

**QUESTIONS FOR ECONOMIC AND
ACTUARIAL EXPERTS**

**ROBERT CARSON
ASSOCIATED ECONOMIC CONSULTANTS LTD.
MARCH 26, 2004**

I have made a list of six categories for questions which economic or actuarial experts should be prepared to answer. They are:

1. Questions to distinguish facts from instructions
2. Questions to distinguish opinion from instructions
3. Questions to distinguish upstream experts' opinions from the economist's or actuary's opinion
4. Questions to distinguish economist/actuaries opinions from their own assumptions
5. Questions to understand the role of statistics in the opinion
6. Questions to check on the consistency of the expert's opinions

2. DISTINGUISHING FACTS AND INSTRUCTIONS

Normally an expert is provided with a list of facts about a plaintiff's earnings history which they are instructed to assume are true. Sometimes these assumed facts are easily verified, but sometimes they are not. With regard to those that are not always easy to verify I put at the top of the list income.

There is much ambiguity regarding the definition of income which might mean before or after tax, before or after deduction of business expenses, or before or after both of these.

From time to time experts may be instructed to assume that past income has been in particular amounts, and they may not have seen the source information on which the instructions are based. If, as is the case in claims involving adults with many years of labour force involvement, past income is critical to the determination of future loss, it may be important to ask questions to clearly understand what is meant by income, and to determine if the expert really understands the nature of the assumed facts provided.

To illustrate the importance of distinguishing between assumed facts provided on instruction and facts for which the expert has taken responsibility for assembling, I refer to a wrongful death case in which I was involved a few years ago. I was retained by the defense to look at an actuary's report. The actuary received certain instructions from plaintiff's counsel with respect to the earnings of a deceased wife and of her surviving spouse. On my first read of the report, I had the impression that the surviving spouse was probably an engineer, but I was struck by the fact that the actuary's report never did say what his job was. I was very surprised to learn from my client that the fellow was a C.A. The earnings in the actuary's report were well below what is typical for senior C.A.'s. As things turned out, much of what had seemed to be the deceased wife's independent income was not independently earned, and the earnings of the survivor were well in excess of the amounts that the actuary had been given. Once various deferral and income splitting schemes in which the C.A. was involved were understood, it became clear that the plaintiff's earnings were much higher than had been indicated to the actuary and that the deceased's earnings were much lower.

The questioning, as it must in complex matters like wrongful death claims, started well before trial. The facts, once fully realized, gave very different results than did the assumed facts provided through instruction. As matters turned out, the court found that there was a dependency gain, rather than a loss.

3. DISTINGUISHING AN EXPERT'S OPINION FROM INSTRUCTIONS

In the previous section the discussion was about facts having to do with the past, provided to experts by way of instruction. The questions that should be asked are those which will identify, if it is not clear in the expert's report, the origin of the assumed facts and whether or not the expert can take any responsibility for their accuracy or completeness.

A second category of instruction tells the expert to make assumptions with regard to how the plaintiff's work may have evolved in the future, absent the injury and/or will evolve with the injury, and to produce calculations on the basis of the assumptions provided. In effect, this category of instruction tries to anticipate findings of fact. The usefulness of the expert's response to such instructions is not so much in the result of his or her calculations, that so many dollars have been lost. Rather, it is in showing how the assumptions, some or all of which might turn out to be findings of fact, can be modeled and how they may affect the amount of the loss.

There are two lines of questioning to pursue in regard to such instructions. One is to clarify, if it is not clear in the report, where the instructions stop and the expert's opinion with regard to future prospects start. The instructions may or may not depict a version of the future that the economist or actuary feels is realistic. The second is to ask the expert to apply the same method to other

assumptions. The true value of an economic or actuarial report is in the ability to use it to respond to “What if ?” questions.

4. INPUT FROM OTHER EXPERTS

Economists and actuaries tend to be the last in a succession of experts and to a large extent their models are meant to be responsive to facts and opinions which come from other, upstream experts. Generally the closest relationship is between an economist’s report and a vocational report. Questions should be asked to test the consistency or to demonstrate inconsistencies between the vocational and economic/actuarial reports.

There are many potential sources of misunderstanding between experts. For example, a vocational expert may suggest an occupation and describe it verbally. To obtain earnings values from a source like the Census, the economic/actuarial expert will translate such a description into a National Occupational Classification code. You may want to ask questions to ensure that both experts are talking about the same occupation.

Aside from the possibility that experts may not interpret upstream experts’ reports properly, there are other sources of difference of opinion that can be brought out by asking the right question. For example, vocational experts may recommend that an injured person switch to a particular occupation (or they may list several options), and then provide annual income(s) for the suggested option(s). However, vocational experts generally are looking at the very detailed occupational codes in the dictionary of occupations (the NOC), of which there are more than 7,000, but earnings statistics are only provided for more generally defined occupational groups, of which there are 600 or 700. You

may wish to confirm that the economist agrees with the vocational expert's opinion, that the statistic makes sense in the context in which it is being used.

5. ECONOMIC AND ACTUARIES' OWN OPINIONS, AND THEIR ASSUMPTIONS

As noted above economic/actuarial experts may receive instructions from their clients and build these into their models as assumptions, or the opinions of other experts may be the basis for assumptions. Of course, economists are justifiably famous for making assumptions of their own as well. (I won't try to include actuaries here). These come in two varieties — explicit and implicit. Since implicit assumptions are not obvious they can only be brought to light by asking questions.

Although there is no possibility of doing justice to the topic of implicit assumptions in a short time, I will discuss two that are quite prevalent and almost always overlooked.

The first implicit assumption is that two earnings streams are directly comparable, when they may not be. I provide the following example. Very often a vocational expert will say something to this effect:

“Before the accident Mr. Plaintiff had completed high school and he had access to all of the jobs that high school graduates normally can have. Now, with his physical limitations he is restricted to light or sedentary work. An occupation he might now consider is warehouseman/inventory control clerk. To improve his chances of getting this kind of work, he should go to a community college program for a year.”

In response, an economist builds two earnings models. The first, based on Census data grouped by educational attainment, for all high school graduate males, is intended to represent absent accident earning capacity. The second model is based on data grouped by occupation and is intended to represent with accident capacity, consistent with the vocational expert's opinion. In both earnings models real earnings increase with time. However, the implicit assumption in the absent accident projection, based on educational attainment, is that wage increases can result from progression within one occupation, from promotion to other more senior, related occupations, or by using knowledge and experience gained in one occupation to access other, better paid and not obviously related occupations. The implicit assumption in the with accident, occupation-based projection is that the second type of progression cannot occur. If there is reason to suppose that an effect of the accident will be to diminish chances of promotion or other forms of upward career mobility, then the implicit assumption, that the two streams are comparable, may be valid. If the notion that the person will be limited to a particular job is not supported by the evidence then the comparison of the two streams is not valid and will produce an underestimated with-accident earning capacity and an overestimate of the loss.

Another implicit assumption is that the particular model makes sense in the matter at hand, when in fact it may not. For example, an economist or actuary may describe a statistical projection of earnings which takes into account both positive and negative contingencies, which seems entirely reasonable. However, if there is an earnings history for the plaintiff, a test of the earnings model is to run it back in time, to see if it does a good job of explaining the past. If such a process is not described in the expert's report, you may want to ask what such a comparison would show. If you have some earnings history, say five or six years, and if the model does not produce past earnings estimates that are much like the history, then there is reason to question the relevance of the model.

5. STATISTICS

Statistics are useful when other kinds of fact cannot be known. It follows that the more that is known about a person, the less useful statistics are. Statistics are most useful in matters involving injured young people with limited or no work histories. While there are exceptions the general rule is, the older the plaintiff, and the more that is known about work history, the more sparing the use of statistics should be.

To some extent, statistics can be adapted to reflect facts that are known about a plaintiff and sometimes they can be, but are not. For example, in a case that I was working on recently, the plaintiff was working, but the defense economist had modeled his absent accident earnings on the basis of average probabilities of being in the work force. Because the plaintiff was young, and not very well educated, the average probability of participation in the defendant's report was quite low, at about 65%. The question that arises is if, in the with accident case, the person is a labour force participant, does it make sense to model his absent accident behavior on the basis of the population average probability of being in the work force?

If there is an economic or actuarial report produced by the other side, have an equivalent expert look at it to help you to develop questions which can point out where the statistical model and the real facts of the case diverge.

The situation that I have just described is one that arises, with some frequency, in matters involving injured young people. At the other end of the age scale, I am often seeing statistical estimates of retirement age used in ways that are just too general, and should be challenged through questioning.

In order to challenge the application of retirement statistics to your case, it is of course useful to understand what they are, and what they are not. One question to consider is, does retirement, as it is used in the recent series of Statistics Canada studies mean permanent departure from the paid labour force? The answer is no. Many people retire from long held jobs and then return to work somewhere else. The median retirement ages in the Statistics Canada studies only refer to the first retirement event. They do not refer only to those permanently leaving the paid work force.

While median retirement age might be interesting from a general social planning perspective, I would say that in personal injury cases, the factors that cause people to retire are of much more interest. In most instances, age is not the cause of retirement, although it may be in work where there is a mandatory retirement age. For the most part, people retire when they can afford to do so, when their pensions are as big as they can be, when they are too unwell to work, or when a spouse retires or falls ill.

If your client is a mature labour force participant you are likely to have facts that can be compared to the factors which are causes of retirement. The median age then becomes a point of comparison for your client, rather than a prediction that he or she, to be treated fairly, should be assumed to quit at the median age.

6. CONSISTENCY OF OPINION

With the advent of computerized data bases, it is now relatively easy to check experts for the consistency of their opinions. Economists and actuaries should be easier to check for consistency than are other experts because doctors, psychologists, occupational therapists and vocational consultants base their opinions on examination and testing of individuals, while economists' and actuaries' calculations tend to be more general, less specific to the individual and for those reasons, perhaps more comparable from one case to another.