

Expected Adverse Deviation

Derek Freihaut, principal and consulting actuary for Pinnacle Actuarial Resources, said expected adverse deviation (EAD) can be a risk management tool well beyond assessing risk distribution. “By measuring volatility in retained losses, EAD can inform an insurance company’s management and ownership about the potential variability in loss results they can expect,” he said. Following are excerpts from an interview.



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“EAD benefits considerably from the numerous common methods and assumptions it shares with ERD, or expected reinsurance deficit, the most commonly used measure of risk transfer.”

Visit the Issues & Answers section at bestsreview.ambest.com to watch an interview with Derek Freihaut.

Can you briefly describe expected adverse deviation as developed by Pinnacle?

The expected adverse deviation, or EAD, is the average amount of loss that an insurance company will incur in excess of their expected losses. We typically divide that value by expected losses to produce an EAD ratio. That is the actuarial definition but importantly, the EAD ratio is a simple measurement of the risk distribution or diversification of an insurance company’s loss exposures. For a company with all of their exposure tied up in one loss event, their risk would not be well diversified, and they would have an EAD ratio approaching 100%. For a large insurance company with thousands of exposures and regular steady claim activity, their EAD ratio would reflect how well their risk is diversified or distributed and would be closer to 0%.

Who has benefited from EAD and what were the benefits?

Since we began measuring risk distribution with the EAD ratio seven years ago, we have largely applied it in situations where captive insurance companies wish to document their risk distribution as an insurance company. Producing an EAD ratio as part of a review of a company’s risk distribution provides some objective documentation for the captive owners to show that their insurance company does have the necessary amount of risk distribution. The EAD ratio is an actuarial measure but it can, along with a review from a captive’s accounting and legal providers, provide strong support for whether or not risk distribution is present in a captive insurance company.

Do you find that EAD is easy to communicate?

When we worked on developing a metric to measure risk distribution, we started by laying several key criteria for any approach we developed. Two critical criteria were transparency and accessibility. Any metric we developed needed to be explainable so that any user would understand what they are seeing. It is also important that users and other professionals reviewing the metric calculation could see all of the assumptions and know that there was no manipulation of the results. In our review of several potential metrics, we felt the EAD ratio performed incredibly well for being easy to explain and to understand.

How has Pinnacle put what it’s learned about the benefits of EAD into use with clients?

Beyond determining the presence of risk distribution and providing documentation, we have found the EAD ratio to be helpful when captive owners are making coverage decisions for their captive. Whether it is initially starting a new captive, considering new coverages, or considering offering higher limits, a review of the captive insurance company’s EAD ratio under various options can help owners better understand the level of risk involved with the new exposures being considered. It probably seems intuitive that adding a significant amount of deductible reimbursement exposure is less risky than choosing to insure whole properties on the coast in Florida, but it isn’t clear how much more or less risky each opportunity is for the company. The impact of adding these types of coverage on the EAD ratio is one way to measure the risk being added for the insurance company.