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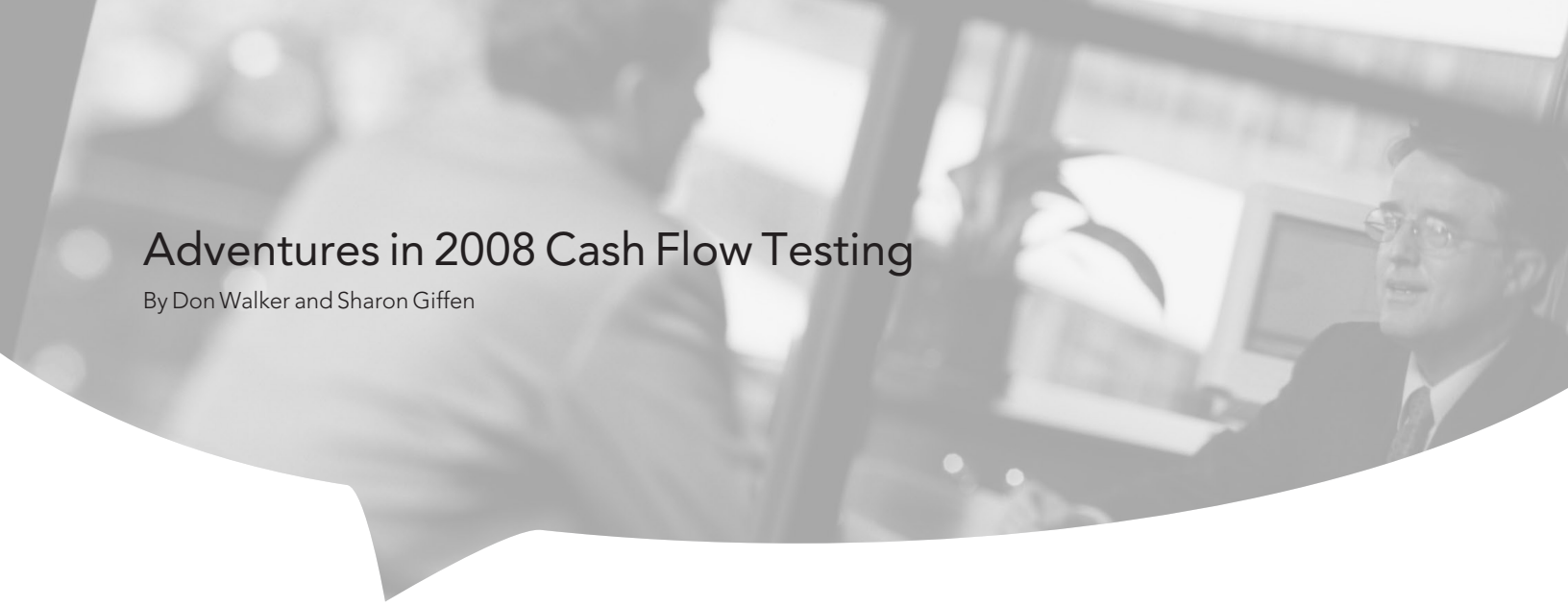

Adventures in 2008 Cash Flow Testing

By Don Walker and Sharon Giffen

Cash flow testing for year-end 2008 was proof that we do indeed live in interesting times. This article provides some insights into the creativity employed to ensure the sound survival of small companies that have limited means but are brave enough to do the right thing. Our heroes are the intrepid appointed actuaries of those small companies.

It all started in September 2008. Actuaries gathered at the Valuation Actuary Symposium in Washington, D.C. You remember September, right? The Fed had already slashed overnight rates; Bear Stearns had been forced to sell itself; Freddie and Fannie had declared massive losses; Lehman Brothers had declared bankruptcy; the Fed had just taken over AIG with the first $85 billion in bailout; in other words, the financial world was crashing all around us. The Symposium Program Committee added a last-minute session to discuss it all, and it was one of the best-attended sessions in the two days. The wise people on the panels were saying, "You'd better modify your assumptions to take all of this into account!" The tension was palpable among those responsible for ensuring the adequacy of their companies' solvency.

The heroes went back to their offices and took stock. With limited resources, cash flow testing for reserve adequacy is often based on 3rd quarter results in order to allow sufficient time to complete all the work and report final year-end financial results to the Board of Directors in late February. In 2008, how many were asked to deliver results early–even in December–to prepare management and boards adequately for the outcomes that were expected to be other than normal? What does that mean? Less time, a need to develop assumptions to take into account an economic situation that was changing daily, results that would undoubtedly be other than "normal" and a need to develop action plans to address those results—nothing the brave appointed actuaries couldn't handle!

The first order of business was to decide how to develop assumptions for yields on the fixed income portfolio. Meetings were established with internal and/or external portfolio managers. It was easy enough to get the yield curve very low and current spreads very high. But, what should be done with default assumptions? What did all of this mean for the future?

Thinking about this, the low yield curve was reflecting the intense demand for U.S. treasuries—the flight to quality. The savvy folks in the market recognized this, however, and were adding a flat amount to bring the yield curve back up, resulting in extraordinarily high spreads. Beyond that, though, some bonds were still trading well off their spreads—reflecting that the rating agencies were not as quick as the market to downgrade quality opinions.

Given that many cash flow testing models use specific bond ratings to predict defaults, and that those ratings might well be inappropriate for the times, historical default assumptions were very likely to be inappropriate as well. Hence, it was necessary to invent another way to develop defaults.

Several approaches were employed—sometimes more than one by a single actuary. Most would take the approach that all assets currently in default should be removed and replaced, if necessary, from another portfolio, to ensure an appropriate starting asset position. Next, distressed securities could be identified in a couple of ways. One could start with the current market values, calculate the yield of each bond, and then compare that market yield to the spread based on the bond's published rating. If the difference was greater than a tolerance suggested by the investment professional, it would be considered a distressed security. Another approach was to compare market value to book value, and wherever the ratio was out of line with the rating, (another guideline provided by the investment professional), that asset was considered dis-

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tressed. Either way, assets were grouped by shared risk characteristics, and default assumptions needed to be developed for each of them. For non-distressed assets, historical default rates or better were sensible, given that the distressed assets had been removed. The question remains, however, what do you do with distressed assets?

There were several "free" tidbits of information—rating agencies were speaking at actuarial clubs, and there is free historical default experience, year by year, class by class, available from rating agencies' Web sites. One particular forecast was for 4 percent defaults for investment grade bonds and 10 percent for junk bonds in 2009. Further, public data included a set of prices for credit default swaps on some rated securities. Historical information showed the increases in default rates over past recessions.

So, armed with data and expert opinion, an assumption set was built. For distressed assets, the estimate of 10 percent defaults could be used. For the investment grade assets, assume the portfolio is dominated by "BAA" bonds, and the 4 percent estimate might seem to apply. Then, did one consider the concept of conservation of total defaults (some assets had been removed as distressed and assigned the 10 percent rate)? In addition, did anyone consider that, in these times, even non-distressed assets could become distressed at the same as historical rates? One could also consider the prices of the credit default swaps, or look to historical recessionary period data for the entire portfolio—and consider how much worse 2009 might be. What multiple should be applied? Should it be doubled? Or tripled?

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Finally, some judgment was also necessary about how long the downturn would last. This was relevant to whether or not the increased spread and default assumptions should be runoff over a period of time, or maintained forever. Various approaches were possible. Some assumed the higher spreads and defaults forever; others ran them off over two to five years. Of course, it was not necessary to run spreads and defaults off at the same pace—it was possible to develop a net assumption to reflect a specific expected (conservative) future economic outlook.

So, having established expected returns on existing portfolios, and a picture of reinvestment returns for the future, our heroes bravely pushed the button to look at results. In a normal cycle, most business segments start out as profitable, and then some deteriorate as the reinvestment rates take effect. However, 2008 was anything but normal. Many books of business took an immediate hit (because of defaults) and then recovered to some degree, before resuming a normal pattern of results. For the fortunate folks with natural internal hedges between permanent life products (universal life and par whole life) and deferred annuities, the total portfolio might still have been okay, but results were down significantly from prior years for everyone.

Company specific results varied:

1. One or more product segments failed on down scenarios.
2. The whole company failed the down scenarios.
3. One or more product segments failed all scenarios.
4. The whole company failed all scenarios.

At this point, our heroes' focus turned from heralding the problem to solving it. Depending upon which product line(s) failed, ideas were generated.

If the participating whole lifeline was not passing, the actuary considered the future dividends. Were they properly reflecting future dividend action that would be taken? If the segment failed the down scenarios, and modeled dividends were not dynamic, there was an explanation, and further work could be done to demonstrate a passing test. If the segment failed in the level scenario, it was an indication that the dividends were not currently supportable. This may have required more immediate action to reduce dividends, which would also be necessary if the product is subject to illustration regulations.

If the problems existed in deferred annuities, and if the crediting mechanism was working, the issue was likely that gross investment yields were just too low to support the minimum guaranteed interest rate. In this case, absent natural hedges with other product lines, there was a need for broader action.

If there were failures of the total company in the "down" scenarios, this was also a signal for action to remediate. Now, all this testing was happening during the 4th quarter—as bailouts were being discussed and undertaken, and the stock markets continued to fall. There was little hope that year-end results would be better.

In many companies, there were unprecedented conversations between the actuary and CFO about the likelihood that there would be additional actuarial reserves as a result of asset/liability analysis. Reactions depended upon how much education had been provided in prior years about the trends and sensitivities of the business to low interest rates. It was time to discuss the alternatives—setting up a CFT reserve, doing a permanent reserve strengthening for specific blocks as necessary, making a voluntary contribution to the Asset Valuation Reserve (to cover the assumed increased defaults) and/or getting commitment from management to do a dividend scale decrease or universal life cost of insurance rate increase.

An analysis of the alternatives and some additional sensitivity runs uncovered these points:

1. A CFT reserve would run through income; reserve strengthening would not.
2. A CFT reserve could be released in future years, if appropriate.
3. A CFT reserve could be more effective, dollar for dollar, than formal reserve strengthening. Due to the unusual situation with defaults, the projections were showing an immediate book loss that was later recovered. A CFT reserve could cover that book loss (which is not a cash outflow) and then be available to pay projected future cash flow shortfalls. A reserve strengthening would be less effective because the immediate book shortfall would be exacerbated by the larger formula reserves in the projections.
4. Dividend/COI cuts/increases would be able to cover shortfalls in participating/universal life segments, but these actions, in isolation, would be extreme if the shortfall existed in the level scenario.

Armed with the best information available, the total action was mapped out for each of the companies. CFT reserves were increased in many companies, often by 1 to 2 percent of surplus. Management commitment to reduced dividend scales was obtained—even though the implementation of the cut may be in the future. Even so, marketing needed to take action on illustrations immediately, to ensure proper disclosure to the customer. Many memoranda also noted further actions that could and would be taken should interest rates stay down for an extended period.

Brave actuaries took this message to senior management teams and Boards of Directors. While the message was not welcome, generally the necessity of it was recognized and accepted.

To summarize:

1. Spreads were much wider than historical. They would not be expected to persist at those levels. Grading them back to recent or historical experience over two to five years would be appropriate.
2. Defaults were expected to be MUCH higher, at least for a while. One could downgrade the worst assets and assign them to a class with significantly higher defaults. In addition, one could increase the defaults on ALL asset classes, grading back to recent experience over a FIVE-year period.
3. The result of these assumptions was something akin to a "J" recession (with rapid decline, and slow recovery, especially of existing assets).
4. DOWN scenarios were particularly problematic, and required strategies to alleviate them; actions that would need to be acceptable to management and the Board. This included a DECREASE to illustrated dividends, even though the decision to decrease them may not take effect until 2010.
5. CFT reserves were increased by many companies—often 1 to 2 percent of surplus.

That was an INTERESTING year-end!

Note: This article is intended for information and educational purposes only. The facts and opinions expressed herein reflect information collected by the authors and are not those of any one insurance organization, specifically, not those of the Farm Bureau Life Insurance Company of Michigan or The Independent Order of Foresters in Toronto, Canada. ●

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