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Complying with the Actuarial Opinion and Memorandum Regulation in 2010: Which Interest Rate Scenarios are "Moderately Adverse"?

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Analysis by a Reasonable Actuary

The Actuarial Opinion and Memorandum Regulation states that the purpose of asset adequacy analysis is to certify that assets are adequate to cover reserves under "moderately adverse conditions." A significant part of this determination is to do testing using interest rate scenarios that are "moderately adverse." ASOP No. 22, section 2.15 defines moderately adverse conditions as: "Conditions that include one or more unfavorable, but not extreme, events that have a reasonable probability of occurring during the testing period."

So it is clear that there are certain scenarios that are "extreme," and that assets are not required to adequately cover reserves under these conditions. It can be argued that in 2010 the level interest rate scenario, and even more so the three down scenarios in the New York Seven are "extreme" scenarios that do not have a reasonable probability of occurring during the testing period.

It may be true that the level scenario has been a "moderately adverse" scenario ever since the New York Seven scenarios were first developed, and that 2010 was the first time it was an "extreme" scenario. The determination of whether a scenario is "moderately adverse" or "extreme" should be based on a "first principles" evaluation of whether the scenario has a "reasonable probability of occurring during the testing period." In 2010 the probability of rates staying at their historically low levels for the entire testing period is very low indeed. In making this determination, it is relevant to look at the opinions of economists. One question to ask would relate to the probability of a Japan type event for interest rates occurring in the United States.

Economics 101 (The Taylor Rule) tells us that interest rates are made up of two primary components: inflation and growth. What happened in 2010 was that there was basically no inflation and no growth. For the level interest scenario to have a reasonable probability of occurring, one has to be willing to believe that there is a reasonable probability of no inflation and no growth for decades. The chance of this occurring would appear to be miniscule.

It is outside the scope of this article to contrast in detail the situations in Japan and the United States, but we can list a few of the factors typically pointed out by economists:

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- The savings rate in Japan is a lot higher, even given the recent uptick in savings in the United States. The United States is a country that spends, and this is expected to spur growth.
- The demographic advantages in the United States are significant. We are a lot younger and our growth rate is a lot higher. We have a lot more earners versus those living on savings. This should spur growth.
- The aggressiveness and responsiveness of the Federal Reserve, and the better starting position of U.S. financial institutions. Japan's banks were in poor shape due to real estate assets, and the government didn't require them to be held at impaired values.

At the end of 2010, the Treasury curve ranged from a 90-day rate of 0.12 percent to a five-year rate of 2.01 percent and a 30-year rate of 4.34 percent. A short rate of 0.12 percent is as low or lower than rates of the Great Depression. Projecting those rates in level or down scenarios for 40 years would be like extending the Great Depression from 1930 to 1970.

The steepness of the yield curve of the level scenario is not consistent with projecting that scenario for 40 years. Such a steep yield curve implies a market belief that rates will rise. Such a yield curve invites arbitrage, and suggests that market traders are still concerned about credit risk. If market traders believed that rates were to stay low, level and stable for 40 years, the yield curve would become much more flat as it did in the Great Depression.

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The Need for a New Baseline

A logical conclusion from all this economic analysis is that a new baseline is needed, and a new measure of moderately adverse scenarios should be developed. Appointed actuaries in 2010 in the United States have developed baseline scenarios in various ways:

1) Level for three years, and then rises while flattening over the next five years.
2) Start with today's yield curve, and then grade this to a "normal" yield curve over three years.
3) Use the forward rates that can be derived from today's yield curve.

These are all interest rate scenarios that assets should be adequate to cover. Variations on these scenarios could also be developed to be "moderately adverse" scenarios:

1) Level for five years, and then rises while flattening over the next five years.
2) Start with today's yield curve, and then grade this to a "normal" yield curve over five years.

Perhaps the following scenarios would be considered "extreme":

1) Level for 10 years, and then rises while flattening over the next five years.
2) Start with today's yield curve, and then grade this to a "normal" yield curve over 10 years.

A reasonable conclusion from the above analysis is that in 2010 the level scenario was "extreme," meaning that companies shouldn't be required to have assets that cover reserves under these conditions.

Counterpoint and Practical Considerations

While it is true that a reasonable actuary could conclude that the level scenario is too "extreme" to use in forming an Asset Adequacy Opinion, that same actuary should still be aware of professional and practical considerations that could argue for its continued inclusion in the analysis.

First, many actuaries will argue that professional responsibility would require the inclusion of the level scenario as a sensitivity test, with discussion of the results in the memorandum, even if the result was not given full weight in setting up additional reserves. This would provide a baseline for comparison with past and future years.

An obvious practical consideration is whether the actuary is expressing an opinion to a regulator in New York or another state that requires the New York scenarios. The New York Seven are part of New York's requirements, and there is no reason to believe that New York is willing to change its rules. (In fact, a brief review of the latest version of The New York department's so-called "Halloween Letter" would indicate that New York isn't considering any change.)

Absent New York, consideration should still be given to the attitude of the company's state-of-domicile regulator. It would seem prudent to pose this question. In particular a question to ask is whether all seven scenarios need to be passed, or whether all seven scenarios only need to be considered.

A further consideration would be the attitude of the company's auditor. (And, while some of us consider these as pragmatic steps, others may take the position that such consultations are professionalism requirements.)

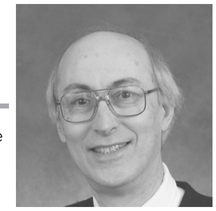
Regulatory Risk at the Heart of the Matter

The overall issue becomes one of regulatory risk. If the actuary decides unilaterally to exclude the level scenario from consideration, there is the possibility that someone else may take issue with that decision and be able (through regulatory authority) to make that stick. This could cause an unexpected change to reserves that has the potential to be awkward for the company and the appointed actuary.

The one constant on the interest rate front for the last three year-ends has been, "How long will the Fed keep rates ultra-low?" How many of us would have expected the answer to be this long? (But let's not forget what has gone on in Japan over the last two decades!)

The concern is that, if the actuary decides to exclude the level scenario and therefore avoids putting up additional reserves over several years, a regulator could ultimately decide that the company needs to put up all of the missing reserves at once. If the company has been making business decisions based on reserves that turn out to be inadequate, the result could be bad.

Of course this matters the most if your company would have to hold extra reserves to have adequate assets when running the level scenario. We hope that you are fortunate enough to not have to hold extra reserves when running the level scenario!



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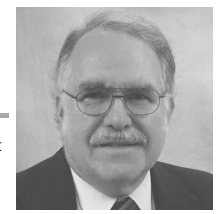

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