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Is this Correction **Good for Life Insurance?**

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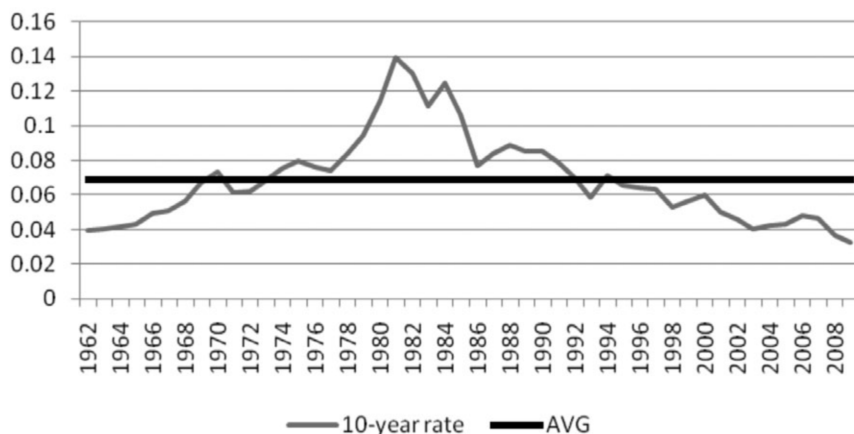
About three years ago I dialed-in to a conference call with Alan Greenspan (at that point a consultant for Deutsche Bank). He was explaining the correlation between a long period of risk mispricing and the strength of the correction. At that point, only few anticipated the events that unfolded over the past three years could result in the largest economic and financial decline since the 1930's. Had the correction come sooner, a smaller bust would likely have followed a lesser level of excessive leverage.

Regardless of the view one takes on future economy and interest rates, rates are low now and it should matter to a life insurance company. This article will discuss the potential impact that low interest rates can have on the Life Insurance industry, even if they occur for a short period of time. They are:

1. Variable Annuity (VA) products have been de-risked. Life products have not gone through this process.
2. Shareholder tolerance for not managing to risk-neutral principals.
3. Asset returns. Illusion of real estate and equity returns.
4. Capital. Can you remain solvent longer than markets can remain irrational?
5. The future. IFRS.



To get your interest in further reading this article I will address two common myths that I heard from practitioners:

"Implied forward rates are predictors of the future interest rates. The yield curve is steep, so we expect rates to increase in the future and just need to weather the storm."

Antti Ilmanen in "Market's Rate Expectations and Forward Rates: Part 2," examined forward rates as forecasts of future spot rates and risk premia. The study found, "that forward-spot premia are negatively correlated with future changes in long-term interest rates. That is, when yield curve is upward sloping, long-term rates do not tend to increase. … Instead long-term rates tend to decline. ..." For shorter rates (terms), forward rates predict the direction of rate changes correctly, but not for long rates.

The current yield curve is not a predictor of future interest rates, but represents equilibrium rates market participants use as reference rates for transactions. This means that if history is a guide, the current steep yield curve is not predicting increasing interest rates in the future.

"Interest rates mean revert and current low rates will be followed by higher interest rates."

The chart below (left) shows a history of 10-year treasury rates since 1962. Rates do mean revert, but very slowly, and in a manner that defies precise statistical estimation. One complete cycle took from 1973 to 1992 (19 years). The data would show longer periods of low rates if the 1930s–1950s were included.

1. VA products have been de-risked. Life products have not gone through this process.

VA products have gone through a process of de-risking, as VA market returned to rational pricing of equity guarantees during 2008–2009. However, the impact of mid-2010 rate declines has not yet been reflected, with no evidence yet at the time of writing of another round of de-risking. It is interesting to note that life insurance

products have barely changed pricing. The chart on the right shows how average credited rates have changed for the top 11 (Appendix A) writers of (current assumption) cash accumulation focused UL.

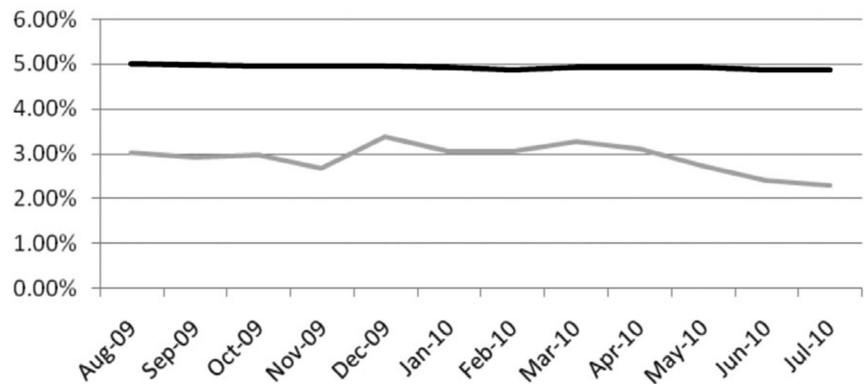
These products are portfolio rate products and there is an argument for time delay in changes in credited rates. This argument should be examined in light of actuarial guidance on fairness in setting credited rates and self/lapse support tests. UL no-lapse guarantee (NLG) products do not generally offer cash values, and should be considered closer to new money products. Still, out of 12 UL NLG carriers (Appendix B) there were three product re-pricing actions; although most product pricing remains unchanged. Similar observations can be made about survivorship products.

The de-risking for life products has not occurred yet, and the industry has not re-priced to reflect the low rate environment. Companies have been somewhat more responsive with some other general account guarantees, such as deferred fixed annuities, in which many companies have reduced guaranteed crediting rates on new business from 3 percent to the 1- to 2-percent range.

2. Shareholder tolerance for not managing to risk-neutral principals.

What drove VA writers to de-risk was the shareholders' intolerance of not managing their business to risk-neutral principals (with the exception of FAS 133/157 valuation of guarantees without life contingencies), and the realization during 2008 that under extreme market stress, capital at risk could be far greater than US GAAP reported earnings volatility. Insurance stocks are still traded at depressed levels. The chart on page 20 is a price history of IAK fund. The fund invests in large U.S. insurers.

What are the reasons that the investment community thinks that insurance stocks are worth about 60 percent of the value they had four years ago? I think one of the reasons is that the investment community has experienced unprecedented levels of earnings volatility from insurance companies, underlying that although insurance business is long-term, earnings emergence is important. This is from Eric Berg, sell-side analyst for Barclay



Capital, who reviewed a life insurance company that did not hedge, resulting in "a greater than expected loss, erosion of its capital ratio, and a significant increase in unhedged 'at risk' variable annuity guarantee levels … hedging program was not implemented aggressively and investors remain painfully exposed. …" The stock of that company decreased over 10 percent on announcement of earnings. On the same day, Eric Berg also reviewed a company that hedged and commented that earnings were as expected and capital ratios were well managed. Analysts care about earnings and capital volatility, and whether or not the business is hedged.

3. Asset returns. Illusion of real estate and equity returns.

During times of low interest rates and historically tight corporate spreads, many companies turn to real estate and other alternative classes. Real estate is illiquid; there is infrequent trading in the commercial real estate market. An optimistic long-term assumption about real estate returns and duration can make this asset class very attractive. What should real estate return assumption be? Rents are typically tied to inflation and economic growth. Low interest rate periods are typically associated with periods of deflation or disinflation and economic weakness. This implies low rents and higher vacancies, as most rents are renegotiable every few years and typically follow inflation. An actuary should be careful not to assume appreciation assumptions out of line with the market consensus, especially in low interest rate scenarios.

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Rent resetting also makes it difficult to estimate duration of real estate. Is it duration zero to a few years due to rents resetting or very long duration because of a longer holding period? This discussion is beyond the scope of this article, although the near zero empirical duration of REIT index returns provides one market view.

U.S. equity history suggests that stocks always have always outperformed bonds over sufficiently long periods, such as 20–30 years. However, this fortunate history has not occurred everywhere, with the last (lost) two decades in Japan, with near -65 percent cumulative Nikkei 225 price return being a noteworthy counter-example.

4. Capital. "Can you remain solvent longer than markets can remain irrational?"

The quote above is commonly attributed to John Keynes. RBC C3 Phase 3 is a principle-based approach for determination of interest rate risk that is coming to the industry within a year. Life insurance products are in scope. The basis is CTE90 (average of the worst 10 percent of scenarios). Since life insurance companies already hold assets equal to normally large redundant NAIC reserves, the impact of stochastic reserves might be moderated. However, the direction of regulatory attention is worth noting, as the focus has been shifted from deterministic to stochastic approaches. Life insurance companies that have based their business model on long-term guarantees that appeared conservative in a high- to moderate-rate environment can find themselves under relentless pressure in a sustained low rate and low return era, such as occurred in the United States in the 1930s, or Japan more recently.

5. The future. IFRS.

Current accounting framework for most U.S. life insurers is based on US GAAP, which has a deficiency in timely recognition of interest rate changes in the unlocking of the DAC assumptions. Ernst & Young published an analysis of IFRS treatment of insurance liabilities. Although the details are still not resolved, the IFRS framework is principle-based. The methodology makes use of CTE levels, policyholder behavior options, and participating features (i.e., credited rate logic). The exposure draft is expected to be completed in 2011, and FASB is expected to adopt it. An interesting distinction from the current FASB approach is that there is explicit re-measurement of risk at each period, eliminating the benefit of locking-in DAC assumptions.

Conclusion

In modern finance textbooks, the Modigliani-Miller capital irrelevance theorem is extended to risk management. The theorem is extended to the irrelevance of risk management and hedging, as shareholders can manage interest rates on their own. The reality is that shareholders cannot hedge the interest rate exposure of the life insurance liabilities, as the interaction of earnings emergence, new business, and capital makes it impractical.

Insurance companies have only partially de-risked in the fixed income space. I think insurance companies understand risk and exposure, but are hoping to wait out for higher interest rates. Jack Welch said, "Hope is not a strategy." If low rates are here to stay for an extended period of time, the delay in de-risking will result in a harder landing. ◻

Appendix A.

Rates examined for: Sun Life, Hartford, Prudential, John Hancock, Lincoln National, PacLife, New York Life, ING, AXA, MetLife, and Phoenix.

Appendix B.

UL NLG carriers examined: Hartford, ING, Sun Life, Protective, AXA, PacLife, Lincoln National, Protective, John Hancock, TransAmerica, Lincoln Benefit, and Principal.