

# Economic Damages: Discounting Concepts and Alternatives

by Peter Schulman

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In computing damages based on lost profits, lost future profits should be discounted to present value. Although the basic concept of discounting is simple, in actual practice, discounting is a "math problem," rather than a "word problem," which many lawyers and, indeed, many experts do not understand. When practitioners get past the concepts and begin grappling with the computations, they may discover that discounting is a complex process that poses alternatives which often produce widely divergent results.

This article explores discounting through the use of a case study. The case study includes graphics that attempt to explain complex concepts in ways that are easy to understand. The graphics also may provide attorneys with ideas on how to present discounting at trial.

## Background

In the treatise *Recovery of Damages for Lost Profits*,<sup>1</sup> the author states:

Future profits should be discounted at an appropriate rate because the purpose of the award of damages is to provide a fund that, with principal and interest, will yield plaintiff an amount equivalent to its loss. Thus, if the award is to compensate for a loss of profits projected over 10 years, the amount should be that which, if invested for 10 years at appropriate (probably conservative) rates of return, would produce the amount of the loss. An award today of the amount that would be earned 10

years hence will give plaintiff more than is necessary to make plaintiff whole.

The bankruptcy court in the Kansas case of *In re Fisher*<sup>2</sup> explained the concept of discounting as follows:

"Present value" or the "time value of money" is not a legal concept, but rather it is a term of art in the financial community. It simply means that a dollar received today is worth more than a dollar to be received in the future.

There are several factors that make discounting complex and confusing, including, but not limited to, the following:

1. Experts sometimes get so wrapped up in financial and economic theory that they overlook the fact that the ultimate objective of prosecuting or defending a damages claim is to make the plaintiff whole.<sup>3</sup>

2. The concept of lost future profits offers several alternative interpretations. For discounting purposes, lost future profits are, arguably, profits that would have been earned after the date of injury or breach, after the date of trial, or after the date of recovery, just to name a few of the alternatives.

3. Discounting is inadequately explained in many (and perhaps most) cases. As a result, even in cases where discounting issues are litigated, courts may decide them on the basis of an inadequate or incorrect understanding of the facts.

## Case Study: Summary Of Facts

The basic facts giving rise to the lawsuit in the case study on which this article is based are summarized as follows:

- On January 1, 1995, the damages event (frequently a breach of contract or tort) occurred, and this event caused an impairment in the company's earnings. This event is referred

to as the "breach" throughout the remainder of this article.

- For the five years before the breach, monthly earnings grew at a steady 5 percent per year. Monthly earnings were \$100,000 in January 1990, and they grew to \$127,000 by December 1994 (which is a 5 percent annual growth rate).
- In January 1995, the month in which the breach occurred, monthly income plummeted to \$10,000.
- The trial in this case concluded on January 31, 1997. The defendant was found liable. Due to the plaintiff's efforts to mitigate its damages, monthly earnings grew to almost \$72,000 in January 1997.
- Assuming that the plaintiff's profits would have continued to grow at the rate of 5 percent per year, at the time of trial (January 1997), actual profits were still significantly less than profits that the plaintiff would have realized had the breach not occurred.
- If the plaintiff's profits continue to grow at the rate at which they grew between the date of breach and the trial date, by December 1999, the plaintiff's profits are expected to reach the level that they would have reached had the breach never occurred. In other words, due to the plaintiff's efforts to mitigate its damages, December

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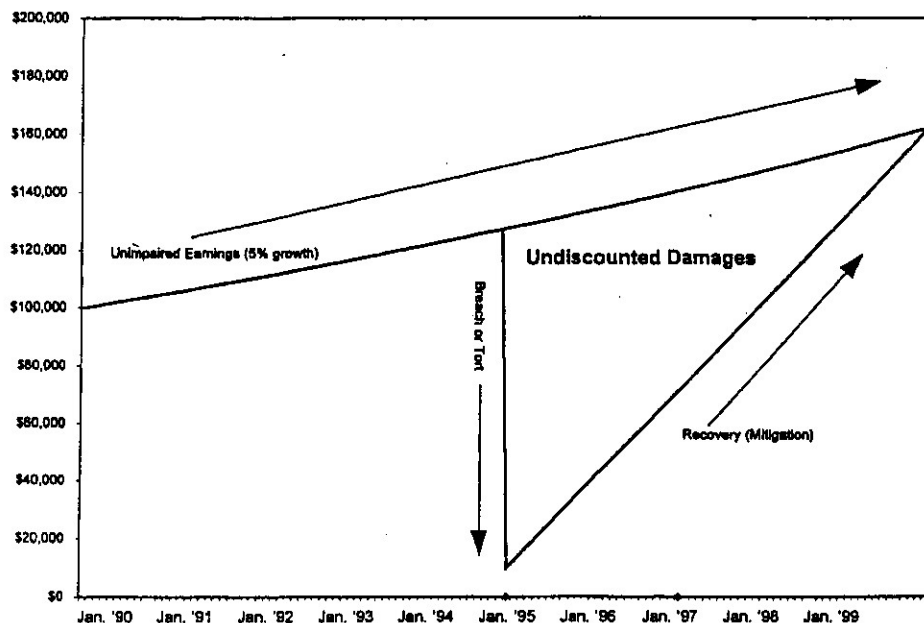
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Those wishing to submit articles for publication are encouraged to call the column editor. This month's article was written by Peter Schulman, CPA, the president of Schulman & Company LLC, a consulting and accounting firm in Denver, (303) 534-8900.

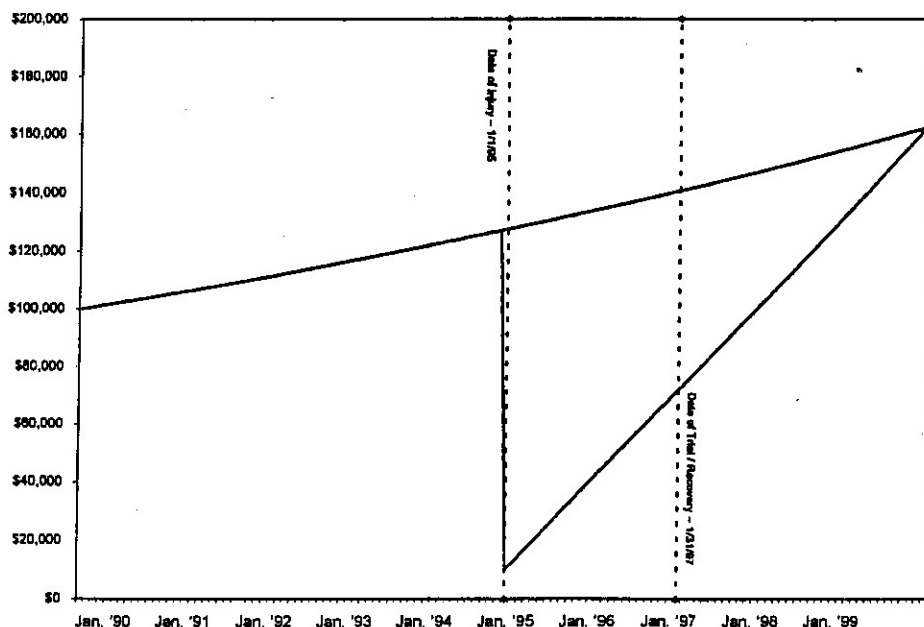
1999 is the point in time at which lost future profits damages terminate, because the plaintiff is expected to have fully mitigated its damages by then. Readers should note the following informational points:

- The amount that represents the plaintiff's actual and projected profits due to the earnings impairment caused by the wrongful conduct of the defendant is sometimes called the "impaired model."
- The amount that represents the plaintiff's estimated profits had the wrongful conduct of the defendant not occurred is sometimes called the "unimpaired model."<sup>4</sup>
- In financial terms, the damages (the difference between the unimpaired model and the impaired model) represent an estimate of the difference between what the plaintiff earned and what it would have earned had the defendant's wrongful conduct not occurred.

**Figure I: Unimpaired and Impaired Earnings**



**Figure II: Unimpaired and Impaired Earnings**



curred. This is sometimes referred to as the undiscounted damages, nominal damages, or pecuniary losses.

Figures I and II below left are graphic depictions of the impaired and unimpaired models, and the resulting damages. Figure I annotates the quantitative data (impaired model, unimpaired model and damages). Figure II annotates the date of breach and the date of trial.

Note that the area that is shaped like a wedge, which looks similar to the following, represents the damages in Figures I and II. Also note that the wedge narrows as it moves to the right (representing the passage of time along the horizontal, bottom axis of the graph), which depicts the diminishing damages that are the expected results from the plaintiff's attempts to mitigate its damages.

If this were a trial, rather than an article, the plaintiff might present Figure I only, primarily to minimize the number of exhibits.<sup>5</sup> Obviously, this article is written for a sophisticated audience that presumably has a basic understanding of discounting, so Figure II is presented as part of the case background in order to set the stage for the rest of this article.

After the impaired and unimpaired models and the resulting damages have been explained, damages also can be presented more simply using a graph similar to Figure III, next page.

Figures I and II are the result of two data sets, the impaired and unimpaired models. Figure III is one data set, the damages. Graphically, the wedge in Figure III is exactly the same as the wedge in Figures I and II, except for one change: it is inverted. As a result, the wedge clearly illustrates that the damages are at their highest point in this case immediately following the breach, and the damages decline over time until the plaintiff is expected to have fully mitigated its damages.

Jurors, and sometimes even judges and attorneys, are frequently intimidated (and often bored) by tabular presentations of data by experts, particularly when the data are complex and voluminous. Figures I, II, and III illustrate how the data can be presented in an easy-to-understand, user-friendly manner, offering an intuitive understanding of the information.

### "Ex-Post" Discounting

The new, curved line in Figure IV, on page 44, is the result of discounting the damages after the trial date to present

value using a hypothetical discount rate of 15 percent. Conceptually, the shaded area in Figure IV represents the amount an investor would need at the date of trial to reproduce the income stream represented by the straight line, at a 15 percent rate of return. The concept of discounting future damages to the date of trial is sometimes referred to as "ex-post" discounting.

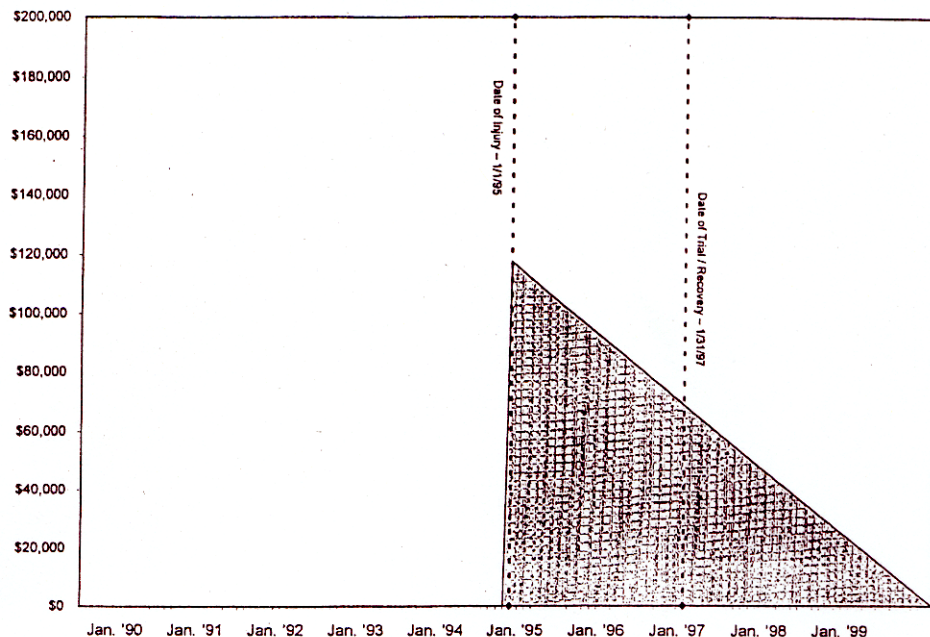
Many theorists argue that ex-post discounting should discount the damages after the date of recovery, rather than the date of trial. However, it is difficult, and perhaps impossible, to know the exact date of recovery, so the date of trial is often assumed to be the date of recovery.

### "Ex-Ante" Discounting

The curved line in Figure V on the next page, is the result of discounting the damages after the date of breach to present value using a hypothetical discount rate of 15 percent. The concept of discounting damages to the date of breach is sometimes referred to as "ex-ante" discounting.

The shaded areas in Figures IV and V, both of which appear on the following page, represent the discounted damages.

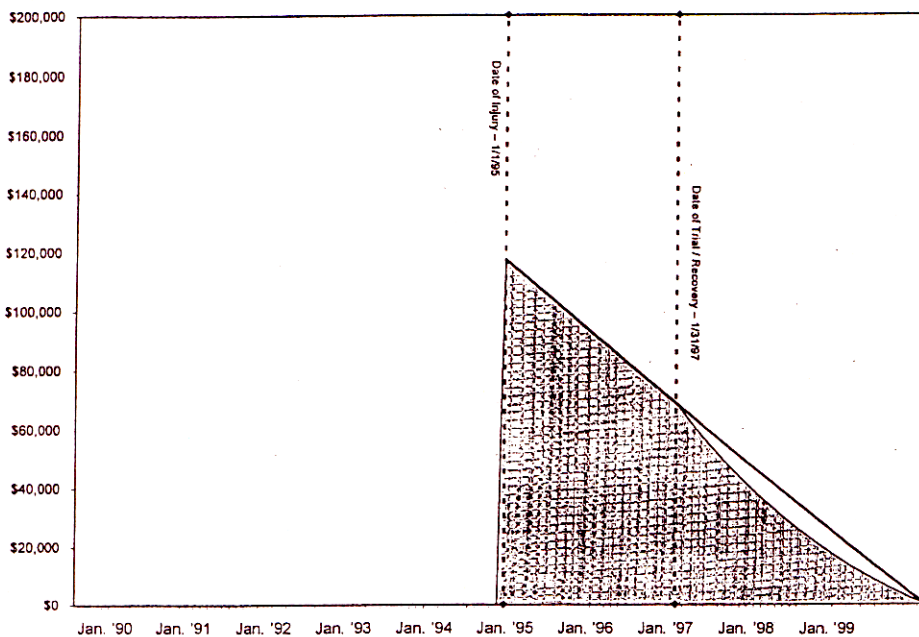
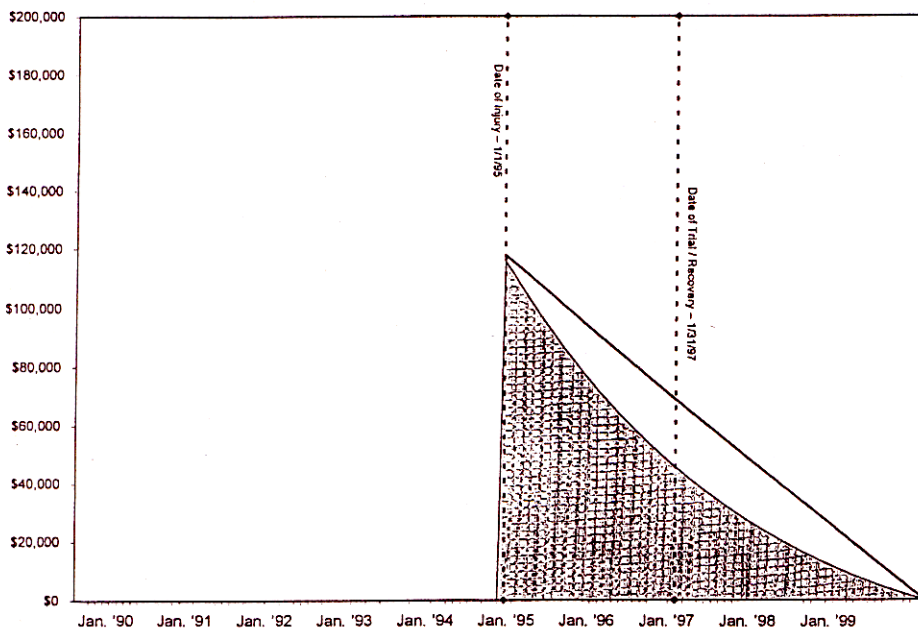
**Figure III: Undiscounted Damages**



A comparison of Figures IV and V clearly reveals that ex-ante damages produce a lower discounted award than ex-post dam-

ages. Frequently, the differences between ex-post and ex-ante damages are significant.



**Figure IV: Ex-Post Damages****Figure V: Ex-Ante Damages**

## Ex-Post Versus Ex-Ante Discounting

The following paragraphs summarize, on a comparative basis, some of the thinking in favor of and against ex-post and ex-ante damages.

### Ex-Post Damages

**Arguments in Favor of:** In theory, ex-post damages permit the plaintiff to "make itself whole" by investing the discounted lost future profits<sup>6</sup> at a rate of return pre-

sumed to be equal to the discount rate, thereby replacing the pecuniary losses.

In fact, proponents of ex-post damages would argue that ex-post discounting is a conservative method and militates to the defendant's benefit because the date of trial is assumed to be the date of recovery, which is never the case. As a result, even if the plaintiff invests the discounted award at a rate of return equal to the discount rate, it will receive less than its pecuniary losses.

**Arguments Against:** Undiscounted damages are based on estimates of what would have happened "but for" the defendant's alleged wrongful conduct. Such computations are, at best, rough estimates, and the plaintiff could have earned less than the estimated undiscounted damages. Discounting the entire amount of damages rather than the portion following the trial date takes into consideration the risk that the plaintiff's actual losses could be less than the estimated losses. To award a plaintiff an undiscounted award for the estimated losses between the date of injury and the date of trial would be unjust enrichment to the plaintiff and unfair to the defendant.

**Rebuttal:** It is true that estimates of the plaintiff's losses could be overstated, but they could be understated, too. Both of these possibilities exist because of the practical difficulties and uncertainties associated with determining the damages created by the defendant's wrongful conduct. Once the fact of damages has been proven with reasonable certainty, the benefit of doubt goes to the plaintiff, and the wrongdoer bears the risk of uncertainty regarding the determination of damages that its own conduct created. This concept is articulated by what is frequently referred to by courts and legal commentators as the "wrongdoer rule."<sup>7</sup> Interestingly, it is an important concept that frequently escapes attorneys.

### Ex-Ante Damages

**Arguments in Favor of:** Lost future profits are those that presumably would have been earned by the plaintiff after the date of breach or other injury. Lost future profits should be discounted to present value as of the date of breach to take into consideration, among other things, the risk that the plaintiff could have earned less than the estimated pecuniary losses. In fact, in many cases, the plaintiff could have earned substantially less.

**Arguments Against:** The overriding concept in litigation is that the plaintiff must make itself whole by investing its discounted award at a rate of return equal to the discount rate, thereby replacing its pecuniary losses. A plaintiff can replace its pecuniary losses by investing its discounted award from the date the award is received. It is impossible for a plaintiff to recover its pecuniary losses if damages are discounted to the date of breach, because the plaintiff cannot go back in time and invest the award between the date of breach and the date of trial or recovery.

**Rebuttal:** Many courts, commentators, and experts believe that if damages are discounted back to the date of injury, prejudgment interest should be allowed on the entire discounted award, not just lost past profits.<sup>8</sup> The theory is that, if damages are discounted to the date of injury, prejudgment interest should be used to convert the damages from a date-of-trial value to a date-of-incident value.<sup>9</sup>

## Harmonizing Ex-Post and Ex-Ante Discounting

The mathematics underlying time value of money concepts make it difficult, and, perhaps, impossible to reconcile the conflicting arguments in support of and against ex-ante and ex-post damages because the time between the date of breach and date of recovery is lost forever. In other words, a plaintiff cannot invest its recovery until it is received, which is frequently after all or a portion of the loss has been sustained.

There may be room, however, for both ex-post and ex-ante discounting under the law, depending on the facts of the case. Not all damages are "created equal." Some

damages cases involve higher degrees of uncertainty than others. For example, the case study used in this article assumes a stable, growing company with a five-year earnings history before the breach and a steady 5 percent annual growth rate. In such cases, the arguments in favor of ex-post discounting may be more compelling than the arguments in favor of ex-ante discounting.

In the real world, some damage claims do not involve stable, growing businesses with a history of profitability and steady growth rates. For example, some cases involve new or unestablished businesses. Other cases might involve businesses with an erratic earnings history or a history of losses. Changing economic and industry conditions also may influence the risk that a plaintiff may have made substantially more or less than its estimated pecuniary losses. In such cases, the arguments in favor of ex-ante discounting may be more compelling than the arguments in favor of ex-post discounting.

Depending on the facts of each case and the amount of uncertainty regarding the determination of the undiscounted dam-

ages, the choice of ex-post or ex-ante discounting should ultimately be decided by the court, on a case-by-case basis, based on a clear, concise, and thorough examination of the issues.

## Comment

This article is intended to be an unbiased overview of the issues surrounding ex-post versus ex-ante damages, and is not intended to militate in favor of one or the other. The choice of ex-post versus ex-ante damages is frequently a significant consideration in litigation, although the issue escapes most experts and attorneys and, as a result, is rarely analyzed or litigated. Even though the issue is significant, this author is unaware of any other articles on this topic.

The issues in this article need to be explored further by competent experts and legal commentators. It is equally important that these issues be addressed by unbiased professionals. Sometimes, competent experts and legal commentators author articles and papers with a plaintiff or defense bias. Nevertheless, as members of the profession and participants in

the legal process, attorneys need to put their proclivities aside in order to reinvest in the profession they serve.

## NOTES

1. Dunn, *Recovery of Damages for Lost Profits* § 6.25 (5th ed. 1998).

2. 29 B.R. 542 (Bankr. D.Kan. 1983).

3. The concept of making the plaintiff whole means that damages are intended to place a plaintiff in the same economic position that he, she, or it would have been in had the wrongful conduct not occurred.

4. One of the most difficult tasks (and frequently the most important) faced by damages experts is the determination of the unimpaired model. Without a "time travel machine," it is difficult to determine what would have happened "but for" a defendant's alleged wrongful conduct. Defendants' attorneys frequently claim that the plaintiff's damage estimates are speculative. Plaintiffs' attorneys often respond that the damage estimates are based on best available evidence, substantial evidence, a rational standard, or similar claims. The general rule of law is that damages cannot be speculative. Jurisdictions vary regarding the standards of

proof required, and frequently, the ultimate determination of whether damages are speculative depends on various factors, including, but not limited to, the facts of the case, applicable law, thoroughness and credibility of the experts, and the discretion of the court.

5. In actual practice, at trial, the annotations on Figures I and II could be introduced on a single exhibit through the use of transparency overlays.

6. In the case of ex-post damages, "future" profits are defined as profits after the date of trial.

7. *Story Parchment Co. v. Paterson Parchment Paper Co.*, 282 U.S. 555 (1931); *Fishman v. Estate of Wirtz*, 807 F.2d 520 (7th Cir. 1986); *Randy's Studebaker Sales, Inc. v. Nissan Motor Corp.*, 533 F.2d 510 (10th Cir. 1976); *Pomeranz v. McDonald's Corp.*, 843 P.2d 1378 (Colo. 1993); *M & R Contractors & Builders, Inc. v. Michael*, 138 A.2d 350 (Md. 1958).

8. Lost past profits are those profits that were wrongfully withheld from the date of the wrongful withholding to the date of payment or to the date judgment is entered, whichever occurs first. See *Shannon v. Colorado School of Mines*, 847 P.2d 210 (Colo.App. 1992).

9. *Scholz v. Metropolitan Pathologists, P.C.*, 851 P.2d 901 (Colo. 1993).

