

More probable than not?

By **Steven Johnson**

Using statistical tests to enhance Rule 26 damage-claim reports

In a recent commercial damage lawsuit, we were asked by defense counsel to evaluate the plaintiff expert damage claim. On first reading, the amount of the claim seemed excessively optimistic. Projected post-incident revenues (and profits) appeared to be too high compared to what the business had done in the past, and there were no fundamental changes to the business that could explain the projected growth.

Essentially, the claim projected high levels of early growth, building an overstated base that was carried to all subsequent years of the projection period, plus relatively high sustained growth.

We statistically evaluated the claimed damages in terms of the plaintiff's actual revenue/profit history and industry data. We were able to statistically opine that the probability of the plaintiff achieving the revenues projected in the claim was less than 3 percent. This low level of probability defused much of the plaintiff's thunder and the case settled for a reasonable amount.

There are a number of opportunities to use statistical tests in Rule 26 Reports that opine on economic damages. The insight that these tests provide, when used correctly, cannot be understated. In certain situations, a statistical test can provide probabilities to assist a judge or jury in determining if a loss exists. In other instances, statistical standardization can give a reference point as to the reasonableness of assumptions used to make an economic damage computation. Finally, certain statistical tests can help justify the exclusion of highly influential observations to calculate damages. This article describes three situations where a statistical test may be appropriate:

THE FIRST SITUATION involves commercial damage cases in which the plaintiff claims lost profits as a result of another party's actions. Typically, these types of damage computations connect the action of one party directly to the damages of another. However, in certain situations this connection is not made and the plaintiff generally seeks lost profits against the defendant. One type of test that can assist in this situation is a Chow test for a structural break. A Chow test simply calculates the linear coefficient of profits over time, both before and after the date of the incident. It then tests the coefficients to determine if they are statistically different. If they are, a structural break may exist and the general profitability of the business will be less after the incident than it was before the incident.

If the test determines that the coefficients are not statistically different, then a structural break has not occurred and the decrease in profits is reasonable given the historical perform-

ance of the business.

Although the Chow test can assist in determining if a loss exists, it should not be the sole determinant and other factors should be considered.

THE SECOND SITUATION also involves commercial damages and lost profits, but in this situation, the damage computation requires a projection of business growth into the future as described in the introduction to this article.

To make this computation, CPAs or economists may rely on the recent growth of the business and use that as the basis for future growth. By doing so, they may fail to recognize that this basis for growth is not reasonable compared to the performance of the industry. By comparing the performance of the industry with the business growth rate used to make the projection and by using statistical standardization, one can opine on the probability of seeing that rate as actual growth, given the performance of the industry.

In this case, the use of statistics can provide the finder of fact a probability to help determine if the given damage computation is reasonable.

THE FINAL SITUATION where a statistical test may be appropriate relates to the exclusion of outliers in making a damage computation.

An outlier is an observation that is much higher or lower than the rest of the observations. Actual averages are frequently used to make damage computations in both commercial and personal-injury cases. A drawback of using an average is that it may be highly influenced by one or two outliers. Although the rationale for excluding an outlier is obvious to the CPA or economist, it may be difficult to justify such an exclusion to a judge or jury.

The Grubbs test for outliers is a generally accepted statistical test that can help justify the exclusion of a highly influential observation.

THE CHOW TEST for a structural break, statistical standardization, and the Grubbs test for outliers are generally accepted methods that can be used in Rule 26 Reports. These techniques can provide valuable information to help the finder of fact understand damages and other issues in the case. They also show a heightened level of analysis beyond simple methods.

The use of statistical tests should be considered when the circumstances of the case present the opportunity.

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