- This is an inappropriate question as the rate is a function of income; inadequate data to properly respond.

- Seems strange that you focus on 30-year future, when the majority of forensic projects have shorter horizons than 30 years.
- Real rate increases for wages have generally been nil for decades.
- To ignore life-cycle earnings would constitute perjury. If we take an average male, age 35.3, and estimate the rate of growth of his expected earnings to age 65, we obtain the nominal growth rate of 1.74%. However, using a single growth rate is appropriate only if one correctly incorporates the life cycle, then regresses the natural log of expected earnings (adjusted for mortality, non-participation and unemployment hazards) against a time trend to obtain the single growth rate this craven judge so inexplicably desires.
- Sooner or later someone will get a raise.
- This is consistent with my previous answers, 2.5% inflation and no real wage increase.

**Question 7.** Assume that the judge instructs that you *MUST* incorporate an estimate of the nominal rate of interest (or discount rate) into a 30-year forecast of economic loss. Assume there are no legal constraints concerning the specific rate utilized, but that the estimate must be a single figure and expressed in nominal terms. Complete the sentence: “I would use \_\_\_\_\_% as the rate of interest or discount rate over this 30-year period.” (It is recognized that some respondents may not use a single rate, but the assumption of the question is that a single rate estimate is required).

The number of usable responses for Question 7 was 167 (see Table 5). Like Question 5, the only previous surveys using this question were the 2006 Survey, S7 and 2012 Survey, S9.

Table 5

	(S7,6,34)	(S9,7,74)	(S10)
Mean	5.08%	4.37%	4.03%
Median	5.00%	4.30%	4.00%

For the 2006 Survey, the mean value was 5.08% and the median value was 5.00% while for the 2012 Survey, the mean value was 4.37% and the median value was 4.30%. For this survey, the mean value was 4.03% and the median value was 4.00%. Thus, the forecast for the interest rate for a 30-year period fell from 5.08% in 2006 to 4.03% in 2015. The interquartile range for this survey was from 3.00% to 5.00%. The minimum and maximum values were from 1.76% to 8.00%.

There are two general methods for computing the net discount rate (NDR). One method is to ask the question directly, as utilized in Question 3. The other method is to ask for an estimate of the rate of increase in compensation and the discount rate and then calculate the difference between these two variables. The direct method from question 3 had a mean value for the net discount rate equal to 1.36%. The indirect method examines the separate values for the rate of increase in compensation, Question 5, and the interest or discount rate, Question 7. Using the indirect method, the net discount rate is: 4.03% - 2.99% =

1.04%. Thus, the indirect method results in a lower net discount rate than the direct method. This same result was also found in the 2012 Survey. In that survey, the net discount rate was 1.61% using the direct method and 1.11% using the indirect method. It should also be noted that there was a more significant decline in the value of the net discount rate using the direct method, a difference of 0.25%, than using the indirect method, a difference of 0.07%.

The question then arises whether the direct or the indirect method is a more accurate measure, even though they should provide the same result. To gain a better understanding of this outcome, the responses of all respondents who answered questions 3, 5, and 7 were analyzed. This reduced the number of respondents to 141. Because this group was slightly different than the groups analyzed for the questions separately, the averages are also slightly different. The average net discount rate for this group was 1.590%, the average rate of increase in total compensation was 3.005%, and the average interest rate was 4.194%. Thus, the indirect method of calculating the net discount rate was:  $4.194\% - 3.005\% = 1.189\%$ . For each respondent, the answer to Question 3 concerning the net discount rate was matched to the indirect estimate of the net discount rate, which was equal to Question 5 minus Question 7. The two values should have been close to one another but often they were not. On average, the net discount rate measured directly was, in fact, 0.40 percentage points higher than the indirect method figure.

Two questions were addressed with reference to this result. First, are the differences statistically significant? Second, was the result the consequence of a few outliers or did a large percentage of respondents produce answers where the direct and indirect methods were different?

As to the first question, standard mean tests were used to test the null hypothesis that the mean of the net discount rate (question 3) and the indirectly estimated net discount rate (question 7 minus question 5) are the same. This null hypothesis can be soundly rejected.

To answer the second question, it was assumed that any respondent where the direct and indirect answers were within 0.1% of each other meant that the answers were the same. Of the 141 respondents analyzed, 70 fit into this category. Thus, only one-half of the respondents provided consistent answers in their estimates of the net discount rate. There were 71 outside of this range, with 48 showing a difference greater than positive 0.1% and 23 showing a difference below negative 0.1%. Clearly, these differences are not a product of only a few individuals.

#### Select Respondents' Comments to Question 7:

- 30-year historical average in yield on Treasury bills, notes and bonds.
- I discount the loss in each future year by the yield to maturity on the zero-coupon Treasury bond that matures in that year.
- The average for 3-month and 10-year securities since the late 1950s.
- I tend to use the information in the OASDI Trustees Report. To maintain some consistency in my analysis and not unwittingly mix and match data sources, I try to stick with one source.

- I use an average of monthly yield on US Treasuries over the past ten years. I am trying to get around the issue of zero lower bound interest rates caused by the Great Recession.
- The yield on 15-year Treasuries will mimic the yields on a laddered portfolio over a 30-year period.
- The historical rate for bonds over the past 30 years.
- I use a current yield ladder.
- Based on the long-run average interest rate on one-year U. S. Treasury notes.
- Answer is 30-year average nominal yield on 90-day U.S. Treasury Bills.
- Some states, like Michigan, have a required discount rate to be used in personal injury and wrongful death calculations.

**Question 9.** *Assume that an injured worker has 30 additional years of worklife expectancy. Regardless of your mix of government securities versus other securities that you might consider, what is the maturity of securities that you would emphasize in selecting an interest rate(s)?*

There were 184 usable responses to Question 9. Results of the 1993, 1997, 1999, 2003, 2006, 2012, and current Surveys are shown in Table 6.

Table 6

	(S3,10,35)	(S4,8,9)	(S5,5,71)	(S6,5,31)	(S7,8,35)	(S9,31,88)	(S10)
Short-term	20.1%	20.3%	22.2%	16.3%	13.2%	10.3%	9.2%
Intermediate-term	20.1%	22.6%	17.1%	15.1%	19.5%	13.9%	14.7%
Long-term	26.2%	24.9%	26.1%	23.3%	24.7%	30.9%	29.4%
Mixed	23.5%	27.1%	29.0%	37.2%	36.8%	32.1%	34.2%
Other	10.1%	5.1%	5.9%	8.1%	5.7%	12.7%	12.5%

There is little change from the 2012 Survey. It is clear, however, that the large majority of survey respondents utilize either a long-term or mixed portfolio when calculating interest rates. This corresponds with results in Questions 3 and 7, which indicates a net discount rate in the range of 1% to 1.5%. Put differently, a portfolio emphasizing short-term securities would correspond to a net discount rate closer to zero based upon historical data.

#### Select Respondents' Comments to Question 9:

- Because of the 30 year period, the laddered rates I use would emphasize 10 years and older US treasury bonds.
- 30 additional years of worklife expectancy requires a use of long-term securities.
- 10-year maturities have an excessive amount of lock-in. Also, if over the 30 years, interest rates display a secular rise from the current 1.8% for 10-year Treasuries, the greatest return will most likely be shorter rather than long maturity bonds.
- 10 years is used as a proxy for a portfolio of securities that matures as money is needed.

- It is related to the appropriate investment over the worklife of the individual. Even using the mid-point as a proxy for even distribution over the worklife, and given a 30-year worklife expectancy, the midpoint is 15 years.
- Average of 25-year historical average from 6-month and 10-year.
- The only truly risk free investment vehicle is short term.
- Current 10-Year Note that's currently available for first 10 years, then use long term forecast of 10-Year Note from CBO for years farther out than 10 years to account for normal fluctuations in rates over long term periods.
- Average of 5, 10, and 30 years.
- 50% bills and 50% 10-year notes, 25-yr averages of each.
- I use a current yield ladder.
- Long run interest rates involve liquidity risk, which should not be assumed by the plaintiff.
- Laddered using 1, 3, 5, 7, 10, 15, 20, and 30-year T-bill.
- I would use a 10-year Treasury rate.
- I use the three-year.

**Question 11.** *Concerning the issue of determining a current wage base for estimating lost earning capacity, which best describes the method you would use to average annual wages for several past years?*

This is a new question, which had 184 usable responses. Results for the 2015 Survey are shown in Table 7.

Table 7

	(S10)
I increase past wages to a current value by changes in the CPI-U	31.5%
I increase past wages to a current value by changes in the ECI	24.5%
I increase past wages to a current value by changes in a BLS wage index such as average hourly earnings	23.4%
I do not adjust past wages to a current value	10.3%
I do not consider past wages in determining a wage base	0.5%
Other (please specify)	9.8%

Almost 80% of those who answered make some adjustment to previous earnings. As shown, 31.5% use the CPI-U. Another 47.9% use a wage index—either the ECI or a BLS wage index. It is clear that there is no consensus concerning how the current wage base should be calculated other than that some form of indexing is typically utilized.

**Select Respondents' Comments to Question 11:**

- Based on historical increases previously received.
- Ideally based on the Plaintiff's own experience with past wage increases, or the CPI if that's not available.
- I use the annual increase in the Wages and Salary component of the Employment Cost Index.
- SS cola history.

- I use a life-cycle model.
- Hourly Comp/hr index, similar to ECI.
- Depends on worker. If only high school education, I use CPI; if college educated, use ECI or add a productivity factor.
- Case law says an adjustment to past wages inadvertently incorporates prejudgment interest into the calculations.
- This places them all in current year dollars.
- The ECI was designed to measure earnings growth.
- The current rate of inflation is quite low. To make an adjustment and explain it to the jury adds a level of complexity that is more likely to confuse the jury.

**Question 13.** Assume that Mr. Jones is married and earns \$20,000 per year. Mrs. Jones earns \$100,000 per year. Mr. Jones dies and the forensic economist **MUST** deduct self-consumption of the deceased based upon expected consumption (as opposed to maintenance consumption). Is the base used for estimating self-consumption total family income equal to \$120,000 or is the base the income of the decedent equal to \$20,000? (The attorney instructs you that the governing law says nothing about which is the proper base and the choice is up to the expert economist.)

The number of usable responses for Question 13 was 181 (see Table 8).

Table 8

	(S9,15,80)	(S10)
I would use the decedent's income equal to \$20,000 as a base	34.1%	34.8%
I would use total family income equal to \$120,000 as a base	65.9%	65.2%

Some version of the question has been asked since the seventh survey (S7) in 2006; no dollar amounts were suggested in the initial version of the question, and the responses were rather evenly divided, with 53.4% favoring the decedent income approach and 46.6% favoring the family income approach (S7,16,39). In the next version (S8) in 2009, decedent annual income was specified at \$70,000 versus survivor annual income of \$50,000, with the result that 38.3% chose the decedent's income as a base for self-consumption while 61.7% chose total family income as a base (S8,11,12). For the 2012 (S9) and 2015 (S10) Surveys, the hypothetical income magnitudes were reversed and were made much more divergent—decedent income was \$20,000 annually versus survivor income of \$100,000 annually. Thus, a net loss of earnings would likely not exist under a total family income approach. Nevertheless, as Table 8 results indicate, preference for a total family income approach dominated in both the 2012 (S9) and 2015 (S10) Surveys, with respondents indicating a preference for the total family income approach by almost a two-to-one margin. A sharp debate continues among NAFE members about this important issue.

#### Select Respondents' Comments to Question 13:

- Coming from California, a state with a very explicit Jury instruction to not consider the poverty or wealth of the plaintiff (surviving spouse),

and one's earnings are certainly an indication of their poverty or wealth, I consider only the earnings of the deceased. Paraphrasing the authors on the recent TIPS article in the JFE, we serve two masters: law and economics. When they do not line up, the law trumps.

- Family income and then use Patton Nelson.
- The personal consumption tables that I use are based on total family income.
- Spouses do not base their personal consumption on their earnings only, but on total household income. This is the basis of the income parameter for well-respected studies of personal consumption.
- The percentage consumption statistics from the CES use total family income. If you don't use total family income in calculating the amount, you would fail to confirm the original survey data.
- I would cite both approaches, but also ask for the widow about how they split the income and spending.
- The percentages presented in the literature are based on family income.
- His consumption is based on his income.
- To use the combined earnings of the decedent and spouse in this type of situation would suggest that the defendant has created a positive economic benefit for the spouse by virtue of the death of the decedent. Moreover, it suggests that the spouse has an obligation to continue to work to offset any loss that might have been funded by the decedent's annual earnings.
- I've never understood why forensic economists ignore family income. In most households income is shared and personal consumption is a function of the income of the household, not just of the decedent. This example makes clear the problem with ignoring the spouse's income.
- Can use decedent income method in all cases. Some cases do not disclose spouse's earnings, so the family (household) income method does not always work.
- I think either way is defensible. I would probably turn down this case.
- In Canada in such situations, the modified sole dependency method is often accepted. Thus the calculation is based solely on the decedent's income.
- It is bad public policy to award no lost net earnings in a wrongful death claim.

**Question 15.** *In determining the dollar value of lost household services per hour (or other relevant time period) for a homemaker not otherwise employed, I generally use (check one):*

The percentage responding to each of the six options for the 2012 and 2015 Surveys are shown in Table 9.

There were 183 usable responses for Question 15. Clearly, the most common method of estimating the dollar value of household services is the cost of hiring an individual to replace the injured or deceased for a particular service. The next most common method besides "Other" is the cost of a general housekeeper. The results were very similar to those obtained in the 2012 Survey indicated in Table 9. In fact, one survey prior to 2012, the 2003 Survey, showed a remarkably

Table 9

	(S9,17,81)	S(10)
The hourly wage this homemaker could have earned in the labor market as a full-time worker.	1.8%	2.7%
The cost of hiring one or more individuals to replace the particular services that were lost.	53.6%	50.3%
The federal or state minimum wage.	6.5%	8.2%
The cost of hiring a "housekeeper" whose role is to provide general household services.	13.7%	11.5%
Combination of above techniques (please explain in Comments section).	6.5%	7.1%
Other (please explain in Comments section).	17.9%	20.2%

similar result as well. For example, the most common result in 2003 was the cost of hiring one or more individuals to replace the particular services that were lost, 54%. Clearly, this is one area where there is not necessarily agreement among all forensic economists, but the opinions of respondents are remarkably stable over time.

#### Select Respondents' Comments to Question 15:

- The Dollar Value of a Day.
- I adopt the dollar value of a day from Krueger.
- I use wage rates from the person's geographic location for jobs comparable to the services provided.
- Wage rate that maids are paid.
- I calculate the average hourly rate of various occupations in the same geographic area (cook, laundry worker, maid, landscaper, etc.) from the OES.
- I use the average wage of all "household" workers as given in Dollar Value of a Day.
- I use the DVD entry-level replacement wages corrected to area.
- The median market hourly wages associated with the household activities.
- I survey the costs of hiring housekeepers locally which is very conservative to the extent the decedent also provided higher skilled services such as bookkeeping, auto service, yard and home maintenance and repair, etc.
- Dollar Value of a Day provides replacement value for spectrum of activities for the typical person with specified characteristics. Dollar Value of a Day provides the table for adjusting national average to particular state average replacement costs.
- In calculating household services, conservatism is a must. Thus, I usually apply minimum wage, and I apply it only to credibly documented activities.
- I use both the hour and value from the Dollar Value of a Day. I worried at first, fearing challenge to the semi-privately developed source. I have had no problems over the past 10 years. It is the best source, so I use it.
- I use Dollar Value of a Day and adjust for region of state.
- HH services wage information derived from OES.

**Question 17.** *When determining the interest rate for present value purposes over 30 future years, I generally use:*

There were 181 usable responses for this question. As with Question 1 concerning inflation, this question has been asked in nearly every survey. Table 10 provides the results for the 1990, 1997, 2006, 2009, 2012, and current surveys.

All the categories listed in Table 10 have been listed since the 2006 Survey (S7). Since that time, there has been no real discernible trend in the survey responses. It is clear that use of current interest rates and use of some historical average of interest rates occupy the large majority of responses—approximately 80%. There appears to be no majority method of forecasting interest rates.

Table 10

	(S1,19,24)	(S4,9,34)	(S7,30,45)	(S8,23,18)	(S9,21,81)	(S10)
Current interest rates	24.6%	34.2%	34.2%	32.2%	38.6%	38.1%
Historical average	57.6%	48.0%	41.1%	42.9%	44.6%	39.8%
A forecast of interest rates			6.3%	9.0%	6.6%	7.2%
Some other method	7.8%	17.1%	17.7%	14.1%	10.2%	12.7%
Not applicable			0.6%	1.7%	0.0%	2.2%

#### Select Respondents' Comments to Question 17:

- Laddered Treasury bills/bonds. Using current bond rates matched to year at which future damages are paid out.
- Current yields, laddered by maturity, for STRIPS (“zeros”) Treasuries, available online.
- Would use period of 1983-2014 as representative historical period (and would use same period for arriving at growth rate).
- I use the yields to maturity on zero-coupon Treasury bonds of matching maturities.
- I analyze long-term historical rates, current rates (i.e. past 5 or 10 years), and forecasts of interest rates by economic forecasting agencies (i.e., Conference Board of Canada, Policy and Economic Analysis Program at University of Toronto, etc.).
- Current rate on 10-Year Notes for first 10 years, then use forecast for durations longer than 10 years.
- Average of 5- and 10-year bond yields over the past 39 years.
- I use a combination of all the items you mentioned.
- I use a combination—both current interest rates but backed up by a forecast as well.
- I use a combination of recent and historical short-intermediate term treasuries.
- Since we are determining the lump-sum amount that must be available today and invested at prevailing interest rates in order to generate sufficient cash flow to replace future losses, the only investments we have access to are securities currently available in the market. The use

of historical or predicted rates that are no longer available or are speculations about the future are irrelevant.

**Question 19.** *If you selected “some historical average of interest rates” for Question 17, which of the following best reflect how you chose the number of years to be averaged?*

*The number of years equal to the expected worklife (in this example, 30 years). The number of years is fixed, independent of expected worklife, and I use \_\_\_\_\_ years.*

There were 77 responses to this question (see Table 11).

Table 11

Historical period equal to the number of years of expected worklife	32.5%
Historical period independent of expected worklife	67.5%

Some 32.47% indicated that they used a historical period equal to the number of years of expected worklife and 67.53% said that the number of years was fixed, independent of expected worklife. This is very close to the results for the 2012 Survey where the results were 34.1% using years of expected worklife and 65.9% using years independent of worklife. Of those respondents indicating a fixed historical time period, the mean number of years was 30.36 years and the median number of years was 30 years, an average value very close to the example given in the question. The interquartile range was from 20 to 40 years. The minimum and maximum ranged from 1 to 65 years. It is uncertain whether the example where worklife equals 30 years served as an “anchor” even for those who responded that the historical time period was independent of the worklife in a particular case. However, the fact that the mean number of years for this option was 30.36 years and the median was 30 years does raise that possibility.

#### Select Respondents’ Comments to Question 19:

- I used to use a 20-year average of real rates, but this is no longer necessary. TIPS give the market judgment.
- If the future period is quite short—10 years or less—I often use shorter historical period.
- Historical interest rates through whatever period are irrelevant to the financing of future loss flows.
- I use real interest rates from 1953 (government fixed rates prior to end of Korean War) to current time.
- The only time I deviate from using a 30-year average is if the future time period considered is less than 10 years because of the current low level of interest rates.
- I typically use 20 years unless the forecast period is less than 20 years.
- I look at long-term average returns, often 30 years or more.

- For the average worker I use 1950 to the current year to get enough economic cycles.
- I use an average starting with year 2001.

**Question 21.** *In determining worklife expectancy, my generally preferred technique involves using... (check one):*

There were 182 usable responses for this question. The results for the 1999, 2006, 2009, 2012, and current surveys are shown in Table 12.

Table 12

	(\$5,8,75)	(\$7,35,47)	(\$8,31,21)	(\$9,27,86)	(\$10)
BLS Tables	23.6%	8.3%	5.8%	4.8%	1.7%
Tables as published in economics journals	21.4%	46.2%	55.8%	62.7%	61.0%
Median or mean years to final labor force separation	6.7%	4.5%	2.9%	4.2%	1.7%
LPE approach	9.6%	10.9%	8.1%	3.0%	6.6%
Ending loss calculation at some fixed retirement date	8.4%	9.0%	7.0%	7.8%	5.0%
A combination of above techniques	25.3%	21.2%	20.3%	17.5%	14.8%
Other (Please specify)	- - -	- - -	- - -	- - -	9.3%

There was an additional category added to this year's survey, "Other," which obviously made it difficult to compare results to earlier surveys. Nevertheless, worklife tables as published in various journals such as the *Journal of Forensic Economics* and *Journal of Legal Economics* continue to dominate the results. On the other hand, use of the BLS tables, which were used by 71.6% of the respondents in the first survey in 1991, has declined to less than 2%. Other techniques such as LPE (life, participation, and employment) and fixed retirement dates are still used, but by a relatively small minority of respondents.

Nearly one-fourth of the respondents indicated that they use a combination of the techniques listed in the question or some other technique (the last two categories). As indicated in the Comments section, the particular set of techniques may vary with the circumstances of the case. For example, worklife tables may be used for "blue collar" jobs and median years to retirement for "professional" jobs. Also, some respondents indicated they adjust general data for the specific history of the plaintiff, which might include the retirement date of a pension plan or whether the person was self-employed.

#### Select Respondents' Comments to Question 21:

- I generally look to Richards' Life and Worklife Expectancies for non-railroad WLE; Skoog and Ciecka's published tables for railroad WLE.
- I consider several pieces of information. These include the Social Security Full Retirement Age, the Median years to final separation, the existence or lack thereof of a defined benefit retirement plan, and the testimony of the plaintiff.

- Extend projections of earnings well beyond expected age of retirement, and adjust for statistical probability of participation using census data.
- I use the Social Security Administration designation of full retirement age.
- The likely retirement age based on actual Labor Force Participation Rates by Age from BLS.
- Combination of WLE and full retirement.
- I calculate my loss thru the longest worklife being considered, with running totals showing the loss thru earlier worklives. I identify indications of worklives (JFE studies, Social Security retirement age, plaintiff's expectations) for the Jury's consideration.
- I use either WLE as published in JFE or LPE depending on the circumstances of the case. WLE works well when expected income is relatively stable over remaining worklife. However, when expected income rises and falls, LPE does a better job.
- I use Worklife for people with jobs. I use Median age to final labor force separation for career and professional people, especially if they have never been out of the labor force.
- While I use Ciecka's tables, I believe the LPE approach has merit as well. The difficulty here is deciding at what point to terminate the calculation; it should not be terminated until well after "normal" retirement, say to age 75. The question then is how reliable the various components of LPE are when looking at advanced years.
- In Canada, almost all forensic economists use the LPE method. We have working life expectancy measures from Statistics Canada (from 1996-97 data in "Damages: Estimating Pecuniary Loss" and from 2006 in SEDAP's study), but they are not often used, except in cases involving older plaintiffs.
- In cases where the injured/decedent had a long-established history of employment with no, or only minimal, labor force disruptions, then I typically use the Skoog, Ciecka, and Krueger tables with a supplemental adjustment for unemployment. In cases where the injured/decedent has demonstrated an "average" employment history or if no history is available (minor child), then I typically use the LPE approach.
- I use the Social Security full retirement age to establish a statistical work life expectancy. Recent work out of Boston College suggests that some consideration be given to a retirement age of 70.
- I use the ratio of worklife expectancy (as published in journals) to years to final labor force separation (as published in journals), and apply that ratio to each year's projected earnings until final separation.
- I take the WLE out to YFS, and load the WLE using LPE statistics (it is not a uniform loading of the WLE).
- We use reductions in worklife only for involuntary withdrawal.

**Question 23.** *Assume you have been retained by plaintiff counsel in a personal injury case and that plaintiff counsel retains a vocational (rehabilitation) expert as well.*

This is a new question, and there were 182 usable responses (see Table 13).

Table 13

	(S10)				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I accept the opinion of a vocational (rehabilitation) expert about PRE-INJURY WAGE LEVELS	14.3%	26.4%	23.6%	21.4%	14.3%
I accept the opinion of a vocational (rehabilitation) expert about POST-INJURY WAGE LEVELS	37.4%	44.0%	12.6%	3.3%	2.3%
I accept the opinion of a vocational (rehabilitation) expert about PRE-INJURY WORKLIFE EXPECTANCY	6.0%	13.2%	32.4%	24.7%	23.6%
I accept the opinion of a vocational (rehabilitation) expert about POST-INJURY WORKLIFE EXPECTANCY	17.6%	33.0%	25.2%	9.9%	14.3%

At least two generalizations may be made from these results. Forensic economists are much more likely to accept the opinion of a vocational (rehabilitation) expert in a post-injury analysis than in a pre-injury analysis. Secondly, in a post-injury analysis, forensic economists are much more likely to accept the opinion of a vocational (rehabilitation) expert on wage levels than on worklife expectancy.

#### Select Respondents' Comments to Question 23:

- I don't blindly agree with the voc. rehab. expert, but agreement usually happens because our information tends to be consistent. I have, however, had cases where my information differed radically from the voc. rehab. expert. In such cases I've either done it my way or both ways.
- c and d are irrelevant.
- I find most vocational experts know little about what worklife expectancy really means. I also find that the few who opine on worklife expectancy are a small percent who have no training or ability to reliably opine on that. In addition, I also find that they tend to work almost exclusively for plaintiffs.
- These are numbers that I can confirm, so I may start with the Voc. person's numbers, but double check.
- I do my own economic research; I depend on vocational experts only to diagnose the extent of disability and the types of careers a person might follow post injury.
- If there is a vocational expert in the case, the typical instruction from the attorney is to rely on those vocational opinions.
- Vocational experts may have information unique to the individual.

**Question 25.** Which of the statements below best represents your opinion about the implementation of the ACA (Affordable Care Act of 2010) and its effects on the estimation of the present value of losses in medical and related costs?

We were interested in how forensic economists were accounting for the Affordable Care Act and added this question to the survey. There were 178 usable responses for Question 25 (see Table 14).

Table 14

	(S10)
Because insurance coverage is required, even after serious permanent injuries, only out-of-pocket and other insurance costs will be considered, and life care plan estimates will be reduced	4.5%
The existing collateral source rules and subrogation procedures in state laws will prevent any significant changes in how forensic economists reduce life care plans to present value losses	32.0%
It is impossible, at this time, to base any (changes in) estimation methods on the implementation of the ACA of 2010	39.9%
Uncertain or other (please specify)	23.6%

Most of the survey respondents (63.5%) were uncertain about the impact that the ACA will have on medical and related costs as indicated in the last two responses. Another third of respondents felt that existing collateral source rules would prevent the ACA from having any significant changes in estimating the present value of future medical and related costs. Less than 5% of respondents thought that life care plan values would be reduced by the ACA.

#### Select Respondents' Comments to Question 25:

- If there is anything that is speculative at this juncture, it is the future of the ACA.
- Additional research is required on a case-by-case basis to determine which future medical costs are in fact covered by insurance. For example, big-ticket items like 24/7 attendant care are not going to be fully covered by insurance.
- I consider it to be my job to reduce the life care plan to present value. The application of collateral source rule and who will pay for what, I consider to be the responsibility of the attorneys.
- Based on my experience with the Medical Injury Compensation Reform Act (MICRA) in California and the fact that we are still litigating aspects of how it is applied almost 40 years after its enactment and over 30 years since its implementation, it is much too early to try to assess how the ACA will affect the calculation of the present value of life care plans.
- I do not write life care plans; I only bring them to present value. This does not seem to be a proper question for forensic economists.
- What a fiasco.
- Without guiding legal instruction regarding the ACA and its potential impact on future and medical care costs in personal injury cases, I find it premature for the economist to include any effects into the calculations.

- Collateral source - but also it takes a life care planner to estimate out-of-pocket costs, and the economics follows the LCP.
- I would leave the determination of the ACA impact to the discretion of the lawyers. I think it opens up the possibility that certain losses will be capped by out-of-pocket and insurance costs, but that attendant care, often the largest component of a life care plan, is still unlikely to be covered by traditional medical insurance.
- I would discuss the issue with retaining attorney and fall back on “I have been asked to assume...” if attorney had an opinion on how to treat the issue.

**Question 27.** *My total annual TAXABLE LABOR INCOME in 2014 (in percentage terms) came from the following sources: (Total MUST sum to 100%. Do not include income earned outside of the labor market such as dividends, interest, pensions, 401(k) income, and Social Security benefits.)*

The number of usable responses for this question was 180. The results for the surveys in 1991, 2003, 2009, 2012 and the current survey are shown in Table 15.

Table 15

	(S1,1,15)	(S6,17,38)	(S8,47,29)	(S9,39,92)	(S10)
Faculty salaries	45.2%	22.9%	16.8%	16.0%	12.7%
Administrative salary	6.4%	3.8%	1.8%	0.9%	1.6%
Income (consulting) in forensic economics	34.3%	52.9%	64.5%	70.2%	73.0%
Income in other consulting fields	10.1%	13.9%	8.3%	8.6%	10.9%
Other taxable labor income	4.1%	6.0%	4.2%	4.4%	2.6%

This question has been asked in most previous surveys, and has revealed some interesting trends. The trend towards earning more income from consulting as a forensic economist continues each year. Since 1991, earnings from forensic consulting have increased from 34% to 73% of total labor income. Faculty salaries, on the other hand, have fallen from 45% to below 13%. In 1991, only 21.3% of the respondents earned 50% or more from forensic economic consulting. In the current survey, that figure is 74%. In fact, 42% of the respondents to the 2015 Survey indicated they received 100% of their earnings from forensic economic consulting.

#### Select Respondents' Comments to Question 27:

- I retired in 2014; need to add category: retirement income.
- As the owner of a consulting firm with eight other employees, the distinction between an administrative salary and consulting income is largely artificial.
- The other 60% is really retirement income.

**Question 29.** *My earnings as a forensic economist in the calendar year 2014 were derived as follows: (Earnings should be a percentage of consulting earnings as a forensic economist, not total earnings.)*

The number of usable responses for Question 29 was 179. The results from the 1999, 2003, 2009, 2012 and the current surveys are shown in Table 16.

Table 16

	(S5,16,87)	(S6,15,37)	(S8,50,30)	(S9,41,93)	(S10)
Plaintiff-side work	67.0%	65.2%	59.2%	61.1%	59.3%
Defense-side work	37.7%	34.0%	39.5%	38.1%	39.5%
Other	0.3%	0.7%	1.3%	0.8%	1.2%

There was a slight decline in the percentage of plaintiff's cases until the 2009 Survey, but the split in income between plaintiff and defense remains approximately 60:40. An interesting question examined previously is whether a sizable number of forensic economists are predominately hired for either one side or the other. There were 16.4% of the respondents that indicated 90% or more of their cases are for the plaintiff, while 29.4% indicated that 80% or more are for the plaintiff. The comparable numbers for those hired by the defense are 2.7% and 6.8%. These percentages are comparable to those surveyed in 2009 and 2012. Thus, there are some forensic economists who heavily depend upon being hired by either the plaintiff or defense, but the great majority has some balance in their forensic practice.

#### Select Respondents' Comments to Question 29:

- 60% of time, I testify for plaintiffs; 60% of clients are defendants.
- I had a large commercial case where I worked for the plaintiffs, which skewed the revenues to be more plaintiff than defense. In number of case I was retained and worked on it would have been more defense than plaintiff.
- I work in a market where competitors whose reports are very favorable to defense dominate the defense business; I would prefer that my earnings were better balanced.

**Question 31.** *My policy is to require the payment of a retainer before beginning any work on a case. Please select as many choices below as are accurate with your policy.*

This is the first of five new questions to the survey. They explore how forensic economists run their practices. This question had 182 usable responses (see Table 17).

While over 70% of respondents require a retainer, only about 13% do so with no exception. Almost half of the respondents do not require retainers from previous clients that pay their bills. About 20% do not require a retainer when

Table 17

	(S10)
Yes, no exceptions.	12.6%
Yes, except for law firms I have worked for previously and which have always paid	45.0%
Yes, except when retained by defense counsel on behalf of an insurance company, in which case the payment is reliable	20.9%
Yes, except when retained on behalf of a government entity, in which case by law payment cannot be made in advance	22.5%
Yes, except when (please detail in comment question below).	3.8%
No	15.9%
No, but with exception(s) (please detail in comment question below).	12.6%

doing defense work for insurance companies and about 20% do not require retainers when payments cannot be made in advance.

#### Select Respondents' Comments to Question 31:

- Over time I have pared down the attorneys I choose to work for, such that a retainer is not necessary.
- If retaining attorney is new and/or has slow pay record, I require retainer.
- Always get a good-faith retainer up front. Increasingly, I have been using evergreen retainers. [Evergreen retainer defined at Question 35, first response.]
- Have "one bite" rule (don't work for client again) with no retainers.
- I do not want to return money, so no retainer. I bill on invoice. A report is a flat fee. No report, no fee. KISS! In 1000 cases over 20 years, only one non-full-payment (employing attorney died).
- Always request and get retainer from counsel on plaintiff side work. Do not request or require retainer for defense side work. There are exceptions on either side depending on case facts and prior experience.
- Also, I do not get retainers for U.S. government work.
- We generally work with plaintiff lawyers. We have only rarely had a problem with collection. We require retainers when engaged by individuals rather than lawyers.
- I require retainers for new law firms (first time to work with them) and slow paying firms. Also, I require retainers in almost all commercial damages cases. In addition, because the court must approve your fees in a Chapter 11 bankruptcy matter (and can lower them if the judge thinks your fees are too high), I get a large retainer in those matters.

**Question 33.** Assume for the moment that you charge a base rate for your work equal to 1.00 per hour, which represents your standard or base hourly rate. What number would represent how much you charge for the types of work below?

There were 161 usable responses to this question (see Table 18).

The mean values for each type of work are shown in Table 18. For research, report preparation and deposition/trial preparation, the means are also extremely close to the range of interquartile values. For actual deposition or

Table 18

	(S10)
Research	1.00
Report preparation	1.02
Deposition and/or trial preparation	1.09
Actual deposition testimony time	1.20
Actual trial testimony time	1.23
Travel	0.82

trial testimony, the interquartile range was from 1.00 to 1.20. Travel had an interquartile range of 0.83 to 1.00. Its skewness relative to the mean reflects the relatively large number of respondents who do not charge for travel. On average, respondents charge a 20% premium for either deposition or trial testimony. They allow about an 18% discount on travel. Some respondents had trouble with this question as they charge a flat fee for a case or for travel.

#### Select Respondents' Comments to Question 33:

- I do not charge any more to defend my opinions than I charged to formulate them.
- Travel has an opportunity cost equal to my full hourly rate!
- I do not charge an hourly rate.
- Whatever strikes me as equitable at the time.
- The 1.00 for report prep accounts means I bill at the same hourly rate, but I do not bill for the entire number of hours it takes me to produce a report. Some of the work could be done by a lower-paid office assistant, but I do not employ such a person; hence the discount in terms of hours. The discount is applied by my not billing for the full number of hours, but at the regular hourly rate. The 0.25 for travel is a crude estimate. I do not charge travel time for local work (anything within about an hour by car). For distant travel I charge one-way only at my normal rate, with the first half hour gratis.
- My hourly fee is constant, except that I have a four-hour minimum for testimonial appearances and charge 50% (up to a six hour daily maximum) for travel time, with no charge for "dwell time."
- I have one rate for everything, even washing windows.

**Question 35.** *The amount of my retainer is approximately equal to \_\_\_\_ hours of work at my normal hourly rate.*

There 166 usable answers to this question. The mean retainer was 4.8 hours and the median was 4.0 hours. The interquartile range was from 2.0 to 7.0 hours.

#### Select Respondents' Comments to Question 35:

- With an evergreen retainer, the retainer is as much as needed to cover the next phase of the case.

- No retainer. KISS! My hundreds of clients over the years have always fully paid invoices (with the one exception). I trust them, and they reciprocate.
- I have not raised my retainer but I have raised my hourly rates. My retainer used to be 5.5 hours now it is 4.5 hours.
- That figure is after subtracting out a setup fee equal to 25% of the retainer.
- This is for commercial damages work; I will note that the dollar amount of expected billings in such cases is much larger than it appears is typical in lost wages cases.
- I used to charge retainer based on estimated time required. I changed to small retainer in part to encourage earlier retention when discovery would still be possible.
- After 25 years I find my retainer covers the cost of the report 95% of the time.

**Question 37.** *My policy is to have a minimum charge for appearance at DEPOSITION TESTIMONY. No/Yes – and the amount is approximately equal to \_\_\_\_\_ hours of work at my normal hourly rate charged for deposition.*

There were 96 useable responses to this question as well. Of those responding, 55% have a minimum charge for deposition testimony. The mean and median values are 3.3 and 3.0, respectively. The range of charges is fairly narrow, with the interquartile range between two and four hours.

**Select Respondents' Comments to Question 37:**

- California Law does not allow a minimum. You can only be paid for the time actually taken by the deposition. However, I charge a minimum of 1 hour.
- This practice is actually prohibited in my state, although other experts do charge a minimum. More importantly, it is absurd and a thinly veiled money-grab. Economists are not dentists with set appointment times. If one activity cancels, or is shorter or longer than expected, our labor can flow freely to another use.
- If depo takes 1 hour, I bill it for 2.5 hours. If it takes 3 hours I bill it for 3 hours

**Question 39.** *My policy is to have a minimum charge for appearance at TRIAL TESTIMONY. No/Yes – and the amount is approximately equal to \_\_\_\_\_ hours of work at my normal hourly rate charged for testimony.*

There were 78 useable responses to this question. Of those responding, only 45% have a minimum charge for trial testimony. The mean and median values are 4.2 and 4.0, respectively. The range of charges is slightly wider than in the previous question, with the interquartile range between two and five hours.

There were 73 respondents who had retainers for both deposition and testimony. While their mean values were about one-tenth of an hour higher, the median and interquartile ranges are the same as each sample.

**Select Respondents' Comments to Question 39:**

- Case law does not allow a minimum in California.
- I only charge for the time actually on the stand, including breaks. I charge for waiting to testify time at my regular hourly fee for office work.
- One hour prep and two hours testimony minimum.
- I charge a fixed fee, not an hourly rate.

**Question 41.** *Please complete the statement: "I have been practicing and earning income in the field of forensic economics for \_\_\_\_\_ years."*

There were 172 usable responses to Question 41. The mean number of years was 26.2 and the median number of years was 27.5. The interquartile range was from 18 to 35 years. The minimum and maximum ranged from one year to 52 years. In the first survey conducted in 1990, the average years of experience in the field was 11 years. In the previous survey conducted in 2012, the average was 25.5 years. Although at some point it is likely that the "veterans" will begin to retire and younger forensic economists enter the field, the 2015 Survey has not indicated that has taken place to date.

**Question 43.** *Excluding yourself, how many people (partners, bosses, and employees) work in your forensic practice?*

These next three questions are new and explore the size of forensic practices. There were 169 usable answers to question 43. The median response indicates one other person working in the practice. Of the 169 respondents, 76 (45.0%) indicate that they work with no one else, while the remaining 93 (55.0%) have at least one other person associated with their practice.

Of the 93 respondents with at least one other person in their practice, 13 worked with more than ten people, whereas the mean number of other people was 6.2 and the median was 3.0. The interquartile range was from one to six other people.

**Question 44.** *Of the number you entered in question 43, how many are Full-Time? Part-Time?*

Of the 93 useable responses to the previous question that indicated other people were associated with their practice, 66 reported having at least one other full-time person in their practice. Those 66 respondents had a median of four other employees and a mean of 7.1 other employees. The interquartile range was from one to eight other people associated with the firm. For 62.1% of those 66 respondents with full-time people associated with their practice, all of those people were full-time. For the other 37.9% of those 66 respondents with full-time people associated with their practice, only some were full-time. The rest were part-time.

Of the 93 useable responses to question 43 that indicated other people associated with their practice, 52 reported having at least one other part-time person in their practice. Those 52 respondents had a median of only two other

employees. About half of those respondents (27) report having *only* part-time employees. The rest (25) report both full-time and part-time employees.

**Question 45.** *If you entered any number other than zero for Part-Time workers in question 44, how many Full-Time Equivalent (FTEs) do they represent?*

There were 42 usable responses to this question. For those with part-time employees who responded to this question, the average FTE was 0.76 and the median was 0.50.

The combined information in these three questions was used to generate Table 19. There were 76 respondents that reported working solo and 93 that reported working with at least one other employee. Of those 93 working with others, however, only 83 reported the FTEs, which limits the useful aggregation to 159. For 98 of the 159 useable responses (61.6%), forensic economists are either working alone or have part-time employees working very limited FTEs. The other respondents are working with full-time or full-time and part-time employees and are averaging greater than seven employees in each practice. Clearly there is a significant difference in the two types of practices.

Table 19

	Number of Useable Responses	Mean Number of Part-Time and Full-Time FTE Co-Workers
Solo	76	0.0
Reporting Part-Time only FTEs	22	0.4
Full-Time only	41	7.7
Reporting Full-Time and Part-Time FTEs	20	7.9

#### Select Respondents' Comments to Questions 43, 44 and 45:

- Employees are too much trouble. They want to make personal issues into business considerations, and government requirements make support of them onerous.
- The toughest step in building a practice is to take the risk of hiring people.

**Question 47.** *Please use the space below to outline or discuss any ethical dilemmas or issues you believe to be important for forensic economics practitioners. These may be issues that you have personally faced, that others have faced, or that you believe the profession should address.*

Numerous comments concerning ethical issues and aspects were provided, some appearing in essence multiple times while others were unique. To streamline the presentation, the gist of each of the selected comments is presented here, without verbatim quotes. Among the concerns were:

- Shifting methods (plaintiff versus defense)
- Slanted advertising (plaintiff versus defense)
- Advocacy by the expert for the client as opposed to advocacy for the expert's opinion itself
- Replication of results thwarted by inadequate detail in written reports
- Testimony that caters to the attorney client (plaintiff versus defense)
- Testimony beyond one's area of training/expertise
- Use of unreliable data
- "Plaintiff" experts dominating NAFE
- Expert testimony on hedonic loss
- Real, positive growth in earnings forecasted for those of high school educational attainment (or less)
- Influence of repeated engagements with the same attorney client on an expert's objectivity
- The lack of transparency in expert reports, with the consequence of an opposing expert not knowing what to expect at trial
- Presenting assumed/hypothetical analysis as if it were valid and reasonable instead of tentative and less than ideal
- Liars
- Inappropriate use of the results of the survey of NAFE members
- Undisclosed draft reports
- Unethical client attorneys, including those who withhold facts or refuse to pay fees owed
- Excessive "boilerplate" filler
- Lawyers unconcerned about preserving their experts' reputation (as in cavalier preparation for a Daubert hearing)
- Experts not up to date regarding the current forensic economic literature
- Vocational rehabilitation reports that are junk science
- Unsupported estimated losses for companionship, advice and counsel
- Presentation of statistical average earnings while ignoring the actual earnings work history of a worker
- Minimum charges, double billing or failure to return an erroneous double payment
- Implicit contingency fee arrangement accomplished via bill reduction following a case loss at trial
- Online university advanced degrees
- Failure to cite sources fully/properly
- Attorneys requesting analysis based on client claims and not financial data
- Attorneys requesting fee reduction following a loss at trial
- Experts citing results that are actually not supported by the cited sources
- Use of canned software to compute damages
- And this quote: "I don't think it is an ethical dilemma if secretly I would like to slug the attorney cross examining me!"

**Question 48.** *How often do you think a National Survey of NAFE members should be conducted?*

There were 177 usable responses for Question 48 (see Table 20).

Table 20

Every two years	51.4%
Every three years	35.6%
No Opinion	13.0%

Since its inception, this survey effort has taken place every three years. In the 2012 Survey we asked the question how often future surveys should be undertaken. The overwhelming responses were split between two and three years. In seeking a more definitive response to guide our future survey efforts, we are now asking the questions with only the two options being considered plus a “no opinion” option.

It was hoped that there would be a definitive “winner” that would emerge, but that result is not apparent. Nevertheless, as was the case in the 2012 Survey, there is a preference for the survey to be conducted every two years rather than every three years given the former is preferred by 51% to 35% to the latter. (In the 2012 Survey, 44.9% preferred the every two years option while 27.6% preferred the every three years option.)

#### Select Respondents’ Comments to Question 48:

Many separate conflicting comments appeared, like “We are an evolving field. Surveys should be done more often” versus “Pace [of change] of practices is likely glacial.”

**Select Respondents’ Comments to Question 50.** *Please use the space below for any additional comments you wish to make about this survey or suggestions for future surveys.*

As with responses to question 46, appearing below are brief summaries of the comments and not the verbatim comments themselves.

- Questions needed on business volume, source and type.
- Note that some FEs do not use a single earnings growth rate, discount rate or inflation rate, so early numbered questions in the survey may be inappropriate.
- Revive questions on “hedonics” in the next survey.
- Revive questions on net discount rate method versus separate presentation of earnings growth and discounting.
- Revive questions concerning use of privately published worklife disability tables.
- Add questions about employment termination and/or discrimination and concerning gross up for tax implications of a lump sum award in such cases.
- Add questions related to life care plan analysis.
- Add questions concerning phasing out an FE practice and/or the impact of retirements in the FE community on the practice of FE.

- Add questions on loss of employer paid health insurance, calculating household services loss and treatment of unreimbursed job expenses.
- Present additional questions related to decedent only income versus family income in calculating self-consumption in a death case.
- Develop questions concerning medical malpractice cases and divorce cases.
- Develop questions concerning worklife expectancies.
- Develop questions on percentage of billings by case types.
- Develop questions concerning the content of retainer agreements.
- Develop questions concerning commercial damages. Determine the percentage of FEs who do commercial damage cases.
- Develop questions that get at the demographic composition of the NAFE membership (income, educational attainment and the like).

#### IV. Summary and Conclusions

The 2015 Survey was the fourth conducted electronically, the response rate was a healthy 33%, and respondents averaged 26.2 years of experience as forensic economists. The income ratio from plaintiff versus defense work remained approximately 60:40, and the percentage of total earned income from consulting work in forensic economics climbed to slightly more than 73%, with only 13% of earned income from faculty salaries.

Several survey questions are repeated in every survey, or have been asked in many surveys since 1990. Thus responses about important forecast values, or methods, or data sources can be tracked over time. The 30-year average forecast of annual CPI growth declined approximately two percentage points between the 1990 and 2006 Surveys, and has continued a slow descent to 2.6% since the 2006 Survey. The indirectly calculated net discount rate in this survey was a mean value of 1.04% while the direct method was 1.36% annually.

When asked whether self-consumption deductions in wrongful death cases should be deducted from the income of the deceased versus total family income, 34.1% favored the former and 65.9% the latter method. Respondents remained very split over whether current (38.1%) interest rates versus an historical average (39.8%) of interest rates should be the basis for a 30-year forecast of interest (discount) rates. The percentage of respondents using worklife expectancy tables published in economic journals as their source sustained its rapid rise at 61.0% versus other alternatives.

The 2015 Survey contained a variety of new questions. Most respondents are either unsure of the impact that the Affordable Care Act will have, or expect it to have little impact. Most generally agree with the conclusion of a vocational rehabilitation specialist on post-injury rather than pre-injury wages and worklife. Respondents have varying policies on retainers. They tend to charge premiums over standard hourly rates for deposition and trial testimony, and discount travel. Respondents were fairly evenly split about whether they have minimum charges for either deposition or trial testimony, but those who do have minimums tend to have minimums

for both. Most respondents have either solo practices or limited part-time employees. Those in larger practices, on average, have seven employees. There are relatively few forensic economists in practices with more than ten people. Finally, the top choice (51.4%) for the frequency of future surveys was every two years.

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