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Calculating Economic Damages: In Plain English

Where do all those numbers come from, anyway?

 By [David Pitts](#) and [Kevin Reopel](#) on Sat, 03/31/2012 - 11:00pm

Euclid taught me that without assumptions there is no proof.

Therefore, in any argument, examine the assumptions.

 — E. T. Bell, *Scottish mathematician*

The goal of the financial expert who calculates economic loss is to determine the amount of money that will make an injured party whole. We seek answers to the questions "What would life have been like *economically* for the plaintiff had the event not occurred?" and "What do we expect life to be like now?" Answer those two questions, subtract, and *Voilà!* You have your economic loss.

The questions are simple, and conceptually, so are the answers. Yet economic loss reports can mystify the reader with an overabundance of numbers, pages of mind-numbing commentary, and references to such obscure constructs as Markovian Increment-Decrement Models of Labor Force Activity. What does it all mean? More importantly, how can two experts looking at the same case calculate wildly different loss amounts?

In a recent wrongful termination case, one of the authors served as financial expert for the defense and calculated economic losses at \$155,000, whereas the plaintiff expert calculated losses in excess of \$1 million for the same exact four-year time period.

What explains different loss calculations between two supposed financial experts? Different valuation methods? Different assumptions? Inconsistent data? Or are there factual interpretations that must be decided by the judge or jury?

This article explores the calculation of economic losses and its various components, as applicable to personal injury (PI), wrongful death (WD) and wrongful termination (WT) actions in Tennessee.

The Role of the Financial Expert

The financial expert presents monetary valuations of economic loss that can assist the trier of fact in awarding damages, in the event the defendant is found liable. We don't presume liability. We don't quantify punitive damages. We don't usually price the loss of enjoyment of life (hedonic damages) or the loss of consortium (companionship). Instead, we focus on losses that can be calculated directly, broadly classified under the term *economic* damages or *pecuniary* damages.

Procedurally, we first determine the various components of loss and summarize their costs in current dollars. Losses incurred prior to the scheduled date of trial are summarized and possibly accumulated with interest until the trial date. Next we use projection factors to calculate probable *future* losses, considering such ingredients as health care inflation and wage growth — which impact the amount of loss, and probabilities such as surviving past a certain age or remaining in the workforce — which impact the *likelihood* of loss. Finally, we apply interest discount factors to those very same projected loss components, to determine the *present value* of future economic losses as of the trial date.

General Rules for Damage Awards

Damage awards in Tennessee are guided by a number of sources, including statutes, Tennessee Pattern Instructions[1] for

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juries hearing PI and WD cases, and the oft-cited cases of *Overstreet v. Shoney's Inc.*,^[2] and *Lawrence v. Town of Brighton*^[3], among others. The Tennessee Wrongful Death statute^[4] sets forth elements of damage based on whether the owner of the course of action is the estate of the decedent or certain survivors of the decedent. Additional clarification is provided from the appellate court case of *Wilkerson v. Altizer*.^[5] Importantly, pecuniary damages in WD cases now may include loss of spousal and parental consortium,^[6] and filial consortium.^[7]

Components of Loss

The economic losses in a case might include any of the following components:

- lost income;
- the value of household services the plaintiff can no longer perform; and
- the cost of medical treatments, special living accommodations, and possibly burial expenses.

Lost Income. Lost income is a significant component of most personal injury, wrongful death, and wrongful termination cases. In most cases, determining wages is straightforward. Look at the plaintiff's W-2 form, tax return, or pay stubs, and there's your answer. Other times, there are no readily defined wages, such as in the case of a business owner, a minor, a homemaker, or an elderly plaintiff. Yet with these individuals, there are generally accepted methods for estimating lost income.

Simply determining historical wages may not be sufficient, however, since lost income is generally based on an individual's earning *capacity* as opposed to projections of actual earnings. Additionally, not all wages earned in the current period are *paid* in the current period; some wages are *deferred*. Wage deferral programs include Social Security, qualified pensions and savings plans, stock options and non-qualified deferral plans (409A plans).

Plaintiffs have a duty to mitigate their income losses by returning to the workforce. If the plaintiff remains unemployed (or underemployed), did he or she really try hard enough to find replacement income? For partially disabled plaintiffs, what is a reasonable post-injury earnings expectation, recognizing physical limitations?

In the wrongful termination case cited earlier, income mitigation (or lack thereof) represented a difference of \$450,000 between the loss calculations presented by the two experts. The plaintiff's expert took the position that plaintiff's original employment contract permitted the business activity which led to the post-termination income, and, therefore, such income should not be included as mitigation. The defense expert took the position that such income was indeed mitigation, on the theory that the plaintiff's business-related activity after leaving employment was substantial, surpassing that which was originally anticipated in the employment contract. Ultimately, the issue of income mitigation was to be decided by the jury, as there were differences of contract interpretation between the two sides.

Fringe Benefits and Perks. Fringe benefits are various non-wage compensations provided to employees in addition to their regular wage or salary. Fringe benefits can include group insurance (medical, dental, disability and life), retirement benefits, dependent care, paid time off, tuition reimbursement, and so on, and can often exceed 25% of base pay. Senior level employees may also enjoy perquisites such as take-home vehicles, golf club memberships, interest free loans and use of corporate aircraft.

Financial experts often use average fringe benefit cost rates in determining economic loss, but sometimes the impact of an event on a particular fringe benefit is so dramatic that the expert must *directly* price the loss. For example, an injured plaintiff may lose group life and disability coverage and become uninsurable, representing a significant loss in future financial security for the family. Or a wrongfully discharged employee may lose much of the value of his or her expected defined benefit by failing to meet the service requirements for lucrative early retirement benefits. In these instances, the expert must employ actuarial methods to accurately determine the economic loss.

Proper assessment of employee fringe benefits can have a major impact on the loss calculation. In our WT example, the plaintiff expert considered fringe benefits and other perks to be significant components of the loss, equal to \$130,000 and \$110,000, respectively. The defense expert did not include these amounts as a loss on the basis that: (i) plaintiff was provided comparable fringe benefit coverage through a subsequent employer, and (ii) plaintiff had expressly agreed in his employment contract at the time of hire that perquisite reimbursements were a job-related expense [and therefore not a source of income].

Adjustment for Personal Consumption and Personal Maintenance. In wrongful death cases, the plaintiff might be the family or the estate, but not the decedent. Family members would never have received 100% of the decedent's income, since the decedent's income would first go toward meeting food, clothing, and other personal expenses. Such expenses are referred to as *maintenance* expenses. Individuals spend additional money on themselves in the form of vacations or other items above and beyond basic living expenses; these incremental expenses, combined with basic living expenses, are called *consumption* expenses.

In WD cases, states differ as to whether the deduction from lost income should be based on personal consumption or personal maintenance. The Supreme Court of Tennessee has determined that maintenance is the proper adjustment.⁸

Household Services and Other Non-paid Activities. In wrongful death, the family experiences a complete loss of household services provided by the decedent. In personal injury, there can be anywhere from a partial to a complete loss. Tennessee courts regularly allow expert testimony regarding the present value of lost household services, which can be computed based on time use surveys and local labor conditions.

Medical Costs / Life Care Plans / Burial Costs. In PI cases, there are significant medical services that have already been received prior to trial, and oftentimes more to be expected in the future. As with other loss components, medical costs can be summarized into pre-trial and post-trial values.

On the surface, the cost of medical services pre-trial would appear to be indisputable. Invoices have been submitted and can be easily summarized. However, health care providers routinely invoice one amount, but accept as payment in full a completely different amount. Like most states, Tennessee is silent as to which basis is the appropriate measure, leaving the argument to be played out in court.

Future health care services are identified, scheduled and priced by a Life Care Plan expert in the form of a Life Care Plan (LCP). Such plans may include needed physical accommodations, such as home or transportation modifications. In wrongful death cases, in addition to any medical expenses and loss of earnings capacity that can be recovered, reasonable costs for funeral expenses can also be recovered.⁹

Tax Adjustments.

Although the subject of awards for economic damages naturally involves a discussion of taxes, the authors do not provide tax advice.

Taxes can impact the loss calculation at several points: (a) when determining the lost income stream, (b) when considering the investment earnings on the lump sum award, (c) when determining whether a tax gross-up is needed on the award itself, and (d) when determining whether an additional tax gross-up is needed for attorney's fees.

In *practice*, tax considerations vary by jurisdiction: generally, state court cases do not consider taxes, but there are exceptions. U.S. District Court cases are fairly consistent in that for PI and WD actions, loss of earnings is measured on a net of tax basis. Damage awards for Wrongful Terminations (WT) require a tax gross-up, since WT awards are not excluded from taxable income to the plaintiff.¹⁰

Finally, the award may need an additional gross-up to account for the taxation on the attorney's fees, if fees are included as part of the judgment or settlement. Tax adjustments are necessary to avoid the plaintiff's misfortune of winning the case but losing money.¹¹ For example, in a sex bias suit, a police officer was awarded \$300,000 in damages plus \$950,000 in attorney fees and costs. Federal income taxes of \$399,000 were payable on the total award of \$1,250,000, leaving the "winning" plaintiff \$99,000 in debt.¹²

In Tennessee, lost income (and interest discount) in PI and WD actions is calculated on a pre-tax basis. Juries are not to receive instruction regarding the fact that the plaintiff's recovery is not subject to federal income tax.¹³

Putting It All Together

Losses Prior to Trial. Losses *prior* to the trial are calculated and summarized separately from losses expected to occur *after* the trial. Usually the pre-trial losses are known with a greater degree of certainty although there remains plenty of room for debate, particularly in the area of loss mitigation. There may be statutorily defined parameters to apply to pre-trial damages, depending on jurisdiction.

Future Losses and the Role of Assumptions. There are numerous assumptions included in the financial expert's calculations that help to define both the amount of the loss and the likelihood of the loss. Like many states, Tennessee provides few specific details on assumption selection or valuation methodology, instead relying on broad principles. The future loss calculation takes the components identified earlier and extrapolates for the expected period of loss. This has two important implications:

1. The base-year components must be very accurate; if not, mistakes will be magnified throughout the entire calculation, what scientists refer to as "propagation of error." A \$10,000 mistake on the front end could easily translate into errors in the overall loss measurement of \$100,000 or more.
2. Projection assumptions should be accurate and well informed. Seemingly minor differences in assumptions can have significant implications on the loss calculation. Consider that a wage growth rate that is 1% too high, coupled with an

interest discount rate that is 1% too low, and an expected retirement age that is one year too late, will overstate a lost income calculation for a 40-year-old by more than five years' worth of pay.¹⁴

Summary

Financial experts perform myriad calculations in determining the value of a plaintiff's economic loss. Triers of fact consider these calculations in awarding economic damages for personal injury, wrongful death, and wrongful termination cases. The loss valuation processes may seem arcane, and the economic opinions of two different experts may appear hopelessly divergent. But the loss estimates are ultimately developed in a logical fashion, best understood by considering the various loss components and systematically reviewing the core valuation processes, which include *methods*, *data* and *assumptions*.

There are proper valuation methods to use, long established in fields such as actuarial science, that incorporate well-known expected value principles. Valuation methods are sufficiently standardized that a significant difference in expert opinion on economic damages should never be attributable to the use of different valuation methods. In effect, there is a correct way of performing the mathematics. Similarly, data accuracy should rarely be a source of difference between expert calculations. Indeed, most experts publish their opinions with the proviso that they reserve the right to change their measurement and opinion if new or additional data become known after the loss report release date.

Significant differences in expert opinion should be explained primarily by differences in the underlying assumptions chosen by each expert or, as we saw in the wrongful termination example, by differences in contractual interpretation. The trier of fact can ultimately determine which economic opinion is more credible by examining which set of underlying assumptions is more plausible.

Economic losses are not calculated in a vacuum but must conform to requirements set forth by jurisdiction, type of action, and prevalent financial expert practice. Ultimately, the award of damages is left up to the court. As expressed by the Tennessee appellate court in *Thurmon v. Sellers*¹⁵: "Expert testimony is not conclusive, even if uncontradicted, but is rather purely advisory in character, and the trier of fact may place whatever weight it chooses on such testimony."¹⁶

Notes

1. Tennessee Pattern Instructions, Civil 14.10 Personal Injury Pain and Suffering, 14.13 Loss of Earning Capacity, 14.30 Wrongful Death.
2. *Overstreet v. Shoney's Inc.*, 4 S.W.3d 694 (1999).
3. *Lawrence v. Town of Brighton*, 1998 WL 749418.
4. *Tenn. Code Ann.* § 20-5-113.
5. *Wilkerson v. Altizer*, 845 S.W.2d 744 (1992).
6. *Jordan v. Baptist Three Rivers Hospital*, 984 S.W.2d 593 (1999).
7. *Hancock v. Chattanooga-Hamilton Co. Hosp. Auth.*, 54 S.W.3d 243 (Tenn. 2001).
8. *Wallace v. Couch*, 642 S.W.2d 141 (1982).
9. Tennessee Pattern Instructions, 14.30 Wrongful Death.
10. Internal Revenue Code § 104(a)(2).
11. Rodgers, James D., "Handling Taxes in Employment Law Cases," *Journal of Forensic Economics*, 2003, 16(2), p. 226.
12. Liptak, Adam, "Tax Bill Exceeds Award to Officer in Sex Bias Suit," *The New York Times*, Aug. 11, 2002.
13. *Dixie Feed and Seed Company v. Byrd*, 376 S.W.2d 745 (1963).
14. Authors' calculations.
15. *Thurmon v. Sellers*, 62 S.W.3d 145 (2001).
16. Parker Cashdollar, Paula Hearn Moore, Robert L. Hearn, and Marsha Cope Huie, "Assessing Economic Damages in Personal Injury and Wrongful Death Litigation: The State of Tennessee," *Journal of Forensic Economics*, 19(3), 2006, pp. 333–362.



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