Mixed Risk Management Strategies – Diversification That You Can Count On

by Wendy Yu

After all this time, I am still shocked that certain investment banks (that are experts at distributing credit risk) held so much credit risk at the worst possible time. For insurers to avoid similar situations, the obvious solution is to clearly identify their roles as risk distributors or risk insurers. However, this is not always a realistic option in a world with sticky prices and volatile market shares. A more realistic solution is to develop a diverse portfolio of products backed by a diverse set of risk management strategies.

I recently witnessed a number of heated discussions between actuaries on whether market-implied volatility (the price of risk according to the options market) should be used in pricing long-term products. More generally, in our increasingly mark-to-market world, what does it mean to use the market price of risk in pricing long-term products?

For a distributor of long-term market risk, it makes sense to use market-implied volatility, because the distributor generally pays the market price of risk when it transfers the risk to the capital markets or reinsurers. The problem facing risk distributors is that product pricing is sticky, whereas the market price of risk can be quite volatile. This disconnection can become particularly severe during market downturns.

An insurer of long-term market risk, on the other hand, needs to take a long-term perspective. At the peak of an economic cycle, the risk appetites of market participants are high, driving down the market price of risk. Does it make sense to charge a low price for long-term risk at the peak of an economic cycle, when downward shocks to the financial markets are more likely? Conversely, does it make sense to charge a high price for long-term risk at the bottom of an economic cycle, when upward market movements are more likely? For a risk insurer, an approach based on long-term historical data and actuarial prudence is likely to do better. The problem facing risk insurers is maintaining market share in benign market conditions when the market price of risk is low.

Strategies that are dynamic with respect to time can potentially eliminate the latter problem. Consider the following as an example.

Stable markets

- Transfer long-term risks
- Use market price of risk in pricing
- Lower capital requirement

Volatile markets

- Hold long-term risks
- Use long-term historical data and actuarial prudence in pricing
- Higher capital requirement

However, strategies that are dynamic with respect to time are difficult in practice, since they require more capital in volatile markets. Again, the fact that product pricing is sticky poses a significant challenge.

Strategies that are diversified with respect to product are less demanding in terms of capital management and product pricing. Consider the following as an example.

Accumulation product

- Transfer long-term risks
- Use market price of risk in pricing
- Lower capital requirement

Income product

- Hold long-term risks
- Use long-term historical data and actuarial prudence
- Higher capital requirement

The key is to maintain a diverse portfolio of products so that the capital requirement is relatively stable across time. For each product, the pricing methodology is consistent across time. In benign market conditions, the price of the accumulation product is likely to be competitive. In volatile market conditions, the price of the income product is likely to be competitive.

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Another important benefit of a mixed risk management strategy is that the additional knowledge acquired in implementing multiple strategies would help insurers refine each strategy. This benefit should not be underestimated. Just as the best asset class ceases to be the best when everyone invests in it, best practice risk management ceases to be best practice when everyone practices it.

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