



## AMERICAN ACADEMY *of* ACTUARIES

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June 8, 2001

Mr. Arnold L. Dutcher  
Chairman, NAIC Securitization Working Group  
NAIC  
2301 McGee  
Suite 800  
Kansas City, Missouri 64108-2604

Re: Comments Regarding Hedge Effectiveness

Dear Mr. Dutcher:

This letter has been prepared by the American Academy of Actuaries<sup>1</sup> Index Securitization Task Force to provide further comments on hedge effectiveness and the treatment of aggregate results from index-based derivative contracts used by insurance companies to hedge insurance underwriting risk. The American Academy of Actuaries Index Securitization Task Force previously presented a White Paper, supplemental research on hedge effectiveness, and a letter commenting on aggregating derivative transactions. This letter should be considered an addendum to those work products.

In the recent interim meeting (conference call of 5/31), the NAIC Insurance Securitization Working Group requested written comments on the various issues surrounding the measurement of hedge effectiveness. These issues listed here, with our summary conclusions, include:

- **Comparability to Accounting Standards for Reinsurance.** We believe that our recommended criteria for hedge effectiveness would also meet risk transfer requirements for reinsurance accounting. There still may be concerns, however, as to whether the Casualty Actuarial Task Force (CATF) proposals create a more stringent hurdle for hedge effectiveness than for risk transfer.
- **Consistency with GAAP Hedge Effectiveness Criteria.** We believe that companies meeting our recommended hedge effectiveness criteria for statutory purposes would also meet hedge effectiveness criteria for GAAP purposes. We also believe that the additional methods for evaluating hedge effectiveness proposed by the proponent's proposal are not suitable for situations, like catastrophes, where the triggering event is expected to be unlikely in any one year.

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<sup>1</sup> The American Academy of Actuaries is the public policy organization for actuaries practicing in all specialties within the United States. A major purpose of the Academy is to act as the public information organization for the profession. The Academy is non-partisan and assists the public policy process through the presentation of clear and objective actuarial analysis. The Academy regularly prepares testimony for Congress, provides information to federal elected officials, comments on proposed federal regulations, and works closely with state officials on issues related to insurance. The Academy also develops and upholds actuarial standards of conduct, qualification and practice and the Code of Professional Conduct for all actuaries practicing in the United States.

- **Complexity of the Formulas.** Our proposed statistics for meeting hedge effectiveness standards require the same data and the same level of sophistication needed to test compliance with transfer of risk standards.
- **Aggregation of Derivative Transactions – Accounting Symmetry.** We believe that asymmetrical accounting treatment is inconsistent with a requirement to demonstrate hedge effectiveness.

The rationale behind our conclusions is discussed below.

### ***Comparability To Accounting Standards for Reinsurance***

The test to determine risk transfer for reinsurance and the proposed hedge effectiveness test are not directly comparable because they are designed to perform different (although related) tasks. They do function in a similar capacity to permit (or restrict) the accounting of the transaction as an underwriting transaction.

The standards for reinsurance accounting are established by SSAP 62 for statutory accounting and by FAS 113 for GAAP. These standards require that insurance risk must be transferred in order for the transaction to receive insurance accounting treatment. These accounting standards do not establish any specific criteria or thresholds for the measurement of risk transfer and, as a result, “rules of thumb” (e.g., 10% chance of 10% loss) have evolved through which reinsurance transactions are deemed to have achieved risk transfer. Since no criteria are defined, a company/reinsurer is permitted wide discretion as to how it may justify that a contract achieves risk transfer.

The Task Force’s recommended test for hedge effectiveness is more rigorous than standards for reinsurance in that it identifies statistics for measuring hedge effectiveness, and the specific threshold for determining when a hedge is effective. We feel that these criteria satisfy the standard.

There were also concerns expressed that the thresholds for determining effectiveness would create an unlevel playing field if not established on a consistent basis with reinsurance thresholds. When the Academy Task Force recommended the statistical tests for hedge effectiveness it did not make a recommendation on threshold levels for the statistics. The Task Force felt that risk reduction would be achieved if a positive change ( $> 0$ ) occurred in both of the statistics recommended, Tail Value at Risk (TVaR) and Standard Deviation (StD). The Task Force felt that the selection of a threshold greater than zero was a regulatory issue and recommended that the Working Group request that the CATF provide input on threshold levels. The CATF provided that input in their report of March 2001 and proposed a threshold of a minimum reduction of 25 percent for both statistics.

The initial criticism of the statistical tests focused on the concern that a 0 percent threshold could create an uneven playing field for derivative transactions when compared with reinsurance transactions that are required to meet a risk transfer test at some greater threshold. The resulting recommendation by the CATF should eliminate the concern that was initially raised, but may raise another which is that the suggested threshold of a 25% reduction may be too onerous for derivative transactions. This may also be the reason for the introduction of the additional tests (historical and regression analysis) to determine hedge effectiveness. While the Academy Task Force has not made a rigorous review of the recommendation of the CATF, members of the Academy Task Force believe this to be a rigorous threshold for a company to meet. The Working Group may wish to review whether the 25 percent threshold does result in inconsistent standards between reinsurance and derivative transactions and, if so, consider a lower threshold.

## ***Consistency with GAAP Hedge Effectiveness Criteria***

The GAAP derivatives accounting standard (FAS 133) did not establish specific criteria for measuring hedge effectiveness. It established a guideline that the hedge be highly effective and demonstrated through statistical analysis. Interpretative guidelines provided by various accounting firms use examples utilizing correlation and coverage ratios to demonstrate a highly effective hedge. The recent proponent's proposal has expanded the options for measuring hedge effectiveness using measures such as correlation, coverage ratios (e.g., X percent of the results fall within a narrow band [80 percent to 125 percent] of the desired result), and historical analysis. These statistics may work for derivatives in other industries due to greater amounts of historical data, less volatility in the item being modeled (interest rates, commodities, weather), and other factors. They do not work well for measuring effectiveness for insurance derivatives. The concerns with the regression statistic have been documented in the initial White Paper presented in October 1999. Further research by the Task Force into the coverage ratios indicated significant flaws in its ability to identify hedge effectiveness due to the impact of 0 – 0 results.<sup>2</sup> The CATF supported the Academy's findings on these statistics. In summary, we believe that the additional methods for evaluating hedge effectiveness proposed by the proponent's proposal are not suitable for situations, like catastrophes, where the triggering event is expected to be unlikely in any one year.

It should also be noted that the TVaR and StD statistics are consistent with FASB requirements to demonstrate hedge effectiveness. The Task Force expects that any company demonstrating hedge effectiveness using TVaR and StD will meet the hedge effectiveness tests using less rigorous tests.

## ***Complexity of the Formulas***

The Task Force does not believe that the proposed statistics create an unreasonable hurdle in documenting the effectiveness of the derivative. Both statistics require three items of data for each modeled event: the probability of the event, the derivative result, and the company result. These are the basic data required to evaluate the derivative transaction. (This is also the same information that is required or developed for evaluating the pricing and purchasing of catastrophe reinsurance and to verify that the transaction meets risk transfer requirements.)

Based on this information the two statistics can be readily calculated. The StD calculation is a basic calculation of standard deviation, a very fundamental statistic. The TVaR is a hybrid statistic that uses VaR (Value at Risk) as its basis. These statistics are as easy to calculate as any other risk transfer statistics.

The Task Force also believes that a company entering such transactions should have the level of sophistication to appropriately model the transactions and be held to a more rigorous effectiveness test than to simply plot data points coming out of the model (coverage ratio).

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<sup>2</sup> The 0 – 0 result refers to the modeled event where the derivative result and the company result produce 0 loss and therefore 0 recovery. It is expected that the use of catastrophe option derivatives will be to fill in gaps or supplement capacity and as a result are expected to attach at high levels. When modeling such derivatives it is expected that in many cases the derivative result and company result will produce 0 loss and 0 recovery. These events, when included in the coverage ratio, result in supporting hedge effectiveness and when excluded may indicate that the hedge is ineffective.

## **Aggregation of Derivative Transactions – Accounting Symmetry**

The Task Force made the following recommendation in its March 2000 letter.

*“We ... believe that hedges created from index-based insurance derivative transactions should be treated similarly to other more traditional risk management transactions (primarily reinsurance). This leads us to recommend that the results from all index-based insurance derivative transactions should be aggregated and reported as part of underwriting income provided that (i) the transactions are part of a single, specific hedging strategy, (ii) the hedging strategy has met the documentation requirements in the White Paper, and (iii) the hedge meets the requisite criteria for effectiveness. This treatment,..., will allow insurance companies to consider a broad range of risk management tools without undue concern regarding the accounting treatment of such tools, provided that the transactions meet the hedge effectiveness criteria.*

*This recommendation is not consistent with the White Paper’s recommendation, which would apply an asymmetric treatment to over-recoveries and under-recoveries.”*

We continue to support this position and believe that asymmetrical accounting treatment is inconsistent with a requirement to demonstrate hedge effectiveness, particularly with a broadened definition of measuring hedge effectiveness. The additional tests for effectiveness may not identify transactions that are likely to produce excess results.

The asymmetrical treatment, combined with a less rigorous test of effectiveness, encourages a company to purchase excess derivatives, knowing that any excess will be treated as investment income. If this accounting is permitted, then the requirement to test for hedge effectiveness is academic and an unnecessary activity – just buy more than you need.

We would be happy to answer any questions that the Working Group has regarding this letter or prior Academy work products at your meeting in New Orleans.

Sincerely,

Frederick O. Kist, FCAS, MAAA  
Academy Index Securitization Task Force