The Valuation Of Losses: Contrasting Views

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Abstract

Forensic economists often present to the courts an estimate of the value of amounts required to compensate for particular losses. Such estimates, dependent upon particular sets of unique circumstances, the timing of benefits and losses, and the replacement cost of the value of the specific losses sustained, vary over a wide range.

Wide variations in these estimates, no matter the validity of the amounts projected, may prevent acceptance of any specific estimate by the judicial system. That is, the constraints imposed by the institutional structure of the judicial system may act to restrict the acceptability of properly estimated, economically justifiable estimates.

Thus, if victims are "to be made whole" (a non-conflicting goal of both the courts and forensic economists) means to rectify institutional alienation must be developed and maintained. The Primary goal of this paper is to, at least in part, provide some insight into accomplishing this goal. In doing this, the following procedure is being followed: first, following an introduction an abbreviated description of the methods used by economists when making their estimates is provided; second, the legal-institutional criteria imposed by the legal system and used to determine the acceptability of any given estimate is outlined; and, third a means of forecasting the legal acceptability of any specific economic estimate is presented. The economist can then use that knowledge when preparing testimony, thus increasing the probability that the resulting decision will better meet the standards imposed by the judicial system, without violating economic norms.

Introduction: Goals and Methodology

A goal of forensic economics is to help insure that an injured party is made whole. This, in turn, provides the economist with a frame of reference leading to systematic analysis of the value of an individual's loss. This process is one of positive economics, as contracted to the court's goal of establishing normative objectives for attaining justice.

The forensic economist attempts to attain his goal by use of statistical methods. Starting with the real world, by means of experimental abstraction, he arrives at an experimental design, obtains and analyzes real world data, applies statistical interpretations, and arrives at real world conclusions. In this way, the economist analyzes a specific problem and suggests efficient means to attain the desired end.

The legal system, on the other hand, is more likely to use deductive methodology. Abstracting from the real world, it creates a logical model which reduces real world complexities to theoretical abstractions, applying logical arguments to the result in order to arrive at logical conclusions. These are then transformed, by use of rational interpretation, into conclusions about the real world, and used to decide specific cases, becoming a part of case law.

These two methods, empirical and deductive, are sometimes complementary, but may lead to contradictory results; i.e. they may be mutually reinforcing, or lead to mutually exclusive results. However, given the adversarial

institutional legal system of the United States, it is more likely that the results will be contradictory than that they will be reinforcing--and will not meet the goal of either the forensic economist, or of the legal system.

Alternatively stated, dynamic inconsistency problems often arise between the courts and the economists because of the freedom of the courts to reassess analysis that is fully acceptable within the economics discipline. The courts may then choose any alternative course of action, which seems preferable at the time. The long-term effect of such economic inconsistencies may defeat the complementary goals of making whole while achieving justice, because what appears preferable in the short run violates fundamental long run principles.

General Duties of the Forensic Economist

Forensic economists are assigned the responsibility of providing the court an estimate of the present value of the amount required to compensate for some specific loss. Because these estimates are dependent upon the particular set of circumstances unique to the individual case, the timing of benefits and losses, and the replacement cost of lost values, individual case estimates may legitimately vary over a very large range.

Those with extensive experience in making--and justifying--such estimates often have concluded that no matter the economic accuracy of the inquiry, any given estimate may be rejected due to the institutional framework of the judicial system. That is, the constraints imposed by the judicial-institutional structure in which the measured value is presented may prevent it from being accepted. Such outcomes often directly result from the differences in the criterion used by economists relative to the criterion utilized by the judicial system.

However, differing processes do not necessarily lead to outcome rejection. With adequate preparation the economist can present his valid estimate, derived from objective analysis, in a manner designed to gain the court's acceptance. For this to occur, the economist must be fully prepared to defend, to the extent required, that estimate. And, a successful defense is not probable unless the economist has acquired prior knowledge as to what extent justification will be required.

The primary purpose of this paper is to present some thoughts on estimating acceptability, to the judicial system, of an amount required to fairly compensate for economic losses. The remaining material is presented as follows: First there is an abbreviated discussion of the methods used by economists to make their estimates, followed by an outline of the legal-institutional criteria used by the courts when determining the acceptability of a given estimate. This is followed by a section which briefly outlines a means by which an objective judgment may be rendered as to its judicial acceptability. After this a short summary and conclusions are provided.

Estimating Options

Options available for evaluating losses may be classified relative to one of three specific approaches. These are:

(1)   opportunity cost analysis
(2)   activity analysis
(3)   replacement analysis.

Each approach is briefly described below.

(1)   Opportunity cost analysis (sometimes referred to as comparable worth analysis) is the most popular with lawyers who represent plaintiffs. The use of this approach often yields very high estimates. This is because the loss estimate rests upon a base derived from the greatest amount foregone in order to provide for replacement, i.e. to cover the opportunity cost. Thus, it favors high market values, assuming that the losses are analogous in value to market services which could have been provided. Defense attorneys, judges, and/or jurors often

perceive such estimates to be unrealistic and/or unfair.

(2)   Activity analysis (often called functional analysis) proceeds by classifying losses into the number of hours which would have been spent in specific activities. The per hour market value of each activity is then determined, and used to multiply the given number of hours of lost service. These figures are then summed and the result is the estimate for the dollar value of the total amount of loss. This process appears to be straight forward and simple. However, the degree of insight and knowledge, and the amount of accurate data required is extensive. It is almost impossible to discover how much time would have been spent on any given activity. In addition, any attorney or judge is likely to question if a mother's application of a band-aid plus a kiss on a skinned knee is equivalent in value to a nurse's application of medication and a bandage, or if a child born of college educated individuals would have likely grown up to become a teacher, an engineer, or a business executive.

(3)   Replacement analysis centers upon the cost of providing substitute services. Of the three, this approach is the most easily explained. But, plaintiff attorneys, some judges and some jurors are likely to find this approach objectionable. They have likely observed that hired help does not usually provide either the quantity or quality of services lost, and that many losses are simply irreplaceable. For those which can be replaced, it is observed that some housekeepers do not do windows, yard men cannot be depended upon to drop off or pick up kids at school, and few hired for a market wage are capable of providing the willing ear for a troubled child.

Given the specific time, place, and circumstances any or any mix of these alternatives may be used to meet the goal of making the plaintiff whole, remembering that this includes meeting the requirement that the solution be satisfactory to any with veto authority. That is, the economist must provide--and justify--an objective estimate of the present value of the amount required to compensate for any loss. Obviously, this is not a simple task, even though high r-squares and other statistical measures provide cardinal standards, which logically indicate that the results are acceptable, for the specific (unique) case, within defined ordinal limits.

The Legal-Institutional Acceptance Criteria

Mentioned previously was the fact that no matter how analytically correct the economist's estimate, it may not be accepted by the court or its officers, unless fully justified. To gain that acceptance may be very difficult because, the court's acceptance criteria differs significantly from the economist's. This is especially true when one is trying to value losses that have not been valued by legislative act, administrative decree, or prior case law.

Case law is the means used for accepting or rejecting evidence in most non-criminal tort proceedings. That is, the legal standard to be met is defined by the doctrine of *stare decisis*. This concept reflects the fundamental values of the legal process. In substance, *stare decisis* (precedent) is used by the court to identify ambiguities, to clarify obscurities, to shed light on the possibility that a ruling will be overturned on appeal, but most of all to provide the court with a decision making rule.

Forensic economists should find *stare decisis* of interest for a particular reason. Any recommendation to the court, which is assumed to have no pecuniary interest in the outcome, outside the range of precedent is likely to be rejected unless adequately justified relative to the particular court and jurisdiction--at the time of the initial presentation of the finding.

The idea that precedent rules requires that economists appreciate the problem of uncertainty that plagues court personnel when cases are decided. Not only must the law be interpreted, but it must be applied to a particular set of facts, and a determination must be made of the probability of error (as defined by prior cases), relative to the specific time, place and circumstance of the given case. Thus, *stare decisis* is justified on the grounds that it provides a basis for legal decision making when "the correct answer" cannot be known with a high degree of certainty. For the court this is efficient because it minimizes error probability, because it minimizes the cost and probability of judicial review, and

because it maximizes the public good aspect of legal decision making. Further, this process avoids the need to fully understand the technical processes used by the "experts," especially when those opinions are contradicted by other (just as well qualified) "experts;" it is quicker and less costly to rely upon; and, the possibility of being jerked around by stonewalling "hired guns" is minimized.

Judging the Legal Acceptability of the Economist's Estimate

Individual economists may or may not appreciate the value of legal decision making by precedent, since that process makes it much more difficult to gain acceptance of an estimate based on the unique circumstances of any specific case. Unique circumstances, objectively analyzed, very often yield estimates that can be made to appear outside all legal precedent. Consequently, if the economist is to adequately prepare for critical questioning of any specific calculation, or set of calculations, an estimate of the degree of judicial acceptance needs to be made a preceding part of the preparation to give testimony.

Two possible approaches for making such estimates are Joan Robinson's logic-deductive approach and the error-learning model approach. The logic deductive approach is usually significantly less costly in time and other resources, and meets the goal of assuring that an estimate will be minimally acceptable under conditions of *stare decisis*, especially when done in conjunction with the employing entity (usually the lawyer for either the plaintiff or the defendant). Loosely stated this approach requires the economist to be aware of and to take into account the most legal relevant rulings in the immediate vicinity. Often, this can be accomplished by simply studying a survey of relevant case histories. These may be prepared by the lawyer charged with trying the case, or be available for review (with minimal research) in a local law school library, or found on the computer by using legal search software.

The error-learning equation approach is much more costly. However, given unique circumstances that are likely to result in unusual findings, it is more likely to better prepare the testifying economist when presenting his findings in court, and/or to be better prepared to consult with the employing attorney as to arrangements which might lead to an acceptable out-of-court settlement, if either is convinced that the convening court will not accept the economic analysis (a sometimes necessary second best solution).

While there may be a significant problem with obtaining adequate data for the statistical analysis, the theoretical and quantitative processes for forecasting acceptable settlements, given *stare decisis*, are quite simple. The predicted settlement for a future case equals the amount of any current settlement plus an error-learning amount specified by the extent and direction of errors in predicting past settlements. The weight of the past predicting errors is assumed to decline with the passage of time. A primary result of this assumption is to make the process much simpler, since errors from the distance past are considered to have very minor or no impact on current expectations. The equation for settlement expectation then takes the following arithmetic form:

$$_{t+1}E_t = S_t + f(S_t - {}_tE_{t-1} - {}_{t-1}E_{t-2}...,S_{t-n} - {}_{t-n+1}E_{t-n}),$$

where: E = expected settlement,

S = actual settlement,
pre-subscripts = time for which the prediction is made, and
post-subscripts = time in which the prediction is observed.

Thus, S_t is the actual short run settlement for period t and ${}_tE_{t-1}$ is the expected settlement for period t predicted in period t - 1. Verbally, the expected acceptable settlement in the next time period is a function of any current settlement plus the discrepancy between actual and predicted settlements in preceding n time periods. Application of this process allows the forensic economist to quantitatively examine the past record of the specific judge and/or the specific jurisdiction in which the current case is being tried. Results obtained by this process are then compared to the amounts computed for the given, unique case, providing the analyst with information needed when formulating plans on

how to best provide an acceptable legal justification.

Summary and Conclusions

In summary, once the economist has completed his analysis and interpretation of the results, he proceeds to a diagnoses of the qualitative and/or statistical difference in the estimates in comparison to previously adjudicated cases. This provides a basis for determining how elaborate a preparation must be undertaken in preparing to give testimony within the judicial institutional framework, either on-the-stand or by deposition.

In conclusion, it is specifically advocated that in no instance should economic criteria be subjugated to legal criteria. Rather, it is proposed that the economist: (1) do analysis according to criteria common to the art and science of the discipline; (2) be fully aware of the relative degree of acceptability of the results, as viewed by the judicial system; and, (3) be prepared to simultaneously present and justify the analytical and statistical results. By doing this the economist should be able to order his analysis and presentation in such a manner as to maximize the probability of the court's acceptance of those results. That is, the economist should take ante precautions, rather than putting himself in the position of having to provide a post hoc justification as to why his findings are not acceptable within the legal-institutional framework.

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Notes